Caring for Older Adults in Disasters:
A Curriculum for Health Professionals

Competency-based, older adult, disaster health curriculum authored and reviewed by over twenty subject matter experts. Designed for learning by a wide range of health professionals.

The National Center for Disaster Medicine and Public Health leads Federal and coordinates national efforts to develop and propagate core curricula, education, training and research in all-hazards disaster health.
INTRODUCTION
SUGGESTED CITATION


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EDITORS

Kelly Gulley
Project Coordinator, The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (HJF)
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)

Brian A. Altman, PhD
Education Director, The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (HJF)
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)

Kandra Strauss-Riggs, MPH
Operations Director, The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (HJF)
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)

Kenneth Schor, DO, MPH, FAAFP, CAPT MC USN (Ret)
Acting Director
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)
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AUTHORS

Judith C. Ahronheim, MD, MSJ, Faculty Member, Bioethics Institute, Clinical Professor of Medicine, New York Medical College, Valhalla, NY

Beth W. Allen, MPH, Project Consultant, Baylor College of Medicine

Brian A. Altman, PhD, Education Director, HJF, National Center for Disaster Medicine and Public Health (NCDMPH), Uniformed Services University of the Health Sciences (USUHS)

Lisa M. Brown, PhD, ABPP, Professor, Pacific Graduate School of Psychology, Palo Alto University, Palo Alto, California

Angie T. Eaton, PharmD, Associate Professor of Pharmacy Practice, Texas Southern University, College of Pharmacy and Health Sciences

Kelly Gulley, Project Coordinator, HJF, National Center for Disaster Medicine and Public Health (NCDMPH), Uniformed Services University of the Health Sciences (USUHS)

Sandra P. Hirst RN, PhD, GNC(C), Associate Professor, Faculty of Nursing, University of Calgary

Amanda Holloway, MD, Staff Psychiatrist, DC VA Medical Center

Kathryn Hyer, PhD, MPP, Professor and Director, Florida Policy Exchange Center on Aging, School of Aging Studies/Florida Policy Exchange Center on Aging, University of South Florida

Dr. Bobbie Sue Oglesby Johnson, DNP, FNP-BC, Hunter Holmes McGuire Veterans Affairs, Medical Center, Richmond, Virginia

Heather L. Johnson, DNP, FNP-BC, FAANP, Assistant Professor, The Uniformed Services University of the Health Sciences (USUHS), Daniel K. Inouye Graduate School of Nursing

Cheryl A. Levine, PhD, Team Lead for At-Risk Individuals, Division for At-Risk Individuals, Behavioral Health, and Community Resilience (ABC), Office of the Assistant Secretary for Preparedness and Response (ASPR), US Department of Health and Human Services (HHS)

Catherine G Ling PhD, FNP-BC, FAANP, Civ, Assistant Professor, Family Nurse Practitioner, DNP and PhD Programs, Daniel K. Inouye Graduate School of Nursing, Uniformed Services University of the Health Sciences (USUHS)

http://ncdmph.usuhs.edu
Zhanna Livshits, MD, Assistant Professor, Emergency Medicine & Medical Toxicology, Department of Medicine, New York Presbyterian/Weill Cornell Medical Center, New York, NY

Maria D. Llorente, MD, Associate Chief of Staff, Mental Health, Washington, DC, VA Medical Center, Professor, Department of Psychiatry, Georgetown University School of Medicine

Tehmina A. Mall, Graduate Student, Mailman School of Public Health, Columbia University

Mary E. Mather, MSN, RN-BC, CNL, VHA-CM, Nurse Manager Primary Care, FTOPC, BHOCP, SBOPC, Clinical Nurse Advisor, VA ONS Gerontological Nursing Field Advisory Committee, South Texas Veterans Health Care System

Melen McBride, PhD, RN, FGSA, Associate Director, Emerita, Stanford Geriatric Education Center, Stanford University, School of Medicine

Mary Helen McSweeney-Feld, PhD, LNHA, Associate Professor, Health Care Management, Department of Interprofessional Health Studies, Towson University

Alana Morrell, MPH Candidate, Milken Institute School of Public Health, The George Washington University

Carlo Rossi MDCM MTM&H CCFP, Major, Canadian Armed Forces, Royal Canadian Medical Service (RCMS), Uniformed Services University of the Health Sciences (USUHS)

Lillian E. Ringel, JD, MS Bioethics, Associate Director, Bioethics, Columbia University, New York, NY

Robert Ellis Roush, EdD, MPH, Associate Professor of Medicine-Geriatrics, Baylor College of Medicine, Houston, Texas

Marco Ruiz, MD, MPH, FACP, FIDSA, Louisiana State University Health Sciences Center-New Orleans, Associate Professor of Clinical Medicine, Sections of Infectious Diseases, Section of Geriatric Medicine

Kenneth Schor, DO, MPH, FAAFP, Acting Director, National Center for Disaster Medicine and Public Health (NCDMPH), Uniformed Services University of the Health Sciences (USUHS)

Ellen E. Seaton, MA, LMSW, Social Services Director, Community Services Department, Harris County, Texas

http://ncdmph.usuhs.edu
Mr. Jason M. Smith, BA, Capt. USMC Retired, Director Emergency Management, Hunter Holmes McGuire Veterans Affairs Medical Center, Richmond, Virginia
REVIEWERS

Judith C. Ahronheim, MD, MSJ, Faculty Member, Bioethics Institute, Clinical Professor of Medicine, New York Medical College, Valhalla, NY

Gerrit T. Bakker, Senior Director, Public Health Preparedness, Association of State and Territorial Health Officials (ASTHO)

Lisa M. Brown, PhD, ABPP, Professor, Pacific Graduate School of Psychology, Palo Alto University, Palo Alto, California

Mary Pat Couig, PhD, MPH, RN, FAAN, Program Manager, Emergency Management, Office of Nursing Services, Veterans Health Administration

Angie T. Eaton, PharmD, Associate Professor of Pharmacy Practice, Texas Southern University, College of Pharmacy and Health Sciences

Brian W. Flynn, Ed.D., RADM, USPHS, Ret., Associate Director, Center for the Study of Traumatic Stress, Adjunct Professor, Department of Psychiatry, Uniformed Services University of the Health Sciences

Maxim Gakh, JD, MPH, Assistant Professor, School of Community Health Sciences, University of Nevada, Las Vegas

Jack Herrmann, MSEd, NCC, LMHC, Sr. Program Officer, Board on Health Sciences Policy Institute of Medicine

Sandra P. Hirst RN, PhD, GNC(C), Associate Professor, Faculty of Nursing, University of Calgary

Amanda Holloway, MD, Staff Psychiatrist, DC VA Medical Center

Kathryn Hyer, PhD, MPP, Professor and Director, Florida Policy Exchange Center on Aging, School of Aging Studies/Florida Policy Exchange Center on Aging, University of South Florida

Heather L. Johnson, DNP, FNP-BC, FAANP, Assistant Professor, The Uniformed Services University of the Health Sciences (USUHS), Daniel K. Inouye Graduate School of Nursing

Rachel Kaul, LCSW, Senior Policy Analyst, Behavioral Health Team Lead, Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response

http://ncdmph.usuhs.edu
Sandy Kimmer, MD, MPH, Faculty Physician, National Capital Consortium, Family Medicine Residency, Fort Belvoir Community Hospital

Catherine G Ling PhD, FNP-BC, FAANP, Civ, Assistant Professor, Family Nurse Practitioner, DNP and PhD Programs, Daniel K. Inouye Graduate School of Nursing, Uniformed Services University of the Health Sciences (USUHS)

Mary Helen McSweeney-Feld, PhD, LNHA, Associate Professor, Health Care Management, Department of Interprofessional Health Studies, Towson University

Jewel Mullen, MD, MPH, MPA, Commissioner Connecticut Department of Public Health, President Association of State and Territorial Health Officials

LCDR Skip Payne, MSPH, REHS/RS, Deputy Director, Medical Reserve Corps Program, ASPR/OEM/PREP

Albert J. Romanosky, MD, PhD, Medical Director/State Emergency Preparedness Coordinator, Office of Preparedness and Response, Maryland Department of Health and Mental Hygiene

Marco Ruiz, MD, MPH, FACP, FIDSA, Louisiana State University Health Sciences Center-New Orleans, Associate Professor of Clinical Medicine, Sections of Infectious Diseases, Section of Geriatric Medicine

Lainie Rutkow, JD, PhD, MPH, Associate Professor, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health

Kristine Sanger, Associate Executive Director, Association of Healthcare Emergency Preparedness Professionals

Kenneth Schor, DO, MPH, FAAFP, Acting Director, National Center for Disaster Medicine and Public Health (NCDMPH), Uniformed Services University of the Health Sciences (USUHS)

Ellen E. Seaton, MA, LMSW, Social Services Director, Community Services Department, Harris County, Texas

Kandra Strauss-Riggs, MPH, Operations Director, The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (HJF), National Center for Disaster Medicine and Public Health (NCDMPH), Uniformed Services University of the Health Sciences (USUHS)
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Introduction

CAPT Rob Tosatto, RPh, MPH, MBA, Director, Medical Reserve Corps Program, ASPR/OEM/PREP

Kathy Wahl, BS, MSN, RN, Director, Division of EMS and Trauma, Bureau of EMS, Trauma and Preparedness, Michigan Department of Health and Human Services

CDR Jonathan D. White, Ph.D., LCSW-C, Deputy Director, Office of Human Services Emergency Preparedness and Response, Administration for Children and Families, U.S. Department of Health and Human Services

Linda J. Wanzer, CIV, USUHS, DNP, RN, COL (Ret), AN, CNOR, Associate Professor, Chair/Director, Adult-Gerontology Clinical Nurse Specialist Program, Graduate School of Nursing, Uniformed Services University of the Health Sciences

Retta Ward, State Health Official, New Mexico

Sue Wolf-Fordham, J.D., Instructor, Department of Family Medicine and Community Health, Director, Emergency Preparedness Initiative, E.K. Shriver Center, University of Massachusetts Medical School

Ruby Wood, RN-BC, MSN, MBA, CHPN, Nurse Manager Home Based Primary Care, Veterans Affairs Eastern Kansas Health Care System, Veteran Affairs Office of Nursing Service Gerontological Nursing Field Advisory Committee

Becky Zukowski, Ph.D., RN, Associate Academic Dean & Chairperson, Division of Nursing, Mount Aloysius College

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SPECIAL THANKS

The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (HJF)

Uniformed Services University of the Health Sciences (USUHS)

Mary Pat Couig, PhD, MPH, RN, FAAN, Program Manager, Emergency Management, Office of Nursing Services, Veterans Health Administration

Pharelda J. Scott, Administrative Assistant, HJF, NCDMPH

Elinore Tibbetts, Communications Specialist, HJF, NCDMPH

Ruby Wood, RN-BC, MSN, MBA, CHPN, Nurse Manager Home Based Primary Care, Veterans Affairs Eastern Kansas Health Care System, Veteran Affairs Office of Nursing Service Gerontological Nursing Field Advisory Committee
DISCLAIMERS

1. The views expressed are those of the authors and do not reflect the official policy or position of the National Center for Disaster Medicine and Public Health, the Uniformed Services University of the Health Sciences, the Department of Defense or the United States Government.

2. Health care providers should consider the specific circumstances of each patient encountered during an emergency and the resources available at that time and use their best judgment when providing care.

3. The information in this curriculum is meant to supplement principles of good clinical management and health care management.

4. Reference to external resources in this curriculum does not constitute a recommendation or endorsement by the National Center for Disaster Medicine and Public Health of the services or views described in that resource.

5. Every effort was made to include the most current information at the time of publication, but knowledge advances and educators should use the most current information available.

6. All authors of this curriculum have declared no conflicts of interest.
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PURPOSE

The purpose of this curriculum is to enable educators to teach health professionals about caring for older adults in disasters. A wide range of health professions can use this curriculum.

TARGET AUDIENCE

The curriculum was designed to be used by educators and trainers working with health professionals who may work with older adults before, during, and after disasters.

The intended learners are health professionals from a variety of work settings.
BACKGROUND

The National Center for Disaster Medicine and Public Health (NCDMPH), a center of the Uniformed Services University of the Health Sciences (USUHS), with support from the U.S. Department of Veterans Affairs and subject matter experts, created this competency-based, disaster health curriculum focused on the care of older adults.

The NCDMPH is the nation’s academic center of excellence in disaster health education and training for health professionals and associated volunteers. Authorized by Homeland Security Presidential Directive 21, the NCDMPH leads “...Federal efforts to develop and propagate core curricula, training, and research related to medicine and public health in disasters.”

The work of many subject matter experts contributed to this curriculum. The NCDMPH Curriculum Recommendations for Disaster Health Professionals: The Geriatric Population, informed the selection of included topics. Subject matter experts provided feedback on the list of topics, which ultimately became the modules and lessons.

References

HOW TO USE THIS CURRICULUM

The graphic below places this curriculum at the intersection of disaster health and caring for older adults. Lessons have been developed to focus on issues related specifically to care of older adults in disasters. Accordingly, this curriculum does not focus on general disaster health issues or routine care of older adults. It is assumed the learners are already trained health care professionals in their professional role or roles.

For those who wish to learn more about general disaster health topics, please see Module 1, Lesson 1-1 Overview for a list of resources.

In designing this curriculum, an effort was made to strike a balance between comprehensiveness of content and flexibility of use by educators and trainers in a variety of settings with diverse learners. The curriculum can be taught to groups of learners of one health profession or of multiple health professions. The educator or trainer may come from a number of educational or professional backgrounds that would have a role in caring for older adults in disasters.

Some educators and trainers may wish to use the curriculum in its entirety, teaching all lessons in the order provided. Others may select individual lessons or portions of lessons that would be most relevant to their learners and teach only those. In either case, educators and trainers can feel free to adapt the material in the curriculum for their setting and learner needs, for example, by substituting resources, modifying activities, or augmenting content. Educators and trainers also have flexibility in how they choose to teach the content portions of the lessons (i.e., drawing on lecture, discussion, or group project modalities).

Educators and trainers may wish to teach elements of this curriculum in classroom settings for health professions education, within organizational training environments, or for continuing professional education purposes. Elements of the curriculum may be developed
into just-in-time training for particular types of disasters or as part of general preparedness training.
CURRICULUM MODULE FRAMEWORK

The modules are ordered to provide a logical progression through the lesson topics as follows:

**Module 1** gives an overview of the curriculum and a demographic background on older adults.

**Module 2** reviews conditions already present in older adults before a disaster that may impact their preparedness, response, and recovery.

**Module 3** outlines special considerations for older adults in particular types of disasters.

**Module 4** gives an overview of caring for older adults during the disaster cycle.

**Module 5** reviews special considerations for older adults in various settings in which they reside and receive care.

**Module 6** reviews ethical and legal considerations for the care of the older adult population during a disaster.

**Module 7** completes the curriculum with an interactive capstone activity, which allows learners to apply new knowledge to their specific role and work setting.
LIST OF MODULES AND LESSONS

Module 1: Curriculum overview and background on the older adult population
   1-1 Curriculum overview
   1-2 Background on the 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
   2-2 Disaster psychiatry
   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 older adults
   5-1 Hospital
   5-2 Ambulatory care
   5-3 Hospice
   5-4 Skilled nursing facilities and assisted-living facilities
   5-5 Older adults in the community or at home
   5-6 Pharmacy

Module 6: Ethical legal: Special considerations for older adults
   6-1 Ethical legal

Module 7: Capstone activity
   7-1 Capstone activity

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LESSON STRUCTURE

Each lesson contains the following elements:

- **Learning objectives**
  *Learning objectives describe knowledge, skills, or attitudes one can gain as a result of the lesson.*

- **Estimated time to complete**
  *Lessons range from 30 to 120 minutes in length. This time may vary based on the particular learning context.*

- **Detailed content outline**
  *Provides the teaching content for the instructor in an easy to read outline format.*

- **Learner activities**
  *Suggested learning activities for educators to engage their learners.*

- **Readings and resources**
  *Required and supplemental readings and resources for both learners and educators.*

- **Learner assessment strategies**
  *Methods for educators to assess learning in each lesson.*
WE WELCOME YOUR FEEDBACK

We welcome your feedback regarding this curriculum.

Kelly Gulley
Project Coordinator, The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (HJF)
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)
Email: Kelly.gulley.ctr@usuhs.edu

Brian A. Altman, PhD
Education Director, The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (HJF)
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)
Email: Brian.altman.ctr@usuhs.edu

Kandra Strauss-Riggs, MPH
Operations Director, The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (HJF)
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)
Email: Kandra.strauss-riggs.ctr@usuhs.edu

Kenneth Schor, DO, MPH, FAAFP, CAPT MC USN (Ret)
Acting Director
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)
Email: kenneth.schor@usuhs.edu

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LESSON 1-1
CURRICULUM OVERVIEW
Lesson: Curriculum overview

Authors: Brian A. Altman, PhD  
Education Director, HJF  
National Center for Disaster Medicine and Public Health (NCDMPH)  
Uniformed Services University of the Health Sciences (USUHS)

Kelly Gulley  
Project Coordinator, HJF  
National Center for Disaster Medicine and Public Health (NCDMPH)  
Uniformed Services University of the Health Sciences (USUHS)

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

Competencies
This lesson provides a general overview of the curriculum. Later lessons provide learning applicable to specific competencies.

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

1-1.1 List one or more ways in which the topics covered in this curriculum may assist you in your work as a health professional.

Estimated Time to Complete This Lesson
30 minutes

Content Outline
Module 1: Curriculum overview and background on the older adult population  
Lesson 1-1: Curriculum overview

I. Purpose
   a. Purpose: Enhance learning of health professionals related to caring for older adults in disasters.
   b. This purpose is in alignment with the vision of the National Center for Disaster Medicine and Public Health, “a Nation of resilient communities with a competent health workforce prepared to respond and mitigate all-hazards disasters.”

II. Target audience
a. Intended learners for this curriculum: A broad range of health professionals who may work with the older adult population.
   - Assumptions and additional information related to the intended learner:
     - The information in this curriculum will be applicable to a wide range of health professionals from a variety of backgrounds.
     - It is assumed that the learners of this curriculum are already trained health care professionals in their professional role or roles.

III. Structure and flow
a. This curriculum consists of 7 modules listed below:
   i. Module 1: Curriculum overview and background on the older adult population
   ii. Module 2: Conditions present in the older adult population that impact their disaster preparedness, response, and recovery
   iii. Module 3: Disaster types: Special considerations for the older adult population in disasters
   iv. Module 4: Caring for older adult populations during the disaster cycle: Preparedness, response, recovery, and mitigation
   v. Module 5: Setting: Special considerations for older adults
   vi. Module 6: Ethical legal: Special considerations for older adults
   vii. Module 7: Capstone activity

IV. General disaster health resources: The following resources are for those learners who may wish additional information on general disaster health topics.
      http://ncdmph.usuhs.edu/KnowledgeLearning/2013-CompetenciesResources.htm. (Links to resources organized by disaster health core competencies.)
      http://ncdmph.usuhs.edu/KnowledgeLearning/ResilienceThruLearning.htm. (Resources for specific types of disasters.)
Lesson 1-1: Curriculum Overview

http://www.fema.gov/pdf/prepared/npg.pdf. (Key document from the US federal government related to preparedness.)


V. Policies and procedures
a. Review your institution or organization’s policies and/or procedures that may be applicable to your teaching and learning environment.

Suggested Learner Activities for Use in and Beyond the Classroom

1. Ask learners individually to think about the following: How you have worked with older adults as a health professional and how you have worked in disaster mitigation, preparedness, response, or recovery. Identify at least two areas in which you would like to learn more. Invite any learners to tell the group if they wish.

2. Divide the learners into small groups. Invite them to outline a scenario in which they might be called upon to assist an older adult in a disaster. What would be their role? Who would they work with? Small groups will report back to the entire group.

Readings and Resources for the Learner

• Required Resources
  o none

• Supplemental Resources
Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 1: Curriculum overview and background on older adult population
Lesson 1-1: Curriculum Overview


Learner Assessment Strategies
1. Have a class discussion in which learners are invited to list one or more ways in which the topics covered in this curriculum may assist them in their work as health professionals.

Readings and Resources for the Educators
- Required Resources
  - None

- Supplemental Resources
LESSON 1-2
BACKGROUND ON
THE
OLDER ADULT POPULATION
Lesson: Background on the older adult population

Author: Heather L. Johnson, DNP, FNP-BC, FAANP
Assistent Professor
The Uniformed Services University
Daniel K. Inouye Graduate School of Nursing

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

Competencies
This lesson supports learning related to the following competencies, with regard to 
**demographics and epidemiology of the geriatric population:**

Subcompetency 7.1 "Discuss common physical and mental health consequences for all ages and populations affected by a disaster or public health emergency."

Learning Objectives
At the end of this lesson, the learner will be able to:
1-2.1 Describe the demographic characteristics of the elderly population in the United States.
1-2.2 Identify epidemiologic features of the geriatric population that affect management of the population in disasters.

Estimated Time to Complete This Lesson
30 minutes

Content Outline
Module 1: Curriculum overview and background on the older adult population
Lesson 1-2: Background on the older adult population

The elderly are considered a vulnerable population during disasters. This section will discuss the demographic and epidemiologic characteristics of the population that contribute to vulnerability.

I. Demographics
i. **Age and gender.** According to the US Census Bureau, persons aged 65 years and over represent 14.1% of the US population.¹ Between 2012 and 2013, the 85-and-over group grew by ~3% to 6 million people and the number of elderly over 100 years of age reached 67,000.² By 2030, the population aged 65 and older is expected to grow to 72 million and will represent ~20% of the US population.³ The number of older women is disproportionate to the number of men in the country, with women accounting for 57% of the elder population. This gap widens with increasing age with women encompassing 67% of the over-85 crowd.³

ii. **Race and ethnicity.** In the 2012 census, 21% of those over 65 identified themselves as racial or ethnic minority populations.⁴ Below is a breakdown of the self-identified race and ethnicities of the elderly population.

<table>
<thead>
<tr>
<th>Self-Identified Ethnicities, 2012 US Census</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race/ethnicity</td>
</tr>
<tr>
<td>White/Caucasian</td>
</tr>
<tr>
<td>African-American (not Hispanic)</td>
</tr>
<tr>
<td>Hispanic origin (of any race)</td>
</tr>
<tr>
<td>Asian or Pacific Islander (not Hispanic)</td>
</tr>
<tr>
<td>Native American (not Hispanic)</td>
</tr>
<tr>
<td>Native Hawaiian/Pacific Islander (not Hispanic)</td>
</tr>
<tr>
<td>Two or more races</td>
</tr>
</tbody>
</table>

iii. **Educational attainment and literacy.** The group aged 65 and older reported the highest levels of educational attainment in history, although they had lower levels of high school and college attainment than did younger age groups; 77% completed high school or greater education, and 20% reported a bachelor's degree or higher education.⁵ Despite these levels of education, 29% of those over age 65 scored below the basic levels of literacy with very limited ability to understand information from even brief and uncomplicated text, health information, tables, charts, graphs, and maps.⁶

iv. **Income.** The rate of poverty in the elderly population is reported to be lower than in any other demographic in the United States. In 2012, the poverty rate for adults aged 65 and over was 9.1%, whereas rates for the age group of 18 to 64 were 13.7%.⁷ However, the American Association of Retired Persons finds that according to experimental measures published by the US Census Bureau the rate is closer to 18.7%, nearly twice that of the official measure.⁸
Furthermore, 48% (~19.9 million) are economically vulnerable, having incomes less than 2 times the supplemental poverty threshold. This rate increases to 58.1% among those over 80.

v. Living alone. Nearly one-third (11.3 million) of older adults who live outside of nursing homes or hospitals live alone. Twice as many older women (37%) live alone as older men (19%). Older men (72%) are far more likely to be married than are older women (42%). Living arrangements differ by race and ethnicity. Older non-Hispanic white and black women are more likely to live alone (39% each) than are women of other races and ethnicities. Older age increases the likelihood of living by oneself.

vi. Living in institutions. Admissions to skilled nursing facilities increased almost threefold in the past 2 decades. Approximately 1.3 million Americans now live in nursing homes or skilled nursing facilities.

II. Epidemiological data

a. Disability. Perhaps the most prevalent misperception of the elderly is that disability is widespread. A little more than one-third (36%) of those over 65 report some form of disability (i.e., difficulty in hearing, vision, cognition, ambulation, self-care, or independent living). The spectrum of individual disabilities ranges from 7% with vision difficulties to one quarter (23%) having an ambulatory disability.

b. Health. Medicare is a federally administered health insurance plan targeted for those aged 65 and over. Almost 70% of Medicare beneficiaries have 2 or more chronic conditions and 36.4% have 4 or more. The prevalence of multiple chronic conditions increases with age and gender, as women are disproportionately more affected than men. The incidence of 4 or more chronic conditions is highest in non-Hispanic black and Hispanic women and in general lowest in Asian or Pacific Islander men and women.

c. Care and support. Most older adults (67%) with long-term care needs rely on family and friends for support and assistance. Approximately one-third also pay assistants for supplemental care. Support and care by family and friends are critical factors in whether an elder can remain at home or needs institutional care. Fully half of the elderly who have a long-term care need but no family or friends for support are in nursing homes. Approximately 43.5 million family members bear the responsibility of caring for elders in the United States, and one-third of those care for a family member with dementia.
d. Older adults and disaster. The elderly are disproportionately affected by disasters. Older adults made up 15% of the population of New Orleans prior to Hurricane Katrina, but 71% of deaths from the hurricane were elderly adults.\textsuperscript{12,13} Seniors are also impacted more significantly in weather emergencies. Elders 65 and older accounted for nearly 70% of the deaths related to the 1995 heat wave in Chicago.\textsuperscript{14}

i. Vulnerability. Older adults with chronic diseases, conditions, or disabilities and the frail-elderly have unique needs and are especially vulnerable during and after disasters.\textsuperscript{13} Those with multiple chronic conditions, dementia, cognitive impairment, or disability and those who live in a long-term care facility or institution are among the highest risk groups.\textsuperscript{15} Following Hurricane Katrina, over 70 long-term care residents died in their facility.\textsuperscript{13} It is reported that many were abandoned by caregivers.

ii. Access to healthcare resources and medication. Over 200,000 people with chronic medical conditions who were either isolated as a result of flooding or displaced by the storm lacked access to their typical sources of care and medications following Hurricane Katrina.\textsuperscript{16}

iii. Evacuating versus sheltering in place. Decisions to evacuate or shelter in place are complex and include personal experience and logistical, financial, and psychological factors. Older adults may be more reluctant to evacuate and instead choose to shelter in place.\textsuperscript{17}

iv. Emergency preparedness. One study of seniors reported that the majority (56%) do not have an emergency plan. Furthermore, one-third do not have bottled water or a first aid kit in their homes; 50% lacked the knowledge or resources to put together a 72-hour emergency kit.\textsuperscript{18} Alarmingly, most participants believed that local health departments bear the responsibility for warnings, food, shelter, transportation, and medications during disasters. However, health departments are generally not equipped to provide these essentials.

Suggested Learner Activities for Use in and Beyond the Classroom

1. Look up the population of elderly in your state and county.
   State:
   \url{http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml}

   County:
   \url{http://www.census.gov/popest/data/counties/asrh/2013/PEPAGESEX.html}
2. What are the implications of what you found out about the population of elderly in your community for disaster preparedness?

Readings and Resources for the Learner
- Required Resources
  - None
- Supplemental Resources
  - None outside of the references

Learner Assessment Strategies
Multiple Choice Questions
1. By 2030, the US Census Bureau estimates that the population ages 65 and over will be
   a. 2 million
   b. 20 million
   c. 72 million
   d. 200 million
2. Which of the following statements about literacy among the elderly is true?
   a. They have the highest educational attainment in history.
   b. 20% completed high school.
   c. 50% have below basic literacy levels.
   d. 29% completed college.
3. The following disability is the most commonly reported disability among elders:
   a. Vision
   b. Hearing
   c. Sensory
   d. Ambulatory


Readings and Resources for the Educators
- Required
  - Nothing outside of the references.
- Supplemental Resources
  - Nothing outside of the references

Sources Cited in Preparing Outline and Activities Above


LESSON 2-1

CHRONIC AND ACUTE CONDITIONS
Lesson: Chronic and acute conditions

Authors: Robert Ellis Roush, EdD, MPH
Associate Professor of Medicine-Geriatrics
Baylor College of Medicine, Houston, Texas

Beth W. Allen, MPH
Project Consultant
Baylor College of Medicine

Brian A. Altman, PhD
Education Director, HJF
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)

Kelly Gulley
Project Coordinator, HJF
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)

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

Competencies
This lesson supports learning related to the following competencies, with regard to acute and chronic conditions present in the geriatric population that impact their disaster preparedness, response, and recovery:


Core Competency 7.0 “Demonstrate knowledge of principles and practices for the clinical management of all ages and populations affected by disasters and public health emergencies, in accordance with professional scope of practice.”

Subcompetency 11.1 “Describe clinical considerations for the recovery of all ages and populations affected by a disaster or public health emergency.”
Learning Objectives
At the end of this lesson, the learner will be able to:

2-1.1 Describe chronic conditions present in the geriatric population that influence their disaster preparedness, response, and recovery.

2-1.2 Describe acute conditions present in the geriatric population that influence their disaster preparedness, response, and recovery.

Estimated Time to Complete this Lesson
120 minutes

Content Outline
Module 2: Conditions present in the older adult population that impact disaster preparedness, response, and recovery
Lesson 2-2: Chronic and acute conditions

Note: In this lesson, when age is not specified, the terms the elderly, older persons, seniors, or geriatric population refer to men and women who are 65 years of age or older.

I. Epidemiology
   a. Disasters expose significant numbers of people to extreme conditions or events that often result in injury, loss of life, and destruction of or damage to property or livelihood.
   b. The elderly are among the most vulnerable to direct or indirect harm from disaster and experience disruption from the event longer than others in different age groups. They are more likely than the general population to be susceptible to injury and disease and to be poorly nourished.
   c. In 2005 when Hurricane Katrina made landfall, the elderly made up 11.7% of New Orleans’s population, but of the 10,435 evacuees seen as patients in one evacuee medical clinic set up in Houston after Katrina, 56% were older than 65 years of age, and of the 1200 people who died because of the storm, 74% were older than 60 years of age.
   d. Older persons are identified as a group meriting special care during disasters, especially those within that age group who have preexisting chronic conditions. As people age, the risk of having multiple chronic conditions rises, and the risk of mortality, poor functional status, and health care complexity increases.
      i. Having multiple chronic conditions means disease management is more complex.
      ii. The proportion of the older adult population with multiple chronic conditions is increasing, according to the National Health Interview...
Survey. The survey identified 9 self-reported chronic conditions. About 30,000 people participated in the survey each time.

a. Forty-nine percent of US men and 42.5% of women 65 years of age and older have 2 or more chronic conditions.

b. Overall, the percentage of Americans of this age group with 2 or more chronic conditions grew more than 20% between the 1999-2000 National Health Interview Survey and the 2009-2010 survey (p<.05), and significant increases were seen for those in this age group in the 3 largest racial or ethnic groups—blacks and whites (not of Hispanic descent) and Hispanics.

c. Increases also occurred over most income groups.

d. Significant increases (p<.05) also occurred in the 3 most common combinations of chronic conditions, each of which included hypertension.

e. Older persons, like all people, merit culturally competent care. To be most effective, health care needs to be tailored so that it respects patients’ cultural, social, and linguistic needs and their belief systems. For a list of standards of culturally competent care, see the National Cultural and Linguistically Appropriate Services Standards (http://www.thinkculturalhealth.hhs.gov/content/clas.asp).

i. Effective communication focusing on information, mediation of cultures, and a safe environment for patients may best be provided by an interpreter; family members may best participate as advocates but not as interpreters.

ii. Providers may want to consider the patient’s cultural beliefs about such issues as male-female roles, folk illness beliefs and behaviors, expectations about care from other generations, level of acculturation, and other factors while recognizing that no group is culturally homogeneous and that diversity exists among group members.

II. Chronic illnesses common in older persons

a. Heart disease is the leading cause of death in US adults who are 65 years of age or older. Of those 50 years of age and older with hypertension, 22.3% have difficulty walking up or down steps and 18.7% have difficulty standing, according to a Johns Hopkins Bloomberg School of Public Health analysis, which indicates the strain a disaster, particularly evacuation, would impose.

i. Cardiac death—Leor et al. found that the number of witnessed sudden cardiac deaths occurring on the day of an earthquake in Los Angeles in 1994 rose from a daily average of 4.6 ± 2.1 in the preceding week to 24
(z=4.41; \( p<.001 \)) on the day of the earthquake. Of those who died from atherosclerotic cardiovascular disease, average age was 70.2±13.5 years. The authors estimated that 19 of the sudden deaths occurring on that day could be linked solely to the earthquake.

ii. High blood pressure—Of adults 65 years of age and older, greater than 50% have hypertension, and its prevalence has been rising.\(^{13}\) Physiologic changes in older adults, including a decrease in endothelin-dependent vasodilation and an increase in peripheral resistance, result in a tendency toward hypertension.\(^{15}\) Among 228 Hurricane Katrina evacuees (mean age, 66.1±12.72 years) assessed by a multidisciplinary team focused on unaccompanied older adults, 54% were found to have hypertension. Experts concluded that hypertension was exacerbated during the hurricane because patients could not maintain health without medications and special diets.\(^{4}\) Likewise, patients with high cholesterol could anticipate lack of disease control without medications.

iii. Syncope (temporary loss of consciousness caused by a fall in blood pressure)—Declines in heart function allow a tendency toward syncope.\(^{15}\) The elderly and those with high blood pressure are among those most vulnerable to heat exhaustion and its warning signs, which include syncope.\(^{16}\) Poor replacement of fluids and high temperatures, conditions that promote heat exhaustion, may be experienced by the elderly in extreme weather conditions or as consequences of natural disasters, when normal environmental controls and routines are absent.

b. Cerebrovascular disease occurs more commonly in African Americans (4.6%) than in whites (2.4%), and it is the most common cause of serious adult disability in the United States.\(^{13}\) Of those older than 50 years of age who have had stroke, 37% suffer impairments in 3 or more activities of daily living, and Medicare beneficiaries with cerebrovascular disease in 2006 averaged an office visit every 11.4 days.

i. Cognitive impairment is sometimes a result of stroke, and it can complicate care (see below) and prevent accurate information transmission in disaster assessment settings about medical history, medications, need for adaptive devices, or ability to perform activities of daily living.\(^{4}\)

ii. Stroke, like congestive heart failure and kidney disease, carries a higher probability of comorbidity.\(^{13}\)

c. Cancer risk increases with age, and about three-quarters of all cancers are diagnosed in people 55 years of age or older.\(^{17}\) Changes in physiology with age,
including DNA damage and diminished DNA repair capacity, reduced oxidative capacity, and accelerated cell senescence, increase cancer risk.¹⁵

i. Patients with cancer are likely to experience disruption in access to chemotherapy and/or radiation during a public health emergency, such as a natural disaster. Records should be stored on thumb drives and/or hard copies:
   (a) Patients should consider reviewing medications at every medical visit or admission and keep a hard copy.
   (b) If patients have cancer or another chronic illness, they should request and store a document indicating diagnosis, treatment plan and summary, and care plan.

ii. To prepare to meet emergency needs in a disaster, investigators examined National Hospital Ambulatory Medical Care Survey data from 2004 to identify the drug classes most often administered in emergency departments for chronic conditions; for cancer, they found it was narcotic analgesics.¹⁸ For other common chronic conditions, the drug classes most frequently needed were antianginal agents/vasodilators (heart disease), nonnarcotic analgesics (stroke), antiasthmatics/bronchodilators (chronic obstructive pulmonary disease), and hypoglycemic agents (diabetes).¹⁸

iii. Immunocompromised patients with cancers, particularly those who have undergone blood and bone marrow transplantation are at special risk when influenza prevalence rises.¹⁹

d. Diabetes is a chronic condition in approximately 15% of Americans 50 and older, and among adults 65 years of age and older, it increased by more than 50% between 1997 and 2006.¹³

i. During disasters, patients are often separated from their medications and from foods that help them avoid hyperglycemia and hypoglycemia, which can affect energy levels and cognitive function and the risk of coma.

ii. Planners should not underestimate the need to meet the needs of patients with diabetes. Data from the Behavioral Risk Factor Surveillance System, including data from 14 states, indicated that patients with diabetes were no more prepared for natural or other disasters than were those without diabetes and were only slightly more likely than others to have a 3-day supply of medicine.²⁰

iii. A Japanese commission designed guidelines for nonmedical personnel who triage elderly evacuees after a disaster. For evacuees with hyperglycemia, the commission recommended (a) eating regular meals,
(b) preventing dehydration by drinking sufficient water, and (c) if possible, taking medication with meals and not skipping basal insulin injections (type 1 diabetes). Those in charge should monitor blood glucose more frequently than usual or consult a doctor when an evacuee with hyperglycemia has little appetite or a fever. For evacuees with hypoglycemia, the commission recommended (a) avoiding exercise or working when hungry, (b) eating meals regularly, (c) eating carbohydrates, (d) raising their glucose control goal higher than usual (150–200 mg/dL), and (e) reducing or skipping hypoglycemia medication when unable to eat a meal.21

e. Cognitive impairment occurs in 1 of every 6 (16.7%) older persons.4

i. Cognitive impairment can prevent accurate information transmission in disaster assessment settings about medical history, medications, need for adaptive devices, or ability to perform activities of daily living.4

ii. Impaired cognitive function and lack of physical strength can put older persons at risk for exploitation.4 Losses by those with cognitive impairment sheltering at the Houston Astrodome complex after Katrina included loss of money, medications, and what sparse belongings some had.

iii. Recommendations for disaster planning for those with cognitive impairment include housing such patients in special accommodations, not standard shelters, that provide health services required by mental and/or physical impairments.4

(a) One example of how this could be implemented comes from Florida where statutes require that emergency and disaster planning include assistance for those with disabilities or limitations. The statutes describe those who may need special assistance as those with “physical, mental, cognitive impairment, or sensory disabilities,” the existence of special needs shelters, and a registry for identifying and assisting these persons “in preparation for, and during and following, a disaster.” The computer-based registry began in January of 2015 and can be found at https://snr.floridadisaster.org/Signin?ReturnUrl=%2f.22

(b) After Katrina, elder evacuees to Houston’s Reliant Astrodome Center spontaneously segregated themselves (able-bodied elders) along with frail elders from other evacuees in the cavernous Astrodome. Physicians, including geriatricians, gerontological social workers, and others serving this special needs group, therefore, had easy access to them, and the specific location encouraged focus on and attention to
their special needs. These folks might have cognitive disabilities or mental illness or practical problems, which might include the need for additional blankets, provision of special diets, or special accommodations for walkers, canes, or wheelchairs.  

III. Special issues

a. Frail elders demand special attention. Frail elders, typically 85 years of age or older, represent the most vulnerable of older adults and the least capable of disaster prevention and mitigation or emergency preparedness.  
   i. They are characterized by a decreased capacity to function and increased dependence on others, which prevents them from having the ability to respond effectively to disaster stressors.
   ii. The presentation of the ailments they do have is atypical.
   iii. Specialized disaster assistance may be required, depending on the patient’s inability to perform activities of daily living or to be completely mobile, and assistance needs will rise during the disaster.

b. Frail elderly need rapid assessment.
   i. Korteweg et al. (2010) recommended in a systematic review of 33 papers that in disasters a rapid assessment is particularly important for the elderly and those with preexisting conditions.
      (a) Korteweg et al. reported that development in the United States of rapid assessment tools in the 1980s resulted in development by the World Health Organization of protocols for rapid assessment in emergencies. Subsequently, agencies in the United States honed their assessments.
      (b) The review yielded the following recommendations about handling assessments of the elderly in disasters when the standard health system is not operating normally: (a) combine information from the registries (created by governments, hospitals, and physicians) with a brief questionnaire, (b) verify the content and add any exposure assessment, (c) ensure before the emergency that language needs of subpopulations are met, (d) collect information face to face or by phone, and (e) recognize that multiple evaluations in the first few weeks after a disaster may be necessary.
   ii. In triage of Katrina evacuees at the Astrodome complex in Houston, the Seniors Without Families Team (SWiFT) assessed 228 evacuees who were 65 years of age or older by using a 13-item tool meant to measure medical, mental, financial, and social needs. The SWiFT assessment is available online at http://www.bcm.edu/pdf/bestpractices.pdf.
c. Frail elderly, specifically those who are nonvocal, need special attention from professional and family caregivers to prevent isolation and unintentional neglect.

d. Frail elders need to overcome barriers to ongoing access to prescription drugs during disasters.

i. According to the National Center for Chronic Disease Prevention and Health Promotion, adults aged 60 years and older are more likely than other age groups to take 2 or more prescription drugs. Overall, 88.4% of adults in this age group take 1 or more prescribed drugs, more than 76% take 2 or more, and 36.7% take 5 or more. The most commonly taken drugs in this age group are cholesterol-lowering drugs (44.9%), beta-blockers (26.4%), and diuretics (19.9%). California researchers using focus group interviews with patients and key informant interviews with physicians, insurers, and pharmacists found that patients face barriers to obtaining disaster medication reserves: rules restrict insurance payments for more than a 30-day supply; the elderly themselves resist ordering drugs by mail, which often offers 90-day supplies; and the cost of drugs often exceeds what elders can pay.

ii. In the United States, investigators employed mixed methods to determine ways to strengthen continuity in prescription medicine delivery during disasters, and they concluded that flexible dispensing policies that allow building of reserves, improving disaster planning, and building stakeholder collaborative partnerships are beneficial. In Japan, efforts after the Great Hanshin-Awaji Earthquake and Chuuestsu Earthquake secured changes in laws, but the change had little effect; therefore, a survey was undertaken, which provided information for establishing an effective distribution system in case of disaster.

IV. Disaster preparedness

a. Disaster preparedness experts should make some preparations specifically for the elderly.

i. To be effective for the elderly, evacuation and treat-in-place plans need to be designed for them specifically.

ii. Plans should be reevaluated periodically, ensuring capacity and ability to be retrofitted for post-disaster use.

iii. Plans should be practiced.

iv. Mental health staff who understand the needs of the elderly should be a component of planning.
v. Institutions and governments that will need to evacuate immobile elders must include transportation provision and coordination in planning.

b. Older adults should make preparations for emergencies, including disasters.28
   i. Assemble a kit of food, water, medications, power sources (batteries or chargers), a radio, and supplies for any needed service animal.
   ii. Create a network for support of family members, friends, neighbors, members of religious or social groups, and make sure phone numbers and addresses (street and e-mail) are recorded and accessible.
   iii. Prepare a personal evacuation bag.
   iv. Make a personal plan.
   v. Consider downloading and learning to use a mobile application from the Federal Emergency Management Agency, the Red Cross, or the Substance Abuse and Mental Health Services Administration.

V. Response to disaster: Risk of mortality and acute and chronic conditions from disaster
   a. Older persons and those with lower socioeconomic status are disproportionately represented in the fatalities from disasters. In New Orleans before Hurricane Katrina made landfall, the elderly, who lacked the resources to evacuate or failed to leave because of fear or other reasons, made up almost half of those who died in storm-related events.29 They were also more likely than those in other age groups to die after a tsunami in Indonesia, heat waves in Chicago and in Europe, and forced relocations by foot in Cambodia.30
   b. Older adults may be less likely to follow admonitions to evacuate.30 Some may be reluctant to leave because of having to leave behind pets.31 Other older adults who are poor and have little trust in local government officials or television evacuation admonitions also may be less likely evacuate.32 Also, overwhelming physical frailties may discourage some from leaving. Reasons for staying may include having no transportation, having nowhere to go, and believing someone must stay to protect property.32
   c. Institutionalized older adults may experience significant negative health effects as a result of a disaster. In a secondary analysis of Medicare claims and other data, investigators found statistically significant increases in 30-day and 90-day mortality and hospitalizations and in the rate of functional decline in nursing facility residents (all of whom were 65 years or older) in Louisiana and Mississippi when post-Katrina measures were compared with measures in 2003 and 2004.33

VI. Impact of acute illness after a disaster
Risk of acute myocardial infarction mortality increases with age, and 82% of people who die after a heart attack are 65 years of age or older.  

i. Acute myocardial infarction rates shortly after disaster have been examined. Leor et al. found that the number of witnessed sudden cardiac deaths occurring on the day of an earthquake in Los Angeles in 1994 rose from a daily average of 4.6±2.1 in the preceding week to 24 (z=4.41; p<.001) on the day of the earthquake. Of those who died from atherosclerotic cardiovascular disease, average age was 70.2±13.5 years. The authors estimated that 19 of the sudden deaths occurring on that day could be linked solely to the earthquake.

ii. Acute myocardial infarction rates within a long-term period after disaster have also been examined. Relying on data from death certificates 5 years before and 3 years after the Niigata-Chuetsu earthquake (6.8 on the Richter scale) of October 2004, Nakagawa et al. found significant increases in long-term acute myocardial infarction mortality in men (+13.4%; p=.017), women (+14.9%; p=.018), and overall (+14.0%; p=.0008). The investigators point out that Japan has the lowest heart attack rate in the world and that earthquakes in areas with higher rates of heart attack could result in higher mortality than that reported here.

b. Risk of cerebrovascular disease increased after earthquake and tsunami in Japan.

i. After the Great East Japan Earthquake (9.0 on Richter scale) and Tsunami of 2011, investigators compared standardized incidence ratios of cerebrovascular disease in the year of the earthquake with those in the previous 3 years, examining two 4-week periods before the earthquake and two 4-week periods after the earthquake. In areas with high flooding, men 75 years and older had rates of cerebral infarction more than twice as high as before the storm (odds ratio=2.34; 95% confidence interval [CI], 1.34-3.34).  

ii. Investigators subsequently categorized the 12 coastal communities facing the epicenter by flood severity (4 groups) and seismic intensity (3 groups). They found increases in cerebrovascular disease (odds ratios, 95% CIs) already observed in the first 4 weeks following the earthquake (compared with the same periods in 2008, 2009, and 2010) were related in a linear fashion to flood severity, from 0.94 (0.59-1.30) at <20% to 1.98 (1.25-2.72) at ≥60%.

c. Risk of cardiovascular disease mortality increased in areas of Ukraine contaminated by the Chernobyl nuclear accident of 1986, most markedly in the
group oldest at the time of the accident (40-60 years of age) and exposed to the highest cumulative effective doses (21.00-50.99 mSv).  

d. Risk of carbon monoxide poisoning rises when disasters are followed by a loss of electricity.  In Texas after Hurricane Ike hit the Gulf Coast in 2008 with 110-mile-per-hour winds, 95% of 2.26 million electricity customers lost power. Afterward, 15.6% (12/77) of hurricane-related carbon monoxide exposures occurred in the population >64 years of age. Counts were extracted from poison center call reports, requests for hyperbaric oxygen treatments, emergency department visit records, and mortality records collected by the state. Up to 87% of exposures were owed to improper generator use. None of the deaths occurred in the population ≥65 years old. 

e. Risk of suicide was shown to rise in areas affected by 2 or more disasters within 24 months. Krug et al. found in a 1999 analysis of 377 US counties affected by 1 disaster that suicide rates per 100,000 population did not rise significantly; however, rates did rise significantly (14.8%; 95% CI, 5.4%-24.2%; p<.001) in a subset of 70 counties in which 2 disasters (flood, hurricane, severe storm, tornado, or earthquake) were separated by no more than 24 months. 

f. Risk of post-traumatic stress disorder (PTSD). In the wake of traumatic events, PTSD is a common psychopathology, and about half of those who experience it have it for greater than 3 months after the event that triggered it. As an acute and chronic consequence of disasters, PTSD has been documented in the elderly, for example, following typhoons, terrorist bombings, and earthquakes. Because studies of those directly affected by the 9/11 New York terrorist attacks on the World Trade Center focused on those experiencing the attack geographically firsthand, few elderly are included (those ≥65 years of age made up only 1.5% of study participants in one report, for example). Research not specifically in the elderly recognizes a clear dose-response correlation between exposure to a horrific event and the consequence of experiencing PTSD, though a subsequent review of 9/11 scientific studies of PTSD calls attention to “enduring emotional reactions” across the country and effects that were comparable in groups with indirect as well as direct exposure. (See the Diagnostic and Statistical Manual of Mental Disorders for criteria for PTSD.)

VII. Atypical presentation of conditions in old age

a. Older persons do not present with the characteristic or classic signs and symptoms of disorders. 

b. Geriatric syndromes, multifactorial in origin and characterized by a constellation of nonspecific manifestations, commonly accompany complaints.
c. Because of their familiarity with these presentations and their experience communicating with older patients, geriatricians working with geriatric teams—social workers, nurses, psychiatrists, and other health care professionals who specialize in geriatrics—are best suited for meeting older patients’ needs.4

VIII. Recovery
a. Recovery with support from mental health professionals49
   i. Mental health professionals should be prepared to respond to delirium, behavioral and psychological symptoms of dementia, depression, PTSD and other psychiatric symptoms that are the result of disaster’s environmental changes and medical conditions and to coordinate services with medical providers.
   ii. Support needed may include helping elders create a new community and to take action to prevent debilitating depression, behavioral and psychological symptoms of dementia, alcohol dependence, or suicidal ideation.

b. Individual recovery30
   i. Persistent chronic stress after the disaster can have a negative impact on health status and lead to poor outcomes. In the aftermath of a disaster, continual stress may prove more damaging than the event itself.
   ii. Control of medications and adherence to medication regimen may promote recovery.
   iii. Socioeconomic recovery may be slower and less robust for older men than for men who are younger.
   iv. In certain cases, older persons have exhibited psychological resilience after disaster that outpaced that of all who were younger. Experience from other challenges, positivity, and better coping styles have been suggested as reasons for such resilience.30
      (a) In a comparison after Florida hurricanes between adults older than 60 years of age and adults aged 18-19 years, the older adults had lower levels of PTSD symptoms, less general anxiety disorder, and fewer depressive episodes related to functional impairments.50
      (b) In Web-based surveys of a sample of 2240 US adults (age range, 18-101 years) conducted 6 times over 3 years after the September 11, 2001, World Trade Center attack, respondents of older age were found, in comparison with younger adults, to report less change in fear of subsequent attacks, lower overall generalized stress, and a steeper decline specifically in symptoms of post-traumatic stress.51

Suggested Learner Activities for Use in and Beyond the Classroom

http://ncdmph.usuhs.edu
1. Ask learners to complete the following activity: Create a briefing for colleagues in your profession in your work setting or anticipated work setting. The briefing should be about chronic and acute conditions present in the geriatric population that influence their disaster preparedness, response, and recovery. Assume for your briefing that your colleagues are well versed in caring for older adults in nondonor settings. However, your colleagues may not have thought about the impact of acute and chronic conditions among older adults related to disasters. Your briefing should address the following questions:
   a. What acute and chronic conditions among older adults are you most likely to provide care for given your professional role and work setting?
   b. In what ways are these conditions relevant for the disaster setting?
   c. What should your colleagues be thinking about as they anticipate caring for older adults with these conditions in a disaster?
   For this activity, learners can work in small groups and develop a briefing outline, list of bullet points, or slide deck to answer the questions above.

2. Ask each learner, working individually, to reflect on the older adults they know in their lives and their current acute and chronic conditions. How might these conditions affect the ways that these older adults would need to prepare for disasters? Create a table listing the acute and chronic conditions present in the older adults in your life. See the sample table below. In the first column of the table, list the acute and chronic conditions. In the second column of the table, explain how each condition would be significant in a disaster.

<table>
<thead>
<tr>
<th>Acute or Chronic Condition</th>
<th>How Is This Condition Significant Before, During, and After a Disaster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: Diabetes</td>
<td>Preparation for a disaster requires having extra supplies, including drugs, on hand and ensuring others know of condition in case of emergency.</td>
</tr>
</tbody>
</table>

Readings and Resources for the Learner

http://ncdmph.usuhs.edu
Required Resources

Supplemental Resources

Learner Assessment Strategies
1. Ask learners to prepare a list of acute and chronic conditions (at least 5 total) present in older adults that could influence their disaster preparedness, response, and recovery. For each condition listed, ask the learner to describe at least one implication of the condition for the geriatric population in the disaster setting.

Readings and Resources for the Educators
- Required Resources

Sources Cited in Preparing Outline and Activities Above


7. Fried VM, Bernstein AB, Bush MA. Multiple chronic conditions among adults aged 45 and over: trends over the past 10 years. NCHS Data Brief 100. Hyattsville, MD: National Center for Health Statistics; 2012.


16. Health Studies Branch, National Center for Environmental Health, Centers for Disease Control and Prevention.

http://ncdmph.usuhs.edu


LESSON 2-2

DISASTER PSYCHIATRY
Lesson: Disaster psychiatry

Authors: Maria D. Llorente, MD
Associate Chief of Staff, Mental Health, Washington, DC, VA Medical Center
Professor, Department of Psychiatry
Georgetown University School of Medicine

Amanda Holloway, MD
PGY 4 Psychiatry Resident
George Washington University

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

Competencies
This lesson supports learning related to the following competencies, with regard to psychosocial conditions and vulnerabilities present in a geriatric population exposed to disasters.


Core Competency 7.0 “Demonstrate knowledge of principles and practices for the clinical management of all ages and populations affected by disasters and public health emergencies, in accordance with professional scope of practice.”
Subcompetency 7.1 “Discuss common physical and mental health consequences for all ages and populations affected by a disaster or public health emergency.”

Core Competency 11.0 “Demonstrate knowledge of short- and long-term considerations for recovery of all ages, populations, and communities affected by a disaster or public health emergency.”
Subcompetency 11.3 “Identify strategies for increasing the resilience of individuals and communities affected by a disaster or public health emergency.”
Subcompetency 11.4 “Discuss the importance of monitoring the mental and physical health impacts of disasters and public health emergencies on responders and their families.”

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

2-2.1 Describe the prevalence of common psychiatric conditions in older adults that can increase their vulnerability to adverse long-term psychosocial consequences following a disaster.

2-2.2 Discuss the unique psychosocial vulnerabilities among older adults that can interfere with or delay recovery from a disaster.

2-2.3 List the suicide risk factors among the elderly.

2-2.4 Develop a suicide safety plan with an older adult.

2-2.5 Recognize the role of social connectedness for older adults.

Estimated Time to Complete This Lesson
120 minutes

Content Outline
Module 2: Conditions present in the older adult population that impact their disaster preparedness, response, and recovery
Lesson 2-2: Disaster Psychiatry

I. Psychosocial considerations and older adults
   a. Preexisting psychiatric conditions can increase the risk for developing long-term adverse psychosocial consequences following a disaster, particularly among the elderly. Approximately 20% of people older than 55 will have a mental health concern during their lifetime, with the most common conditions being anxiety, depression, and cognitive impairment.1
   b. Depression: Depression is not a normal part of aging. Depression has been found in 3% of community elderly, but the prevalence is as high as 37% of elderly seen in primary care settings.2 Although highly treatable, depressive disorders in the elderly are widely under-recognized and often go untreated. Risk factors for late-life depression include loss of a spouse, physical illness, less than high school education, impaired physical functioning, polypharmacy, and heavy alcohol consumption. Older women and Hispanics report more depression than do other groups.
   c. Anxiety: Late-life anxiety is more likely to present in older adults as somatic complaints rather than psychiatric symptoms per se. Women report more anxiety than do men.3 Hispanics older than 50 are more likely than other ethnic groups to report anxiety.3 Many individuals with prior trauma exposures and frank post-traumatic stress disorder (PTSD) will experience worsening symptoms when exposed to another or similar event.
d. Cognitive impairment: Dementia prevalence increases with age, from 5.0% of those aged 71-79 years to 37.4% of those aged 90 and older.\(^4\)

e. Interaction between preexisting disorders and disaster exposure: Much debate exists as to whether older adults are more vulnerable or more resilient than younger people exposed to a disaster. In general, studies suggest that age is not the most important determinant of long-term sequelae. Rather, “dose” of trauma exposure and/or preexisting vulnerabilities are more important. The “dose” is determined by proximity to epicenter of greatest destruction, degree of exposure to life-threatening situations, duration of disruption of basic services/needs, and exposure to greater property damage. Disasters place additional stress on preexisting circumstances. Thus, individuals who already feel isolated and under-supported or are depressed or anxious may experience exacerbation of these symptoms after a disaster event. Small or localized disasters that are time limited have less of an impact. Those where the social disruption persists over time are more associated with increased risk for long-term consequences. Older adults may often be more socially isolated and experience difficulties with access and transportation to services and needed care. Certain losses, such as loss of a loved one, as a result of the disaster can also increase the risk for long-term symptoms. Psychiatric symptoms after a disaster can include sleeplessness, anxiety, sadness, or increase in substance use. In some individuals, these symptoms can develop into psychiatric disorders including substance use disorder, PTSD, major depressive disorder, and generalized anxiety disorder. Additional challenges may be encountered by older adults with cognitive impairment. Following a disaster, for example, an older adult may not recognize that electrical power outages occurred and thus may be at risk for consuming spoiled food. Cognitive impairment may also prevent the individual from being able to navigate complicated federal, state, and local relief efforts.

f. Special psychological concerns of older adults
   i. Losses: Losses are a part of normal aging. Elderly may lose a spouse, retire, experience a drop in income, have their social network reduced, etc. This increases their vulnerability to all life stressors, not only disasters. Losses associated with a disaster may be more than the person can cope with. This can be especially true if these losses hold psychological significance. For example, an older adult may have little difficulty coping with the loss of an expensive car, but may feel overwhelmed by the loss of photographs or mementos passed down for generations.
ii. Sensory impairment: An older adult may not be able to hear or see well, and this can lead to anxiety in unfamiliar settings. They may not adjust well to moving to a facility, for example, or to a change in routine.

iii. Fear of institutionalization: Many older adults fear loss of independence if limitations are discovered. Often over years they will hide their limitations from family, friends, and health care professionals. Following a disaster, some may deny or under-report needs as a result.

iv. Isolation: This can contribute to an older adult failing to learn about available resources (especially if mass forms of communication such as radio and television are not available), or their applications for disaster relief services may be delayed. Further, older adults today generally have a lower educational level than the general population, particularly minority elderly. This can further impede information gathering.5

v. Crime victimization: The elderly are often targets of scam artists even in the absence of a disaster, and in the instability following a disaster this risk increases.

vi. Mental health stigma: Mental health stigma prevents the elderly from reporting mental health symptoms to any providers or family even when directly asked. Some will deny symptoms of psychological distress but will endorse physical symptoms. Healthcare providers should thus utilize terminology such as “education,” “resources,” and “sharing experiences,” rather than referring to psychiatric diagnoses and treatments.

II. Suicide

a. The elderly account for 13% of the US population but 18% of all suicide deaths. White men older than 85 have the highest rates of suicide (59 per 100,000 persons).

b. The elderly are more likely to complete suicide but less likely to report suicidal ideation or attempted suicide. This is largely because they are more likely to choose lethal means. Firearms are the most common method used, followed by hanging.

c. Risk factors: male gender, white race, depressive illness (with self-rated depression symptom severity as the strongest predictor of suicide), serious physical illness, and functional impairment, pain, previous
suicide attempt, stressful life events in the weeks to months before suicide.

d. Social functioning and elderly suicide: Physical illness and other losses are common stressors seen in older adults who commit suicide. Elderly persons who commit suicide are more likely than other older adults to live alone. Cases of homicide-suicide are more associated with caregiver burden.

e. Protective factors: positive social supports, spirituality, sense of responsibility to family, life satisfaction, positive problem-solving skills, positive therapeutic relationship, sense of connectedness, restricted access to lethal means.

f. Suicides and disasters
   i. Among the potential psychological consequences following a disaster, suicide is of great concern. Systematic reviews that have analyzed the literature on the impact of natural disasters on suicidal behavior have been inconclusive owing to various methodological limitations. Some studies have found suicide rates to be unaffected by natural disasters. A recent study found that when damage caused by natural disasters is extremely large, suicide rates tend to increase significantly and may remain elevated for years. When damage is less severe, suicide rates actually decrease. The investigators theorize that natural disasters enhance people’s willingness to help others, which may serve as a protective factor against suicidal risk by increasing the level of social ties in the affected community. When the disaster is so large as to disrupt social networks, however, social isolation occurs and suicidal thinking and behavior are increased. Older adults are particularly vulnerable to this disruption.

    i. Are you feeling hopeless? Hopelessness is a strong predictor of suicide and a common symptom of depression. It is often
associated with other depressive symptoms including worthlessness and helplessness. In older adults, this can also be associated with anxiety, restlessness, and inner agitation that can lead to suicidal behavior.

ii. Have you had thoughts of wanting to hurt yourself? Asking this question will not increase the likelihood of someone becoming suicidal. Most persons report relief when a clinician is concerned enough to try to understand the psychological pain and distress being experienced by a person who is having these thoughts.

iii. When did you have these thoughts? Many people become suicidal in response to negative life events. Inquiring about the context of these thoughts can increase the clinician’s understanding of precipitants and facilitate the development of a treatment plan. Understanding the types of events and situations that trigger suicidal thoughts can also help the clinician and the older adult develop a safety plan to avoid suicidal behavior when these thoughts occur.

iv. How would you do it? If someone does report having suicidal thoughts, one should inquire as to the method, whether the individual has access to the means or if he or she has engaged in behaviors to obtain the means. This will provide an indication of the intent and amount of thought that has gone into the plan. Any thought or plan to commit suicide should be taken very seriously.

v. Have you ever tried to hurt yourself? Most persons who have attempted suicide will use more lethal means on subsequent attempts. Approximately 8-10% of those who attempt once will eventually die by suicide.

vi. What are your reasons for living? Identifying protective factors can facilitate the development of a safety plan and can also provide a more balanced and hopeful perspective for the individual. If someone is expressing suicidal thoughts or you are worried about their safety based on their behavior (i.e., they are actively trying to harm themselves or acting in a way in which they are putting themselves in danger), it is best to refer them to a mental health professional. When people experience suicidal thoughts they may require psychiatric hospitalization. In the event that these systems are disrupted
owing to a disaster, you should first and foremost make sure the person is safe. Make sure to remove any lethal means and never leave them alone. If possible, two people should be with the person at all times and this safe environment should be maintained until the proper mental health treatment can be accessed.

h. Elements of a suicide safety plan: All health professionals can develop a suicide safety plan with a person and this typically involves simple questions and specific steps. While a suicide safety plan can really be developed for anyone, it should be individualized to the specific triggers and coping strategies for the older adult. Having the person put the plan into writing is a useful strategy. He or she can take the plan out for easy review.

i. Recognize warning signs: personal situations, thoughts, mood, behavior, etc, that help the person recognize that they may be reaching a suicidal crisis.

ii. Internal coping strategies: what the person can do on his or her own to feel better (go for a walk, listen to music, do a crossword puzzle, etc) and prevent the suicidal ideation from worsening.

iii. Utilize social support network: This can include people and social settings who can offer support and help the individual distract themselves from the suicidal thoughts and urges. These are not necessarily people to call for specific help but rather “distracters” from inner turmoil. For some elderly, this could include neighbors, mail carriers, grocery store clerks, Meals on Wheels, places of worship, Senior Center, etc. For older adults, following a disaster, this may be part of what is causing stress because they may not be able to get to a place that previously offered peace (because of transportation or social disruption). This plan enables the person to develop an alternative social network.

iv. Personal network: Family, friends, religious or spiritual providers, co-workers who the person is willing to contact specifically for help during a suicidal crisis. It is important to encourage the individual to let these people know they are part of the safety plan before a crisis so that they can be prepared when receiving such a call.
v. Professional network: This is the list of providers and agencies that the person is willing to contact during a time of crisis and can include primary care providers, mental health clinician, case worker, local emergency room, home health agency, etc. The plan should also include the National Suicide Prevention Lifeline Number 1-800-273-TALK.

vi. Reducing the potential for use of lethal means: This includes identifying the method the person is likely to choose and putting barriers in place to make access more difficult.

III. Protective factors: Help the person identify and list his or her reasons for wanting to live.

IV. Stages of psychological interventions following a disaster are covered elsewhere in the curriculum. This section will only address considerations that are unique for older adults.

a. Prevention and Preparation: Providers can work with local authorities to establish services for frail elderly, those with cognitive disorders, and those with special needs (such as oxygen, dialysis, etc). Many seniors will not leave their homes if they cannot take their pets with them. Contingency planning should include making arrangements for any pets. Providers should also familiarize themselves with disaster plans in place in hospitals and institutions where they work and ensure that addressing the mental health needs of older adults is included.

b. Impact Phase

i. Normal psychological reaction: Very few people demonstrate serious psychopathology in the immediate aftermath of a disaster. Panic has been reported in only 10% and is usually related to an individual being trapped. Many people, however, display varying normal reactions that can be categorized in 4 areas:

A. Emotional: Examples can include numbness/shock, fear, helplessness, hopelessness, guilt, anger/irritability, anhedonia.

B. Cognitive: Examples can include impaired memory, intrusive thoughts, denial, impaired decision-making, and reduced self-esteem. Older adults, particularly those with sensory impairment, may appear confused and be mistaken for having dementia.
C. Physical: Older adults can report vague somatic symptoms such as headaches, insomnia, digestive problems, reduced energy, and poor appetite.

D. Social: Some will initially cope through avoidance or withdrawal.

ii. Interventions at this time are to facilitate rescue and the provision of basic needs: food, water, shelter, and medication. It is common for access to medications to be delayed in the early aftermath of a disaster. Further, locating missing family members (for seniors this could include a pet) can cause significant distress. For older adults, interventions may also include helping them to make contact with family who are located distantly, as many elderly individuals are concerned that a family member, typically a child or sibling, may be concerned about their safety. Further, older adults may need immediate access to medications for chronic medical conditions. This may create a great deal of anxiety, which can be resolved quickly by addressing this need.

c. Recoil phase: After the immediate crisis of a disaster, individuals impacted enter the recoil phase where individuals begin to adjust to what has occurred and can experience a wide range of fluctuating emotions. It is important to understand that older adults may experience a range of reactions that may be complex. During this phase, survivors begin to recognize that the immediate threat is reduced and stress is lessened. The older adult may need a longer period of time to enter into this phase than a younger person. Conversely, the older adult may be quite resilient and may have prior experience in recovery from a disaster and as such can serve as a tremendous resource for the community. The normal disaster responses noted above under the Impact Phase typically resolve within the first month after the disaster and the individual begins to move forward. Psychological interventions in this phase are typically of 2 types: 1) continuing to engage in problem-solving to address basic needs and obtain needed resources, as well as connect the senior with services and psychosocial supports; and 2) after the first month, screening for mental health consequences, such as clinical or major depression, anxiety, and PTSD. An additional consideration in older adults is to screen for a change in alcohol or prescription drug consumption, as some may use alcohol or other drugs to cope. Lastly, one should also be on the alert for possible financial abuse of older adults. Individuals who screen positive for significant psychological
distress or alcohol consumption or other substance use should be referred to
the nearest mental health providers associated with relief efforts.
d. Recovery phase: During this phase, returning to familiar routines is important.
Older adults who can do so and reestablish social networks typically will have
the best prognoses. For older adults who are displaced, and in either
temporary housing situations or have to move to new housing, the social
disruptions are much more significant. The healthcare provider may be the only
source of stability and continuity with the past that the older person has. It is
imperative that the clinician understand this role. Health care systems need to
be operational in affected communities as soon as possible. Older adults may
benefit from more frequent appointments until a routine is reestablished.

V. Social connectedness and seniors: For older adults, a sense of connection with
others is vital. This includes emotional support (sharing experiences, problems,
and having others empathically listen), informational support (such as advice and
guidance), and instrumental support (such as assistance with activities of daily
living, transportation, housekeeping, etc).
a. Adequate perceived social support is associated with reduced risk of mental
and physical illness and mortality.
b. Adults older than 65 are more likely than younger persons to report “never” or
“rarely” receiving the support they needed. A larger number of minority
erly, particularly Hispanics, report receiving inadequate support. This may
be in part due to language isolation.
c. Having a social network is associated with better medical outcomes and less
depression, and at least one study found a lower risk of Alzheimer’s disease.
d. Literature on social support suggests that perceived support is associated with
increased survival and recovery from stressful life events, including disasters.

Suggested Learner Activities for Use in and Beyond the Classroom
1. Work in groups of 4 to develop a suicide safety plan for the gentleman in this
clinical scenario. Try to identify factors that are protective and could be
pointed out to him as reasons for not acting on suicidal ideas. Also, use the
information provided to help him come up with alternatives to acting on
suicidal thoughts. Mr. F is a 92-year-old, Catholic, retired, wealthy business
owner. He lives in an assisted-living community in Miami but continues to drive.
He has a girlfriend and they enjoy going out to dinner, dancing, socializing with
friends, and volunteering at his church. Every Wednesday, he also volunteers at
his facility as a bartender for the community’s weekly happy hour social
gathering. His community is severely disrupted following a hurricane, and all
the residents had to live in the lobby of the building for more than 1 week
owing to loss of electricity and running water. He slept on the floor, ate cold sandwiches, and was unable to travel outside his complex. This reminded him of growing up in poverty, life circumstances of which he is very ashamed. He is having thoughts of suicide and is thinking of taking an overdose of pills.

2. Work in groups of 2, identify the 2 most frequently encountered natural disasters in your community and develop a preparedness checklist specific for the seniors in your community. Discuss and compare your checklist with others to develop an overall checklist that is specific for older adults in your community.

3. Alice is an 85-year-old, retired, divorced African American female who lives alone. She worked for many years as a nurse and did not retire until 10 years ago. After retirement, she continued to be very active in her community including church and her family. She has 5 children and 16 grandchildren. Over the last 5 years she has had worsening physical issues and has been unable to get around as much as she used to. Her children have noticed she has been more confused and extremely anxious, often to the point where she is unable to participate in activities she once enjoyed such as walking or volunteering. On the phone with her daughter one night, she comments, “I wish this would just end, what’s the point anymore.” Her daughter reaches out to the on-call staff for her primary care physician and asks for assistance.
   - What can be done at this point to ensure her safety that night? What are the options?
   - What would be the steps and components of a safety plan for this woman?
   - What strengths/resources does she have?

Readings and Resources for the Learner

- **Required Resources:**


- **Supplemental Resources**

http://ncdmph.usuhs.edu
Learner Assessment Strategies

1. Ask learners to respond to the following questions:
   a. What are common psychiatric conditions in older adults that can increase their vulnerability to adverse long-term psychosocial consequences in a disaster?
   b. What are the unique psychosocial vulnerabilities among older adults that can interfere with or delay recovery from a disaster?

2. The exercise above to develop a suicide safety plan can also be used to assess the skill of assessing suicidality and developing a safety plan. This should be appropriate for all health professionals. Immediately following a disaster, seniors may not have immediate access to specialty mental health providers or facilities. Nonclinicians and non-mental-health professionals may be called upon to assure the older adult’s safety until appropriate mental health care can be obtained.

3. Have the learners complete a list of examples of social connectedness in the life of an older adult they know (a friend, co-worker, family member, neighbor, etc). They should be able to generate a list of at least 10 examples and should include people, activities, and settings. Ask the learners to list a few ways to enhance social connectedness before a disaster.

Readings and Resources for the Educators

- Required Resources
Supplemental Resources


**Sources Cited in Preparing Outline and Activities Above**


**Additional Resources Utilized**


16. Brockie L. Psychosocial and communication variables involved in mediating the individual experience of older adults following a severe weather event. *eJournalist: A Peer Reviewed Media Journal.* 2013;13(1):53-68. (target audience: social work)


http://ncdmph.usuhs.edu


105. Sullivan HT, Häkkinen MT. Disaster preparedness for vulnerable populations: determining effective strategies for communicating risk, warning, and response. Presented at: Third Annual Magrann Research Conference; April 22, 2006; Rutgers University. (target audience: social work, health care executives)


LESSON 2-3
MEDICATION
Lesson: Medication

Authors: Zhanna Livshits, MD
        Assistant Professor, Emergency Medicine & Medical Toxicology
        Department of Medicine
        New York Presbyterian/Weill Cornell Medical Center
        New York, NY

        Judith C. Ahronheim, MD, MSJ
        Faculty Member, Bioethics Institute
        Clinical Professor of Medicine
        New York Medical College
        Valhalla, NY

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

Competencies
This lesson supports learning related to the following competencies, with regard to
medications related to conditions present in the geriatric population that impact their
disaster preparedness, response, and recovery:

Core Competencies and Subcompetencies from Walsh L, Subbarao I, Gebbie K, et al. Core
competencies for disaster medicine and public health. Disaster Med Public Health Prep.

Core Competency 7.0 “Demonstrate knowledge of principles and practices for the
clinical management of the geriatric population affected by disasters and public
health emergencies, in accordance with professional scope of practice.”
Subcompetency 7.1 “Discuss potential physical and mental health consequences for all ages and populations affected by a disaster or public
health emergency.”

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

2-3.1 List 5 or more risk factors that can lead to adverse drug events in the elderly.
2-3.2 List 3 or more symptoms that occur commonly in elderly patients that could be
due to a medication.
Estimated Time to Complete This Lesson
90 minutes

Endorsement
NCDMPH does not endorse or recommend any commercial products, processes, or services. The views and opinions of authors expressed in this lesson do not necessarily state or reflect those of the U.S. Government, and they may not be used for advertising or product endorsement purposes.

Content Outline
Module 2: Conditions present in the older adult population that impact their disaster preparedness, response, and recovery
Lesson 2-3: Medication

I. Introduction
Medication prescribing, adherence, and achievement of desired clinical effects with minimal adverse reactions pose numerous challenges in the older adult population. These challenges are greatly augmented in a community-wide disaster. Important factors to consider include:

- The number and complexity of medical conditions,
- Age-related changes in pharmacokinetics and pharmacodynamics,
- The number of prescribed and over-the-counter medications and the accompanying potential for drug interactions,
- Lack of prescriber knowledge of or experience in the principles of geriatric prescribing,
- Patient non adherence to a prescribed regimen,
- Clinical deterioration or even withdrawal symptoms following abrupt discontinuation of certain medications, and
- Unmasking of an illness following administration of particular medications.

II. Geriatric pharmacokinetic and pharmacodynamics principles

- Pharmacokinetics: how a drug gets in and out of the body
  - The absorption, distribution, metabolism, and excretion of medications
  -Drug entry from the gastrointestinal tract into the blood circulation
  -Distribution of drug in the body, including the “target organ” (intended site of action leading to intended effect) as well as nontarget organs (possible sites of action, sometimes leading to side effects)
  -Metabolism (change in structure and/or function of the drug molecule)
  -Elimination from the body
Pharmacodynamics: the effect(s) of the drug on the body

A. Important age-related pharmacokinetic changes.\textsuperscript{2,3}

1. Renal (kidney) function:
   - Decline in kidney function, although not universal, is the most predictable factor affecting drug pharmacokinetics in the elderly.
   - Many drugs are excreted by the kidneys.
   - Age-related decline in the speed at which the kidneys eliminate substances in the urine (glomerular filtration rate) may cause slower elimination of the drug and, with repeated dosing, lead to drug accumulation and toxicity.
   - Blood tests to check kidney function, such as serum creatinine, are unreliable ways to determine kidney function in the elderly. Methods of rapid estimation of kidney function may be helpful; see Required Resources, Ahronheim et al, 2009 (Tool 4-3, page 78).
   - Patients have significantly enhanced risk for drug toxicity when taking medications that have a narrow therapeutic index.
     - Therapeutic index indicates the difference between the usual effective dose and the toxic dose of a drug. If the index is narrow, a slight change in dose may cause either lack of drug effect or severe toxicity. Careful clinical or laboratory monitoring may be required.
     - Some examples of medications with narrow therapeutic index include the following: digoxin, gentamicin, lithium, theophylline, and warfarin. For a more complete discussion, see Supplemental Resources (Ahronheim et al, 2015).

2. Hepatic (liver) metabolism
   - Refers to modification or processing of a drug.
   - The liver is an important site for metabolism and detoxification of drugs within the body.
   - Not all drugs are modified by the liver, and some are eliminated unchanged in urine, bile, or feces.
   - Age-related factors may affect metabolism and detoxification, leading to drug accumulation and prolonged clinical effect.\textsuperscript{4}
   - A person’s genetic makeup, which is not related to age, may also affect metabolism.
   - Metabolism usually inactivates a drug, but for some drugs creates active components (metabolites) similar to the “parent” drug.
     - Example: Chlordiazepoxide, a sedative drug, is transformed to several active metabolites in the liver. This further contributes to drug accumulation and prolonged effects, such as oversedation.
3. Body composition and where drugs reside
   • The ratio of fat to lean tissue in the body increases with age.
   • Fat-soluble (lipophilic) drugs accumulate in fat tissue; therefore, in the elderly, the peak effect of these drugs may occur later than expected, and their duration of effect may be prolonged.
   • Example: Diazepam, a sedative drug similar to chlordiazepoxide, is a fat-soluble drug that may have longer duration of effects in geriatric patients because of its fat solubility (as well as presence of active metabolites).

B. Pharmacodynamic changes
   • Responses to medications often change with aging, as physiologic and disease-related changes occur.
   • Sensitivity to a particular drug often increases; in these cases, dose adjustment may be warranted, even if the drug is not eliminated more slowly with advancing age.
     o Example: Lorazepam, another sedative drug, is not eliminated more slowly in the elderly; however, geriatric patients have enhanced sensitivity to this drug (as to many sedating agents). Even small doses may produce adverse effects, such as confusion or excessive sedation.

III. Medication-related geriatric adverse events
Among adults, the incidence of adverse drug reactions increases with age, and is highest among people 80 years of age and older.\(^5\) Adverse drug events increase with the number of medications taken and may lead to hospitalization, morbidity, and mortality.\(^6\) The following factors contribute to adverse drug events in the elderly:\(^7\)

A. Increase in number of medications (“polypharmacy”) and complexity of the medication regimen\(^8\)
   • Adherence to the drug regimen declines with increase in number of medications.\(^9\)
   • Dispensing changes at the time of prescription renewal, such as change from “brand name” to generic or change from one manufacturer to another, result in the new drug differing in color or shape from the familiar one.\(^10\)
     o Example: A 72-year-old man was taking the antidepressant fluoxetine, an oblong green/white capsule. The renewed prescription was the generic fluoxetine, which looked like his cholesterol pill pravastatin. The patient wondered whether an error had taken place and did not take the fluoxetine until he was able to contact his mail-order pharmacy several days later.
   • Change from immediate and modified-release drug formulations can alter the dose of drug ingested.
Immediate-release formulations typically have a faster onset of action and shorter duration of effect than do modified release preparations.

The dosage and number of doses per day may differ.

Example: A 78-year-old woman was taking a controlled-delivery form of the antihypertensive diltiazem, a modified-release 360 mg tablet designed to be taken once daily, but she was given in error 360 mg of immediate release diltiazem. This resulted in a severe drop in blood pressure and slowed heart rate.

B. Drug-drug interactions

- Drugs can interact with each other in the body, sometimes leading to problems.
- Drug-drug interactions occur by diverse mechanisms, and the potential for interactions is very high when patients have a complicated drug regimen.
- Not all interactions reach the level of clinical impact, but certain predictable interactions can be very dangerous.

1. Warfarin interacts with many medications and even certain nutrients and herbal preparations. Examples include the following:
   - The antibiotics clarithromycin and ciprofloxacin\(^1\) and the antacid medication cimetidine may impair the metabolism of warfarin and lead to bleeding.
   - St. John’s Wort, an herbal preparation commonly used for depression, may stimulate the metabolism of warfarin and decrease its efficacy.
   - Taking warfarin and aspirin or clopidogrel concomitantly may increase the risk of serious bleeding, since each drug has the ability to prevent blood clotting.
   - These combinations may have important clinical use in certain circumstances but require careful monitoring.

2. Digoxin, a cardiac drug, has numerous drug interactions that can lead to abnormal heart rhythms. Examples include the following:
   - Beta-blockers such as metoprolol and calcium channel blockers such as diltiazem and verapamil slow the heart and can have an additive effect with digoxin. (Refer to Table 1 for a list of commonly used beta- and calcium channel blockers.)
   - Verapamil and certain other noncardiac drugs also compete for the same mechanism of excretion (P-glycoprotein), leading to digoxin accumulation and toxicity.

- A detailed review of drug and nutrient interactions can be found in Supplemental Resources (see Kleinshmidt, et al, 2011).

C. Inappropriate prescribing practices\(^1\) and predisposing factors
• Insufficient knowledge regarding pharmacokinetic and pharmacodynamics changes can result in poor choices of medication or lack of dose adjustment.
• Multiple providers, such as a general internist and one or more specialists, may prescribe conflicting medication to the same patient or may not communicate adequately with each other or with the primary care provider.
• Failure to anticipate risks of new drugs to elderly patients.
  o Inadequate numbers of geriatric patients and those with abnormal kidney function are enrolled in clinical trials prior to drug approval.\textsuperscript{13,14}
  o Unlike the context of a clinical trial, where subjects are carefully screened prior to randomization, elderly patients in practice often have comorbidities or various degrees of organ malfunction, putting them at enhanced risk of adverse effects.
  o Example: Dabigatran was approved after a successful clinical trial\textsuperscript{15} but within a short time an association with significant bleeding risk was found to exist in the clinical setting, with serious hemorrhage occurring, often in elderly patients.\textsuperscript{16,17} Research subjects with poor kidney function were underrepresented in the clinical trial. One would expect slowed elimination of dabigatran by the aged kidney. This example highlights how cautious prescribing of a new drug might prevent problems once the drug becomes available to sicker, older patients.

D. Transitions of care
• Adverse drug events occur during the time of transition of patient’s care,\textsuperscript{18} such as discharge from hospital to home,\textsuperscript{19} or transition to long-term care facility from home or from hospital.
• Medication reconciliation, the process of verifying both newly prescribed medications and those that the patient is already taking, may decrease adverse drug events associated with transitions of care.\textsuperscript{20}

E. Unmasking
• Certain medications may unmask clinical conditions in geriatric patients. Examples include:
  1. Unmasking of dementia by medications such as diphenhydramine and cyclic antidepressants (e.g., amitriptyline), resulting in memory loss or confusion. These “anticholinergic” drugs interfere with acetylcholine, a transmitter system in the brain that may already be deranged in the earliest stages of dementia, even before the disease is clinically apparent.
  2. Unmasking of enlarged prostate (“Benign Prostatic Hypertrophy” or BPH) in a man by anticholinergic drugs, which lead to urinary retention and interfere with the bladder’s ability to expel urine. Urinary retention, when severe, can cause extreme discomfort and even kidney damage.
F. Incautious prescribing of medications that have predictable adverse effects in the elderly

- Criteria for potentially inappropriate medication use in the elderly have been developed to assist clinicians with prescribing safe medications for geriatric patients.\textsuperscript{21,22}

- Important examples of potentially inappropriate medications include the following:
  - Sedating antihistamines with anticholinergic properties (e.g., diphenhydramine and hydroxyzine)
  - Cyclic antidepressants with anticholinergic properties such as amitriptyline
  - Sedative drugs such as diazepam and lorazepam
  - Centrally acting muscle relaxants such as cyclobenzaprine
    - See Required Resources, for a comprehensive list (American Geriatrics Society, 2012).

G. Pharmacologic management of conditions that are best managed nonpharmacologically

- Example: Mood stabilizers and/or sedatives (see Table I) are often given to manage agitation in patients with dementia. This should be avoided for two reasons:
  - (1) agitation in dementia is commonly caused by extrinsic factors, such as a patient’s failure to recognize a person who is trying to feed or bathe him or her, or to pain or other causes of discomfort, and
  - (2) the medications that are selected can increase the risk of falls, delirium, confusion, and excessive sedation. In an emergency setting, sufficient personnel may not be available to calm or otherwise manage the patient, so assistance of family, friends, or other familiar caregivers should be encouraged.
  - Note: This type of agitation differs clinically from delirium, which is caused by medical factors. In delirium, cautious pharmacologic management may be indicated after the underlying cause of delirium is sought and addressed.

H. Medication adherence

Medication adherence is important not only to treat an illness but also to prevent adverse consequences of medication withdrawal.

- Risk factors for nonadherence include the following:
  - Problems with memory,
  - Impaired vision,
  - Increase in number of medications,
  - Lack of understanding of how or why to take the medication(s),\textsuperscript{23,24,25} and
o Inability to pay for the medication(s).

- Strategies to promote medication adherence during a disaster
- Preparing at least a 1-week supply of medication for each geriatric patient is helpful in disaster preparedness.
  - If a medication is removed from the original bottle, labeling the new waterproof packet with the name of the drug, the name of the person, and dosing regimen may prevent potential dosing error.
  - Online pill identification tools may be useful for providers to identify pills that patients have in their possession.
  - See Supplemental Resources for comprehensive guidance on drug dosing and medication management for the elderly (Semla et al, 2013; Merck).

IV. Common medical conditions and treatment medications. The following is a limited list of medications used for these conditions (all are oral unless otherwise noted). This list may be used a reference for learner activities and learner assessment strategies (see sections below) and throughout the lesson. For a comprehensive source, see Supplemental Resources (Semla et al, 2014-2015 Reuben et al, 2014).

Table I. Common medical conditions and examples of treatment medications for older adults

- This table is intended for quick reference and use for learner activities related to disaster and nondisaster scenarios.
- Caveat: This is a partial list; inclusion on the list does NOT mean the drug is recommended in any particular case.
- Certain medications in the table are prescribed “off label,” i.e., used for a medical condition, age group, dosage, or route of administration (oral pill vs. injection) not approved by the Food and Drug Administration; a common example is the use of certain mood stabilizers for treatment of agitation in dementia.

<table>
<thead>
<tr>
<th>Medical Condition</th>
<th>Commonly Used Medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension (high blood pressure)</td>
<td>Beta-adrenergic antagonist (beta-blockers):</td>
</tr>
<tr>
<td></td>
<td>• Carvedilol</td>
</tr>
<tr>
<td></td>
<td>• Metoprolol</td>
</tr>
<tr>
<td></td>
<td>Calcium channel antagonists (calcium channel blockers):</td>
</tr>
<tr>
<td></td>
<td>• Amlodipine</td>
</tr>
</tbody>
</table>
heart rate and others just target the blood pressure.

| Alpha-2 adrenergic antagonists (Alpha-2 blockers): | Diltiazem  
|---------------------------------------------------| Nifedipine  
|                                                   | Verapamil  
| Direct vasodilators (medications that directly relax the blood vessels): | Clonidine  
|                                                   | Hydralazine  
| Angiotensin-converting enzyme (ACE) inhibitors: | Benazepril  
|                                                   | Enalapril  
|                                                   | Lisinopril  
| Angiotensin II receptor blockers (ARBs): | Irbesartan  
|                                                   | Losartan  
|                                                   | Valsartan  
| Dysrhythmia (abnormal heart rhythm) | Amiodarone  
| - Medications either slow down the heart rate or aim to convert an abnormal rhythm into a normal heart rhythm. | Beta-adrenergic antagonists  
|                                                   | Calcium channel antagonists  
|                                                   | Digoxin  
| Anticoagulants (blood thinners that prevent blood clots): | Warfarin  
| - Often used to treat heart disease, blood clots, and stroke. | Apixaban  
|                                                   | Dabigatran  
|                                                   | Rivaroxaban  
| Platelet inhibitors (interfere with formation of blood clots) | Aspirin  
| - Used to prevent stroke | Clopidogrel  

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<table>
<thead>
<tr>
<th>Condition</th>
<th>Medications</th>
</tr>
</thead>
</table>
| Congestive heart failure (CHF) and other fluid-retaining states: Medications aim to eliminate excess fluid from the body. | Diuretics (medications that enhance urinary elimination of salt and water):  
- Bumetanide  
- Furosemide  
- Hydrochlorothiazide (HCTZ)  
- Spironolactone  
- Triamterene/HCTZ |
| Diabetes mellitus (high blood sugar) Medications aim to maintain blood sugar in a normal range. | Hypoglycemic agents (medications that lower blood sugar):  
- Glimepiride  
- Glipizide  
- Glyburide  
- Metformin  
- Pioglitazone  
- Repaglinide  
- Sitagliptin  
Insulins (injection only):  
Rapid and ultra-short acting:  
- Aspart  
- Lispro  
Short-acting:  
- Regular  
Intermediate-acting:  
- NPH  
Long-acting:  
- Glargine  
- Detemir |
| Dementia Medications aim to slow loss of memory. |  
- Donepezil  
- Memantine  
- Rivastigmine - primarily given as skin patch |
| Influenza | Oseltamivir  
- Zanamivir |
| Depression | Sertraline  
- Fluoxetine |
<table>
<thead>
<tr>
<th>Condition</th>
<th>Medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothyroidism (underactive thyroid)</td>
<td>• Thyroxine</td>
</tr>
</tbody>
</table>
| Insomnia | • Zolpidem  
• Temazepam  
• Trazadone |
| Mood stabilization | • Quetiapine  
• Haloperidol  
• Olanzapine  
• Risperidone  
• Valproic acid |
| Osteoarthritis | Non-opioid (non-narcotic) pain control:  
• Ibuprofen  
• Naproxen  
• Celecoxib  
• Acetaminophen |
| Opioid (narcotic) pain control:  
• Codeine  
• Acetaminophen/Codeine  
• Morphine  
• Oxycodone and its modified release preparation  
• Oxycodone/Acetaminophen  
• Hydrocodone/Acetaminophen  
• Hydromorphone  
• Fentanyl (patch) |

V. Inadvertent drug withdrawal
Abrupt cessation of daily therapeutic medications may lead to exacerbation of existing illness or clinical symptoms of withdrawal

- Access to medications during disaster may be challenging.
- Lack of adherence of lack of access may play a significant role in abrupt drug discontinuation.
• Certain prescription drugs, when chronically administered, are particularly relevant in geriatric practice because abrupt cessation may lead to serious or even life-threatening effects (see Table II).
• Substance abuse and subsequent withdrawal due to lack of access during disaster may present a diagnostic challenge in the elderly.
  o Substance abuse is less common in the elderly than among younger adults, but may be under recognized.
  o Alcohol (ethanol) is more commonly abused than illicit drugs.\textsuperscript{26,27}
  o Screening for alcohol misuse is important. CAGE and AUDIT (Alcohol Disorders Identification Test) are some of the traditional screening tools commonly used.\textsuperscript{28,29} ARPS (Alcohol-Related Problems Survey) may be a more sensitive screening tool in the elderly.\textsuperscript{30}

Table II. Medications associated with significant clinical effects following abrupt discontinuation after chronic use

<table>
<thead>
<tr>
<th>Medication</th>
<th>Medical Use</th>
<th>Symptoms Seen if Drug Abruptly Discontinued</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-dementia agents</td>
<td>Dementia</td>
<td>Agitation, confusion</td>
</tr>
<tr>
<td>Levodopa/Carbidopa</td>
<td>Parkinson’s disease</td>
<td>Extreme rigidity</td>
</tr>
<tr>
<td>Sedatives</td>
<td>Anxiety, agitation, insomnia</td>
<td>Agitation, seizures</td>
</tr>
<tr>
<td>Clonidine</td>
<td>High blood pressure</td>
<td>Very elevated blood pressure</td>
</tr>
<tr>
<td>Opioids (narcotic pain medications)</td>
<td>Pain</td>
<td>Agitation, nausea, vomiting, sweating, abdominal cramping, diarrhea</td>
</tr>
<tr>
<td>Corticosteroids (such as prednisone)</td>
<td>Asthma, temporal arteritis and other autoimmune medical conditions</td>
<td>Weakness and fatigue, nausea and vomiting, severe drop in blood pressure (Addisonian crisis)</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>Depression</td>
<td>Dizziness, exacerbation of depression, agitation</td>
</tr>
</tbody>
</table>
The instructor/educator will hand out several unidentified tablets. Medications can be selected from Table I. The students will be divided in groups and identify the tablets.

- Students can use an online pill identification resource

Activity #2: Agitation in dementia

The following scenarios will be discussed as a group.

1. An 82-year-old woman with Alzheimer’s disease is admitted to the hospital for “control of agitation.” Her agitation has been treated at home with lorazepam, trazodone, and olanzapine, but her symptoms have persisted. In the hospital she walks with a nursing assistant but is intermittently screaming. Haloperidol 1 mg is given intramuscularly without effect.

   QUESTION: Why might a patient not respond to medications known to calm or even sedate? What lessons does this patient teach about agitation in the elderly? What is the next step?

   Answer: Clinicians often fail to address possible underlying causes of agitation on the assumption that agitation is an expected symptom of dementia. In this patient, a cursory physical examination revealed the patient lay calmly in bed until her left arm was moved, when she screamed in pain. She also was found to have a large mass in the left breast and left underarm. A review of her admission chest x-ray revealed a large lesion in her left humerus bone, suggestive of metastatic cancer. Further information indicated she has a history of breast cancer. Her agitation improved significantly when morphine was given. The sedating medications were tapered and her symptoms were controlled with oral morphine.

   Screaming is not a typical manifestation of agitation in dementia; it is important to consider underlying causes of agitation, such as pain, discomfort from constipation, need for an immobilized patient to be repositioned or for restraints to be removed, and numerous other causes of discomfort that anyone could experience.

2. An elderly man with dementia has urinary incontinence. A nursing assistant comes to help him use the urinal and to clean him after an incontinence episode. He becomes agitated and pushes her away.

   How would you manage this situation without resorting to sedating medications? (Students may also wish to suggest possible scenarios for discussion, either hypothetical or from their own experience.)
Answer:
The staff need to avoid harm to themselves; however, a “stat” dose of medication is generally not the best, nor is it the only approach in this situation. In an elderly dementia patient, behavior that consists of resistance to basic treatments such as bathing, feeding, and toileting may be intermittent and short lived and may occur primarily when there is a new and unfamiliar caregiver. In this situation, nonpharmacological approaches are not only safer for the patient but reduce agitation more quickly than would the drug itself. Approaches include, among others, distraction/diversion or an alternate caregiver, family member, or other familiar person. For further information, see Supplemental Resources: National Institute on Aging; Alzheimer’s Association 2012).

Activity #3. Medication storage during disaster
Identify potential challenges to medication storage during disaster.
The group leader will facilitate discussion regarding potential pitfalls of medication mislabeling (pouring medication suspension into an unlabeled bottle), humidity leading to breakdown of medications, lack of refrigeration (especially insulin vials).

Activity #4: Strategies to avoid abrupt discontinuation of medications during disaster
The group will identify potential strategies to prevent abrupt discontinuation of medications.

- Have an up-to-date comprehensive list of medications and dosages in one specific location (e.g., wallet, refrigerator). Consider giving a copy of an updated list to a reliable family member, neighbor, or friend; avoid giving out multiple copies because medication regimens are often changed.

Readings and Resources for the Learner
- Required Resources
Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 2: Conditions present in the older adult population
Lesson 2-3: Medication


**Supplemental Resources**

**Learner Assessment Strategies**

1. Engage learners in a group discussion or individual writing assignment related to the following questions.
   a. What are 5 or more risk factors that can lead to adverse drug events in the elderly?
   b. What are 3 or more symptoms that occur commonly in elderly patients that could be due to a medication?

**Readings and Resources for the Educators**

http://ncdmph.usuh.edu
Required Resources


Supplemental Resources


Sources Cited in Preparing Outline and Activities Above


LESSON 2-4
ASSISTIVE TECHNOLOGY
Lesson: Assistive technology

Author: Mary Helen McSweeney-Feld, PhD, LNHA  
Associate Professor, Health Care Management  
Department of Interprofessional Health Studies  
Towson University

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

Competencies  
This lesson supports learning related to the following competencies, with regard to assistive technologies related to conditions present in the geriatric population that impact their disaster preparedness, response, and recovery.


- Subcompetency 5.2 "Describe risk reduction measures that can be implemented to mitigate or prevent hazardous exposures in a disaster or public health emergency."

- Core Competency 8.0 "Demonstrate knowledge of public health principles and practices for the management of all ages and populations affected by disasters and public health emergencies."
  - Subcompetency 8.2 "Identify all ages and populations with functional and access needs who may be more vulnerable to adverse health effects in a disaster or public health emergency."
  - Subcompetency 8.3 "Identify strategies to address functional and access needs to mitigate adverse health effects of disasters and public health emergencies."
  - Subcompetency 8.4 "Describe common public health interventions to protect the health of all ages and populations affected by a disaster or public health emergency."

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

- **2-4.1 Describe the scope of assistive, alternate, and augmentative communication technologies and how they are utilized by older adults living in the community and in residential care communities.**
2-4.2 Identify the issues involved in evacuation of older adults utilizing assistive, alternate, and augmentative communication technologies in the event of an emergency or disaster.

2-4.3 Develop strategies to accommodate older adults utilizing assistive, alternate, and augmentative communication technologies evacuated to shelters or alternate medical centers in the event of an emergency or disaster.

Estimated Time to Complete This Lesson
90 minutes

Content Outline
Module 2: Conditions present in the older adult population that impact their disaster preparedness, response, and recovery
Lesson 2-4: Assistive technology

I. Definitions and legal requirements
   a. Assistive technology: any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capacities of individuals with disabilities. (Federal Register, August 19, 1991, p. 41272)
      i. Assistive technology can include machines, equipment, communication devices, personal assistance devices, service animals, etc.
      ii. Assistive technology helps to address the functional needs of older adults during an emergency or disaster (older adults may meet the definition of a functional needs population under the National Response Framework).
      iii. Assistive technology can help to meet the Americans with Disabilities Act (ADA) requirements for an emergency shelter.
   
   b. Augmentative and alternate communication (AAC): includes all forms of communication other than oral speech that are used to express thoughts, needs, wants, and ideas (www.asha.org, 2013)
      i. People with complex communication needs (CCN) rely on AAC equipment and communication strategies to supplement existing speech or replace speech that is not functional. These individuals may include adults with intellectual disabilities, such as adults with autism or related conditions.
      ii. Special augmentative aids, such as picture and symbol communication boards and electronic speech-generating devices, are available to help people express themselves.
c. ADA requirements for individuals with disabilities: the ADA requires people with disabilities to be accommodated in the most integrated setting appropriate to their needs (28 C.F.R., section 35.130 (d)).
   i. A total of 38.7% of older adults in the United States reported having one or more disabling conditions that limited their activities of daily living during the period of 2007-2012.
   ii. Older adults with disabilities have a right to be accommodated in mass shelters when possible; many utilize assistive devices, especially for ambulation.
   iii. Shelters and receiving medical centers need to consider the sensory, cognitive, and mobility issues of older adults with disabilities as well as any assistive devices, technology, personnel, or services necessary to maintain their functional needs.
   iv. Older adults with disabilities should register with a confidential, emergency service voluntary registry so that they are given priority in the event of an emergency or disaster and can be located with geographic information system (GIS) technology if assistance is needed.
   v. CALIF 2009 and BCID 2011 decisions underscore the need for localities to provide notification systems for individuals with hearing and cognitive impairments, as well as evacuation plans, shelter accessibility, and communication appropriate for individuals with disabilities.

II. Equipment requiring power
   a. Motorized wheelchairs and beds
   b. Ventilators and other respiratory support equipment such as nebulizers and suction machines
   c. Infusion pumps for medication or nutrition
   d. Electronic communication devices (iPads, tablets, speech-generating devices, etc.)
   e. Medications requiring refrigeration
      i. Battery backups should be available, fully charged, and checked on a periodic basis; battery backups should provide enough power for 72 hours.
      ii. Backup generators can assist facilities in keeping lighting, breathing equipment, and refrigeration running; fuel resources should last for 72 hours.
      iii. In the event of an emergency, individuals using medical equipment that uses electricity should register with local emergency management
agencies or organizations that assist older adults so that they are a priority for specialized evacuation.

III. Modified equipment
   a. Modified beds and chairs
   b. Accessible portable toilets
      i. In the event of an evacuation, beds with firm mattresses are needed for individuals with breathing difficulties.
      ii. Chairs with backs as well as raised toilet seats are needed to assist older adults with mobility issues.
      iii. Accessible portable toilets should be provided for older adults using a wheelchair.

IV. Communication devices
   a. Can be written, printed, visual, verbal/audible for individuals with sensory or cognitive issues
   b. Signage, magnifiers, typed premade words and phrases
   c. Includes specialized personnel such as sign language interpreters, readers, guides
      i. Individuals with CCN may utilize paper communication displays if electronic devices run out of power or are not brought with them in an emergency.
      ii. First responders and emergency managers should know how to get information from individuals with CCN by asking yes/no questions.
      iii. Communities should accommodate individuals with sensory disabilities with texting and video captioning messages to inform them of the emergency and how to respond.

V. Mobility devices
   a. Manual wheelchairs (electric wheelchairs are covered under devices requiring electricity)
   b. Walkers or canes
      i. To comply with ADA requirements for physical accessibility, clear paths, ramps to enter and exit buildings, wider hallways, and accessible parking should be considered for individuals with mobility issues if they are transferred to shelters or other healthcare facilities.
      ii. Individuals using motorized wheelchairs and motorized beds may need to be transferred to manual chairs and beds in the event of an extended emergency period.
VI. Assistive personnel and systems
   a. Personal care assistants and family members
   b. Service animals
   c. Texting and video captioning
   d. Geographic information systems
      i. Personal care assistants and/or family members may accompany individuals utilizing assistive technology or AAC devices in the event of an emergency.
      ii. American sign language interpreters, readers for individuals with vision conditions, and guides should be provided for individuals with CCN needs.
      iii. Service animals should be allowed to accompany individuals, and food and water should be provided for the service animal; this may require a reasonable modification in existing policies for shelters and receiving medical centers.
      iv. Individuals with disabilities should be accommodated with texting, smartphone, and video captioning to inform them of emergencies and how to respond.
      v. GIS systems allow emergency planners and responders to map locations where assistance is needed; this technology may be helpful in locating larger numbers of older adults needing assistance.

Suggested Learner Activities for Use in and Beyond the Classroom
1. Invite students to work in groups of 4 to 5 people. Ask them to discuss the following scenario: Weather conditions have created severe flooding in your local community that requires individuals to evacuate from their homes. Two apartment complexes housing older adults have lost their power, and the water continues to rise. Have 1 to 2 students act as first responders, 1 student act as an older adult with mobility issues who uses an electric wheelchair, and 1 student as an older adult with vision issues who uses a service dog. The first responders must help both older adults evacuate to a shelter. Have the first responders develop a small set of questions they would ask the older adults about their assistive technology and determine how would they assist the older adults in the evacuation. The students acting as older adults should develop a small set of questions that they would ask the first responders about how they would be able to use their technology if they evacuated their residences. The students should then dialogue in their assigned roles for 10 to 15 minutes and then debrief. Groups should report back to the full class for further discussion.
2. Break students up into pairs and have one person be an individual with CCN and the other person an emergency manager or first responder. Have the first responder practice communication with the individual with CCN by using yes/no questions, and then with pictures, focusing on questions that would be asked in the event of an emergency or disaster needing an evacuation. After 10 to 15 minutes, have the students reverse their roles for the same period of time. Have the students debrief and exchange their findings with the full class.

Readings and Resources for the Learner

- Required Resources
Supplemental Resources

Learner Assessment Strategies
1. Ask students to list 5 to 7 items that should be considered if older adults utilizing assistive technology or AAC devices are evacuated to a local shelter and why these issues are important.

Readings and Resources for the Educators
- Required Resources
  - Same as above.

- Supplemental Resources
  - Same as above.

Sources Cited in Preparing Outline and Activities Above
1. Same as above.
LESSON 3-1

DISASTER TYPES
Lesson: Disaster Types

Authors: Robert Ellis Roush, EdD, MPH
Associate Professor of Medicine-Geriatrics
Baylor College of Medicine, Houston, Texas

Beth W. Allen, MPH
Project Consultant
Baylor College of Medicine

Brian A. Altman, PhD
Education Director, HJF
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)

Kelly Gulley
Project Coordinator, HJF
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)

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

Competencies
This lesson supports learning related to the following competencies, with regard to special considerations for older adults in various disaster types:


Core Competency 3.0 “Demonstrate situational awareness of actual/potential health hazards before, during, and after a disaster or public health emergency.”

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

3-1.1 Describe particular health consequences on older adults of various natural and human-caused disaster types.
Estimated Time to Complete This Lesson
60 minutes

Content Outline
Module 3: Disaster types: Special considerations for the older adult population in disasters
Lesson 3-1: Disaster types

I. Disaster types
   a. Disasters, whether caused by nature or humankind, expose significant numbers of people to extreme conditions or events that often result in injury, loss of life, and destruction of or damage to property or livelihood. They have also been defined as events “with a diffuse or lack of perimeter and relatively high casualties where demand characteristics exceed locally available response capacity (hospitals, clinics, pharmacies, emergency medical services, fire public safety, transportation), systems set up for emergencies fail or work miserably, professional help is insufficient or impaired, and civilian assistance is galvanized.”
   b. The threats include natural disasters (hurricanes, tornadoes, extreme temperatures, floods, earthquakes, tsunamis, wild fires) and infections (pandemic influenza and severe acute respiratory syndrome [SARS] as well as common infectious diseases).
   c. Exposure to hazards, including bioterrorism and terrorist threats, makes extreme demands on support systems and poses special problems for such vulnerable populations as the elderly. The Centers for Disease Control and Prevention (CDC) recognizes 6 class A agents: anthrax (Bacillus anthracis), botulism (Clostridium botulinum toxin), plague (Yersinia pestis), smallpox (Variola major), tularemia (Francisella tularensis), and viral hemorrhagic fevers (filoviruses, including Ebola and Marburg, and arenaviruses, including Lassa and Machupo). Among these, anthrax also exists as an exposure risk within normal transportation routes, for example, when shipped laboratory to laboratory.

II. General preparedness for care of elders in disasters
   a. Elders are recognized as a vulnerable population before, during, and after a disaster. The elderly are among the most vulnerable to direct or indirect harm from disaster and experience disruption from the event longer than others in different age groups. They are more likely than the general population to be susceptible to injury and disease and to be poorly nourished.
i. *Homeostenosis* is a term that has been proposed as a way of describing the challenges older persons face. It not only incorporates the idea of diminishing strength and physiologic reserves as age increases but also recognizes that what reserves the older person may still have are already in use largely meeting the challenges of day-to-day living (see illustration below). Therefore, when an emergency or disaster occurs, the older person has fewer reserves on which to draw. This idea was emerging in 2008 in relation to an elder’s diminished ability to respond effectively when challenged by persistent pain and the stress it causes.

ii. In 2005 when Hurricane Katrina made landfall, the elderly made up 11.7% of New Orleans’s population, but of the 10,435 evacuees seen as patients in one medical clinic unit in Houston, 56% were older than 65 years of age, and of the 1200 people who died because of the storm, 74% were older than 60 years of age.

![Figure. With increasing age, reserves (blue shading) are increasingly engaged in sustaining homeostasis; meanwhile, stress (red arrows) increases. (Reprinted courtesy of George Taffet, MD, and the Portal of Geriatrics Online Education at the University of Oklahoma Health Science Center.)](image)

b. Older patients demand heightened skills in their physicians during routine care. Geriatricians remind physicians in training not to be fooled by an elder’s fully immunized status or a lack of symptoms. A clinician cannot rely on such hallmarks as a pulse/temperature discrepancy, depend on a patient’s old immune system, or ignore sentinels, or early indicators, of trouble. He or she cannot take comfort when an elder experiences a less-than-lethal exposure and cannot forget that symptoms are confounded when patients take beta-
c. Older adults also demand heightened skills in their physicians and other health care professionals during disasters. They merit special care, and disaster specialists need to train health care professionals about the following aspects of disaster-related preparation and care:

i. Identify where frail elders are most likely to be located before, during, and after a disaster.

ii. Train first responders and other frontline providers in how elders present differently.

iii. Teach an approach that considers all hazards—physical, mental, and psychosocial dimensions—whether the disaster is natural in origin or human-caused.

iv. Ensure providers have a foundation in culturally and linguistically appropriate care.

v. Ensure that older persons as well as health care providers are engaged in practical planning regarding emergencies and disasters, including receiving emergency alerts, undertaking evacuations, and living in shelters.

d. Preparations for disaster should address risk of infections.

Apart from vaccines commonly administered during childhood, vaccines for adults 65 years of age and older include an annual flu vaccine; a tetanus, diphtheria, pertussis vaccine once with a booster every 10 years; a shingles vaccine; a pneumonia vaccine; and a *Haemophilus influenzae* type b vaccine (physicians will provide counsel on the number of doses needed). See the CDC’s guide to immunizations at [http://www.cdc.gov/vaccines/schedules/downloads/adult/adult-schedule-easy-read.pdf](http://www.cdc.gov/vaccines/schedules/downloads/adult/adult-schedule-easy-read.pdf). Discussed below are the seasonal influenza vaccine and the pneumonia vaccine, for which recommendations have recently changed.

i. Seasonal influenza—Boyd et al. (2006) report that influenza in the elderly, who specifically are most often at risk of complicated, serious disease, may present uncharacteristically (e.g., with undifferentiated syndromes of sepsis in old age—incontinence, immobility, falls, and delirium). Risk is also higher for those with chronic medical conditions and those who live in chronic care facilities. The elderly in nursing homes have a higher risk of flu complications. Although seasonal influenza may occur mainly in winter in temperate zones, travelers to tropical areas, where it occurs year-round, may become infected at any time. Annual flu vaccines are important to emphasize as an important component of infection control.
ii. Pneumonia—Pneumonia, a life-threatening lung infection, is caused most commonly by pneumococcus, but other bacteria, viruses, and fungi can cause it also.\textsuperscript{14} About 90\% of deaths that result from pneumonia occur in patients ≥65 years of age,\textsuperscript{15} and 18,000 adults ≥65 years of age die from pneumonia annually in the United States.\textsuperscript{14} In a recent European study, mortality increased with age and was associated with increased comorbidities in 2149 patients with community-acquired pneumonia who were 65 years of age and older.\textsuperscript{16} Decline in function or a change in mental status are common presenting characteristics, whereas the familiar signs of fever and leukocytosis are often absent.\textsuperscript{15}

e. Preparations for disaster should address the elderly and their risk of pandemic influenza and SARS-like infections.

i. The government recognizes that the elderly are at high risk of death or severe complications during pandemic influenza. In as much as a vaccine most likely will not be available early in an influenza pandemic, the federal government has identified those older than 65 as being in general population tiers 2, 3, or 4, depending on if the pandemic is less severe, moderate, or severe, respectively.\textsuperscript{19}

ii. SARS—Severe acute respiratory syndrome (2002–2003) cost the economy of the Far East alone $30 billion and had a case fatality rate of 11\%.\textsuperscript{20} The mean incubation period of SARS of 6.4 days (range, 2–10 days) facilitated its spread globally by symptomless infected air travelers.\textsuperscript{20} Approximately 900 people died, and 20\% were health care workers.\textsuperscript{20} Old age and comorbidities, particularly diabetes, were major characteristics associated with risk of death.\textsuperscript{20}

iii. Elders live, as do all, in a global village.

(a) International travel makes infectious disease control an international issue.\textsuperscript{21}

(b) To prevent mass casualties from a pandemic would require resources few countries have, making management solutions a cooperative imperative.\textsuperscript{21}

f. Preparations for disaster should address the preservation of ethics and the importance of providing culturally and linguistically appropriate care despite challenges presented during disaster.

III. Natural disasters—consequences for the elderly

a. Hurricanes

i. Evacuation may be difficult for immobile seniors, those with diabetes or kidney disease requiring dialysis, those with cancer undergoing
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Lesson 3-1: Disaster types

Chemotherapy or radiotherapy, or those without support or transportation. Compromised immune systems mean greater risk of infection.

ii. Frail elders and those with cognitive impairment may only be able to navigate shelter services with help and may need to call on others to prevent theft or coercion.

iii. Social support and community in the shelter may be more important to older patients than medical care.

b. Tornadoes—Fanfair et al (2011) reported necrotizing cutaneous mucormycosis in tornado-torn Joplin, Missouri, in 13 patients, 5 of whom died. The authors alerted emergency personnel to these cases, caused by necrotizing soft-tissue infections.

c. Extreme temperatures—Older adults have more difficulty than others, just as do children, adjusting to variations in temperatures. Affecting their ability to adjust to climatic change are age-altered thermoregulatory mechanisms and age-altered cardiovascular, respiratory, and central nervous system function. Furthermore, trauma can exacerbate these conditions. Patients may experience, on a continuum, heat edema, heat syncope, heat exhaustion, or hyperpyrexia (heatstroke), the last of which can be fatal.

i. Extreme heat—Climate change is expected by mid to late 21st century to intensify and increase warm spells and heat waves, increasing death rates not only among the elderly but also among the chronically ill and the socially isolated—which could also include older persons—and the very young.

(a) In Chicago during a week-long heat wave, deaths indicated that poor African Americans were extremely vulnerable, but differences in mortality rates across poor black neighborhoods indicated that the least resilient were those neighborhoods that over the preceding 30 to 40 years had lost jobs, a police presence, and infrastructure. Seven hundred people died, and most of them were old, living alone, or poor.

(b) In 2003, a heat wave lasting 3 weeks in France claimed the lives of 14,000 persons, most of whom were elderly.

ii. Extreme cold—Hypothermia is defined as a core temperature below 94°F. It can occur as a result of a catastrophic event or as the result of a sequence of physical, mental, and pharmaceutical insults.

d. Floods—In a cohort of 274 adults 60 years of age or older surveyed before and after experiencing a flood, investigators found resilience in those using acceptance, positive reframing, and humor, which were a deterrent to
deterioration. Post-traumatic stress disorder (PTSD) possibly requiring clinical attention was reported in 16.7% of those personally affected by the disaster. 

e. Climate change—A review of the literature assessed the vulnerability of older Americans to climate change and found them likely to be at risk. The reviewers determined that, apart from the proven adverse effect of heat on older adults, gaps in research remain for other risks related to climate and that these gaps need to be closed. They also pointed out that if trends toward higher education levels and decreasing poverty continued for older Americans, their vulnerability would likely be less for future elders than for current elders.

IV. Disasters caused by biological, nuclear/radiological, incendiary, chemical, and explosive agents—concerns in the elderly

a. In exposures to biological, nuclear/radiological, incendiary, chemical, and explosive agents (BNICE), as in other disasters, the elderly are vulnerable because of age-related changes, including their tendency to have responses that are delayed, sensory deficits, and chronic conditions (including chronic obstructive pulmonary disease) and to be less readily mobile than other age groups. Cardiovascular disease, cognitive impairment, atypical presentation of disease, and age-related debilitation of major organ systems also can make the elderly more vulnerable, not only to external insults but also to delayed diagnosis or misdiagnosis when professional help is available.

b. Professional preparedness—Emergency responders need to ask themselves how prepared they are to meet the needs of elderly citizens who have been exposed to one or more BNICE agents.

c. Personal preparedness and response

i. Follow general directions of government— See Ready: Prepare. Plan. Stay Informed. The Federal Emergency Management Agency publication offers guidance for many hazards, including exposure to BNICE agents. Overall guidance remains (a) be informed, (b) make a plan, (c) build a kit, and (d) get involved.

ii. Protect body integrity—One of the most critical decisions to be made when approach of a disaster is known is whether to evacuate or shelter in place. Assessing personal abilities and limitations is important in deciding how to respond to a disaster. Those elders who cannot drive or do not have a vehicle should make a plan with family, neighbors, or community services. Or, if living with other elders, seniors should find out what emergency plans there are for the residents. Likewise, making a plan ahead of time for the safety of the family pet or personal service animal should include
identifying people (family, friends, veterinarians) and places (boarding facilities and pet-friendly hotels) that will shelter the animal.  

iii. Protect airways—Because of the critical importance of lung function and because aging is commonly linked with respiratory function decline, special attention is required to pulmonary issues. Physiologic changes in the elderly affecting the pulmonary system include a loss of vital capacity, decreased lung elasticity and forced respiratory volume, and an increased risk of infection and toxicity. Risks from exposure include bronchiolitis or pneumonia, and cases become more complex when exposure occurs and acute bronchitis or upper respiratory tract infection already exists. Studies with agent-based modeling of fluid dynamics have indicated in some cases that forgoing evacuation might be best and that remaining in low-permeability spaces may be the best approach to minimizing exposure. Such modeling can take into consideration the lower speed and less facile maneuverability of older adults.

iv. Recognize the demands of chronic illness—In those with chronic illness, conditions of an alien post-disaster environment—severe heat or cold, lack of electricity, absence of pharmacy and health care services, risk of infection, absence of home services that made independent living possible, separation from loved ones (family, friends, pets, and community), and stress—can worsen chronic conditions. When these conditions outlast medication supplies, emergencies ensue.

V. Complications from disaster experience
   a. Whatever ailment health care providers treat, they should use evidence-based interventions.
   b. Whatever the disaster, those who are psychological casualties may be expected to outnumber the physical casualties 2 to 1.
      i. Though conventional wisdom may promote immediate psychological help, research indicates that what disaster victims need most immediately after exposure is support from those they trust and a return to normalcy.
      ii. Older people more commonly experience delayed onset of post-traumatic stress disorder (PTSD), which can occur 6 months after disaster. Some have found that rates of PTSD differ little between the young and the old; nonetheless, elders have unexpectedly been found to have better long-term psychological outcomes than do young adults.
      iii. Psychological problems may have physical implications. PTSD after disaster was linked in a population of almost 900 survivors of a natural disaster to an
increased risk of new vascular problems (odds ratio = 1.92; 95% confidence interval, 1.04-3.55) and musculoskeletal and dermatological problems.  

d. Displaced elderly patients may experience psychological and physical symptoms. Low back pain, enhanced by heightened norepinephrine and sympathetic nervous system activity, may occur, making relapses and chronic pain in older patients more likely.  
e. Older adults may be slower to seek and more reluctant than others to register for post-disaster assistance. Outreach may mitigate this problem.  
e. Scams, including financial exploitation, meant to take advantage of the elderly are initiated by unscrupulous people after disasters. See warnings from the Federal Trade Commission.

Suggested Learner Activities for Use in and Beyond the Classroom

1. Ask the learners to form small groups and discuss the following questions:
   - Of the disaster types discussed in this lesson, which are more likely in your community?
   - Discuss current preparedness initiatives in your community related to these disaster types and how the needs of older adults are being incorporated.
   - Based on your role as a health professional, what can you do to improve the health consequences for older adults within your community for the disaster types you just discussed?

2. You have been asked by your local public health department to create a communication campaign for older adults/elderly in your community. The funding for this campaign allows you to select the disaster type that you wish to focus on. Your funding also allows you to decide which media can be used for this campaign (social media, e-mail, flyers, posters, radio ads, TV commercials, communications to local organizations, phone messaging, text messages, etc.) The funding requires that your communications address the preparedness, response, and recovery phases. Work in groups to create communication messages of your choosing and then present them to the full group.

3. You are invited to give a Grand Rounds presentation to your colleagues about disaster types and the special considerations for the geriatric population. In order for your session to be accredited for continuing education, you need to provide 3 learning objectives. You also will prepare a bulleted list of the main points to present in your presentation. Learners should work individually and create the learning objectives and a bulleted list and present to the group or hand in to the instructor.

Readings and Resources for the Learner

http://ncdmph.usuhs.edu
Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 3: Disaster types: Special considerations for the older adult population in disasters
Lesson 3-1: Disaster types

- Required Resources

- Supplemental Resources

Learner Assessment Strategies
1. On the basis of the content in this lesson, list at least 3 disaster types and 1 health consequence for older adults associated with that disaster type.

Readings and Resources for the Educators
- Required Resources
  - None

- Supplemental Resources
  - None

Sources Cited in Preparing Outline and Activities Above


LESSON 4-1

WORKING WITH CAREGIVERS
Lesson: Working with Caregivers

Authors: Carlo Rossi MDCM MTM&H CCFP
Major, Canadian Armed Forces
Royal Canadian Medical Service (RCMS)
Uniformed Services University of the Health Sciences (USUHS)

Brian A. Altman, PhD
Education Director, HJF
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)

Kelly Gulley
Project Coordinator, HJF
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)

Kenneth Schor, DO, MPH, FAAFP
Acting Director
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)

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

Competencies
This lesson supports learning related to the following competencies, with regard to working with caregivers:


Core Competency 1.0 “Demonstrate personal and family preparedness for disasters and public health emergencies.”
Subcompetency 1.1 “Prepare a personal/family disaster plan.”
Subcompetency 1.2 “Gather disaster supplies/equipment consistent with personal/family plan.”
Subcompetency 1.3 “Practice one’s personal/family disaster plan annually.”
Subcompetency 1.4 “Describe methods for enhancing personal resilience, including physical and mental health and well-being, as part of disaster preparation and planning.

Subcompetency 2.2 “Prepare a personal professional disaster plan consistent with one’s overall agency, organizational, and/or jurisdictional plan.”

Core Competency 3.0 “Demonstrate situational awareness of actual/potential health hazards before, during, and after a disaster or public health emergency.”

Subcompetency 4.1 “Identify authoritative sources for information in a disaster or public health emergency.”
Subcompetency 4.3 “Identify strategies for appropriate sharing of information in a disaster or public health emergency.”

Core Competency 5.0 “Demonstrate knowledge of personal safety measures that can be implemented in a disaster or public health emergency.”
   Subcompetency 5.1 “Explain general health, safety, and security risks associated with disasters and public health emergencies.”
   Subcompetency 5.2 “Describe risk reduction measures that can be implemented to mitigate or prevent hazardous exposures in a disaster or public health emergency.”

Subcompetency 7.1 “Discuss common physical and mental health consequences for all ages and populations affected by a disaster or public health emergency.”

Core Competency 8.0 “Demonstrate knowledge of public health principles and practices for the management of all ages and populations affected by disasters and public health emergencies.”
   Subcompetency 8.1 “Discuss public health consequences frequently seen in disasters and public health emergencies.”
   Subcompetency 8.2 “Identify all ages and populations with functional and access needs who may be more vulnerable to adverse health effects in a disaster or public health emergency.”
   Subcompetency 8.3 “Identify strategies to address functional and access needs to mitigate adverse health effects of disasters and public health emergencies.”
Subcompetency 8.4 “Describe common public health interventions to protect the health of all ages and populations affected by a disaster or public health emergency.”

Subcompetency 10.1 “Describe legal and regulatory issues likely to be encountered in disasters and public health emergencies.”
Subcompetency 10.2 “Describe legal issues and challenges associated with crisis standards of care in a disaster or public health emergency.”

Core Competency 11.0 “Demonstrate knowledge of short- and long-term considerations for recovery of all ages, populations, and communities affected by a disaster or public health emergency.”
Subcompetency 11.1 “Describe clinical considerations for the recovery of all ages and populations affected by a disaster or public health emergency.”
Subcompetency 11.2 “Discuss public health considerations for the recovery of all ages and populations affected by a disaster or public health emergency.
Subcompetency 11.3 “Identify strategies for increasing the resilience of individuals and communities affected by a disaster or public health emergency.
Subcompetency 11.4 “Discuss the importance of monitoring the mental and physical health impacts of disasters and public health emergencies on responders and their families.”

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

4-1.1 List the types of potential caregivers for older adults and their roles in the day-to-day context.
4-1.2 Apply clinical, psychological, and social considerations for preparedness and mitigation to the context of older adults and their caregivers.
4-1.3 Describe at least 3 unique impacts of disasters on the caregiver and care recipient relationship and offer strategies for addressing them in the post-disaster setting.

Estimated Time to Complete This Lesson
120 minutes

Content Outline
4-1.1: Health care professionals and elderly adult caregiver competency in disaster planning

I. For the purposes of this lesson, a caregiver (CG) is defined as any person who has accepted the responsibility of helping older adults who are living in the community to
continue to do so.¹ This definition includes any person who regularly looks after an older adult and provides some level of assistance or protection (Table 1). Healthcare professionals should be conscious of the fact that an individual patient’s situation may involve several persons fulfilling different types of caregiving roles. Identifying who is providing which caregiving service(s) and actively engaging them is critical to ensure that all stakeholders are included in planning initiatives.

Table 1: Types of Caregivers.

| Informal: spouse, immediate family, extended family, friends or neighbors |
| Formal: home helpers, personal care aides, homemakers, companions |
| Health Professionals: certified nurse's aides, home health aides, nurses, physical therapists, occupational therapists, speech therapists, social workers |

Adapted from the National Care Planning Council’s Caregiver’s Handbook.²

II. CGs are common in the United States; in fact, the majority of elderly Americans report they receive some level of assistance from a CG.³ The scope of this care and the intensity of the support provided may be substantial. The National Alliance for Caregiving reports that the average CG spends over 20 hours a week providing care.⁴ Generally, these are not short-term commitments. The average length of care provided by a CG is 4.6 years but can be much longer among select groups (e.g., one-third of CGs to veterans report providing care for more than 10 years).⁵

a. CGs often accept the responsibility of helping care recipients perform complex medical and technical tasks. The dynamics of these shared-responsibility care models may become more difficult as care recipients become increasingly dependent on their CGs as their medical situation deteriorates. Research suggests that as task complexity increases, CGs benefit from explicit instruction on how to best perform their role and ensure favorable outcomes for care recipients.³

b. More than 4 out of every 5 self-identified CGs do not feel sufficiently trained to provide the level of technical skill required or perceive that they are not sufficiently connected to the community services they are expected to arrange.⁶ When CGs feel they lack the competency to perform a required task, the majority turn either to Internet resources or to their health care professionals as sources of additional information.⁷ Over 60% of CGs reported specifically asking for additional information from a physician and identified that resources for “helping older adults deal with life-changing events” are generally lacking.⁸ Health care professionals should leverage their positions as
primary sources of information for CGs to encourage this preparedness dialogue throughout the disaster cycle.

III. A review of the literature suggests that active support and assistance provided by health care professionals to CGs is associated with an improved ability to meet the needs of care recipients. Effective information sharing about disaster preparedness is likely to independently benefit both the care recipient and the CG. In fact, providing accurate and timely information has been shown to decrease CG stress responses in the event of a crisis and is associated with CGs making better personal health-related behavior choices.

a. In order to provide such information, health care professionals must have an appreciation for the types of disasters that might affect their communities as well as the potential impact of these events on elderly adults. An older adult’s vulnerability to disasters (inability to withstand the effects of an uncertain and often hostile environment) depends on the complex interactions of the physical environment with individual clinical, psychological, and social considerations. These interactions will be the focus of other sections of this lesson. On a basic level, however, health care professionals must recognize that all disasters disproportionately affect elderly adults—especially those with medical or mobility concerns and those who require specialized assistance.

b. Health care professionals should be familiar with which types of disasters are most likely in their specific geographic location to ensure that the preparedness recommendations they provide to CGs is relevant. The Disaster Assistance Improvement Program with the Federal Emergency Management Agency (FEMA) as its managing partner, lists 15 categories of disasters that health care professionals should familiarize themselves with and prioritize planning initiatives to those events with the highest likelihood of occurrence. Providing CGs with useful disaster-preparedness information relevant to their place of residence can certainly be considered an additional resource for “helping older adults deal with life-changing events.”

IV. Health care professionals must acknowledge that involving CGs in disaster planning may differ from engaging them in other aspects of support required by elderly adults. This is because accepting the responsibility of assisting with disaster planning implies a willingness to balance a CG’s own personal obligations during a disaster (which may be significant) with the needs of care recipients during a disaster. Determining if this is feasible for an individual CG-care recipient dyad may be difficult. Health care
professionals should assess the level of CG engagement with their individual patients before engaging in a discussion about involving the CG in disaster planning.\(^\text{13}\)

a. Directly asking elderly patients to identify their primary CGs may be an appropriate first question to help assess engagement.\(^\text{14}\) Determining the actual level of engagement, however, may be more nuanced than simply determining who the primary CG is. One potential method to acquire additional information about the CG-patient relationship is to pay close attention to the CG’s interactions with the older adult during a formal encounter. A recent systematic review that examined the nature of these interactions reported that the majority of CGs will function as “decision-making aids,” but the manner in which this assistance is provided may vary.\(^\text{15}\) Table 2 provides a selection of contextual questions that might assist a health care professional in assessing the level of CG engagement.

<table>
<thead>
<tr>
<th>Contextual Questions</th>
<th>Potential Answers</th>
</tr>
</thead>
</table>
| Who initiated the CG’s participation? | The patient.  
The clinician.  
The CG himself or herself. |
| What type of information is the CG providing? | Small talk only.  
Clarification of patient responses/provides counter observations.  
Information about the patient’s values/preferences. |
| How did the CG assist in decision-making? | Did not assist.  
Exerted pressure.  
Offered support/provided advice. |

Adapted from Boehmer et al.\(^\text{13}\)

b. Identifying engaged CGs will facilitate shared disaster planning decision making between elderly adults and their health care professionals.\(^\text{16}\) Knowledge of the CGs role in the patient’s life may help shape the clinical conversation and ensure that decisions made truly reflect patients’ personal values.\(^\text{17}\)

V. In this section, we defined CGs and highlighted the services they provide to elderly adults, a subset of the American population especially vulnerable to disasters. We discussed how the majority of CGs receive little formal support or education on how to best care for elderly adults and that this can impact the quality of care provided.\(^\text{18}\) Health care professionals are ideally suited to provide CGs information.
about disaster planning, because the majority of CGs believe health care professionals to be reliable and accurate sources of information. We reviewed the importance of providing disaster preparedness information relevant to individual geographical risk profiles and suggested basic methods to help to identify engaged CGs that may be more likely to actively participate in disaster planning. Section 4-1.2 will discuss specific recommendations that health care professionals may make to CGs to assist them with preparedness initiatives applicable to the pre-disaster phase.

4-1.2: Assisting CGs with Pre-Disaster Planning

I. In the previous section we defined who CGs are and highlighted some of the services they help provide to elderly adults. We reviewed that CGs receive little formal education on how to best care for elderly adults, including how to prepare for disasters, and that this can impact the quality of care provided. In this section (4.1-2) we will focus on specific pre-disaster recommendations that can be provided by health care professionals to CGs in order to facilitate preparedness initiatives for older adults.

II. The intimate nature of the CG-care recipient relationship discussed in the previous section translates into CGs being well positioned to help health care professionals assess the clinical, psychological, and social considerations that can make older adults particularly vulnerable to disasters. For a detailed discussion of how preexisting conditions can influence the vulnerability of elderly adults to disasters, readers are directed to review Module 2: “Conditions present in the older adult population that impact their disaster preparedness, response, and recovery.”

a. For the purposes of this lesson, health care professionals should be aware that this increased vulnerability is compounded by the tendency for older adults to be suboptimally prepared for disasters. In the Health and Retirement Study, for example, only one-third of older adults (mean age 70 +/- 9.3y) had participated in an educational program or read reference materials about preparing for disasters.

b. In another analysis, data from the CDC’s Behavioral Risk Factor Surveillance System (BRFSS) revealed that adults most likely to be receiving CG services (fair/poor perceived health, activity limitations, three or more chronic diseases) were found to be significantly less likely to have completed disaster preparedness activities than their healthier counterparts. Health care professionals can help to bridge this preparedness gap by helping CGs understand the value of pre-disaster planning.
III. In this section, pre-disaster planning encompasses all actions undertaken before a disaster strikes that have the intended goal of improving an older adult’s resilience to a disaster. Evidence shows that inadequate pre-disaster planning, when combined with the increased baseline vulnerability of geriatric populations, may lead to poorer health outcomes post-disaster. As an example, consider that after Hurricane Katrina, the inability to provide medications (a surrogate marker for co-morbid medical complexity compounded by planning deficiencies) was identified as the key obstacle to continuity of medical care for older adults. Health care professionals should also be aware that a lack of pre-disaster planning has been associated with deterioration of acute health status in older adults after a disaster.

IV. The reality of these increasing demands on finite CG resources is that CGs must prioritize the needs of their care recipients. Recommendations to tackle preparedness tasks (to include pre-disaster planning) may be assigned a lower priority than other day-to-day issues, particularly if the risk of a disaster is perceived to be remote. Health care professionals can help to address the perception that disasters “won’t happen to me” by providing CGs and care recipients specific, relevant, and timely information about the true risk of disasters given their specific regional context and probabilities. Discussing preparedness across the wide spectrum of repeated interactions between CGs, care recipients, and their health care professionals may help to reinforce the importance of planning. Health care professionals seeking further information may refer to the content of Module 3: “Disaster types: Special considerations for the older adult population in disasters.”.

V. While the day-to-day demands on CGs can be seen as an obstacle to pre-disaster planning, the nature of the CG-care recipient relationship also presents an opportunity for more effective preparedness. By leveraging a CG’s intimate knowledge about the elderly adults they assist, health care professionals can shift from a “one-size-fits-all” paradigm of preparedness and advocate for initiatives tailored to the specific needs of individual older adults. In this way, preparedness is less of a top-down exercise in medical paternalism and becomes more of a cooperative process incorporating the views, attitudes, and beliefs of older adults to the fullest extent possible. A model for thinking about the individual clinical, psychological, and social considerations involved in creating person-specific pre-disaster plans is provided for health care professionals in Table 3. This table approaches CG preparedness by broadly addressing the clinical, psychological, and social domains in 2of the 4disaster management phases—preparedness and mitigation.
Table 3: Matrix to assist health care professionals in engaging CGs of older adults in pre-disaster preparedness activities.

<table>
<thead>
<tr>
<th>Preparedness</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical</strong></td>
<td>Plan for transitions of care (create and regularly update medical problem lists, medication lists, allergy information, medical provider contact information, insurance information, etc).</td>
</tr>
<tr>
<td>Assess physical/mental health needs.</td>
<td>Plan for common disaster-associated conditions (e.g., hypo/hyper-thermia, minor trauma).</td>
</tr>
<tr>
<td>Assess dependency on medical devices.</td>
<td>Organize in-home improvements for mobility and emergency access (keep entrances clear).</td>
</tr>
<tr>
<td>Assess need for personal assistance services.</td>
<td>Have communication aid backups (hearing aids, visual aids, contact information for interpreters, etc).</td>
</tr>
<tr>
<td>Assess mobility limitations.</td>
<td>Plan for common disaster-associated conditions (e.g., hypo/hyper-thermia, minor trauma).</td>
</tr>
<tr>
<td>Assess use of service animals.</td>
<td>Organize in-home improvements for mobility and emergency access (keep entrances clear).</td>
</tr>
<tr>
<td>Assess communication difficulties.</td>
<td>Have communication aid backups (hearing aids, visual aids, contact information for interpreters, etc).</td>
</tr>
<tr>
<td><strong>Psychological</strong></td>
<td>Develop a plan for surrogate decision making in the event of a disaster (include reliable contact information and copies of any up-to-date legal documents associated with this).</td>
</tr>
<tr>
<td>Assess physical/mental health needs (with an emphasis on cognitive limitations that may impact decision making).</td>
<td>Prepare communication and memory retention aids for the older adult.</td>
</tr>
<tr>
<td>Assess communication difficulties (with an emphasis on cognitive limitations).</td>
<td>Discus expected/desired levels of care in a disaster.</td>
</tr>
<tr>
<td>Assess older adult’s expectations</td>
<td>Discus expected/desired levels of care in a disaster.</td>
</tr>
<tr>
<td>Discuss issues of uncertainty or stress.</td>
<td>Discus expected/desired levels of care in a disaster.</td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td>Develop and update a family or CG communication plan (include primary health care providers).</td>
</tr>
<tr>
<td>Physical/mental health needs assessment (emphasis on assessing degree of social support/isolation).</td>
<td>Assist the older adult with registering for community services (including emergency services registries for special populations) when available.</td>
</tr>
<tr>
<td>Establish where primary CGs (and any potential substitute CGs) live and how they are best contacted.</td>
<td></td>
</tr>
</tbody>
</table>

VI. Selected examples of how health care professionals can address clinical, psychological, and social aspects of pre-disaster planning with CGs.
a. Optimizing transitions of care planning (clinical)
Health care professionals should be prepared to assist CGs with planning for transitions of care in the aftermath of a disaster. A key element of this preparation is to ensure that a comprehensive medical needs assessment (to include the required durable and consumable medical supplies) is conducted and updated regularly. Several checklist-type tools are available to help CGs with assessing the clinical baseline of older adults.26,27 Health care professionals may consider augmenting CG assessments with clear, concise, and current clinical information. Generally speaking, health care professionals may provide written medical information specific to an individual, directly to that individual, with the individual’s consent. Should a health care professional require further guidance, the Department of Health and Human Services HIPPA Decision Tool addresses the issue of maintaining appropriate levels of confidentiality in disaster settings, particularly when and to whom protected information can be disclosed.28 The tool can be found at the following website:

b. Reducing stressors caused by disasters (psychological)
Disasters are stressful events for all survivors. Difficulties with understanding instructions or making themselves understood may exacerbate stress for older adults after a disaster. In nondisaster situations, CGs will often provide ad hoc interpreter services or act as communication assistants for elderly adults to optimize interactions. In the context of a disaster, however, the communication assistance provided by CGs may not be immediately available. Assessing communication difficulties and taking concrete measures to address them (preplanning contacts who may provide some translating abilities, visual aids, extra hearing aids, etc) are therefore valuable strategies for reducing anxiety. In fact, FEMA suggests that health care providers who support preparedness efforts can minimize stress by establishing and testing predetermined key actions beforehand.29 One method health care providers can employ to help CGs establish and test key actions is to ask those CGs providing ad hoc interpretive assistance what the contingency plan is for their care recipient in the event of an emergency and then provide CGs with appropriate community resources to engage with.

c. Using CGs to assess social isolation (social)
By virtue of their relationships with care recipients, CGs are key members of many older adults’ networks of social support and can help health care professionals assess the care recipient’s level of interaction with available community social
services. In many cases, older adults suffer from social isolation as adult children move away and medical or mobility issues progressively limit other social engagements. In the context of a disaster, social isolation can be a significant obstacle for receiving advance warning information about disasters and can reduce the ability of some older adults to ask for help after a disaster strikes. CGs may have additional strategies to contact long-distance relatives unknown to their health care professionals. Health care professionals can routinely ask the CGs they encounter about additional ways of contacting older adults’ loved ones in the event of a disaster. This information should be recorded in the medical record and added to emergency contact information. By establishing and exercising an effective communication plan and by helping CGs link older adults with available social services, health care professionals can actively assist with tailoring pre-disaster planning to the specific social situation of their patients.

d. In this section, we have reviewed how the unique CG-care recipient relationship can help to inform disaster preparedness initiatives when supported by health care professionals. Section 4.2: “Access and functional needs” will provide more specific information on the tools and resources that are available to help health care professionals and/or CGs conduct the needs assessments that are crucial to pre-disaster planning. We focused on how health care professionals can engage CGs to provide experience-informed perspectives on their care recipients to optimize pre-disaster planning and offered 3 concrete examples of how this might happen. The next section will concentrate on how health care professionals can work with CGs to maximize the effectiveness of the response and recovery phases of the post-disaster period.

4-1.3: Assisting CGs through the post-disaster period

I. In the previous section we reviewed how health care professionals might involve CGs who work with older adults across the spectrum of disaster preparedness. We provided concrete examples within a proposed clinical, psychological, and social preparedness matrix to assist health care professionals in engaging CGs in readiness activities. In this section, we shift our focus from the preparedness and mitigation phases of the disaster cycle to the post-disaster period.

II. Disasters can disrupt established habits and routines (e.g., timing of medication administration, substitution of medications owing to procurement challenges, not having a relationship of trust with temporary health care professionals, etc). In some
cases, disasters can trigger vulnerable older adults to be temporarily relocated into emergency shelters or other temporary living arrangements. This substitution of the familiar with the unfamiliar, the routine with the less well known, may lead to confusion, disorientation, and clinical deterioration.31

e. In the non-disaster setting, health care professionals may already be familiar with the isolation and disorientation experienced by some elderly adults who are brought to an unfamiliar medical clinic or emergency departments (ED). In an effort to minimize the challenges of these environments, some health care organizations have sponsored companion and temporary CG programs for older adults in the ED. One such program, the Care and Respect for Elders in Emergencies (CARE) volunteer initiative, was designed to improve the care of older adults with cognitive deficits and emotional distress in the ED. The program involves bedside interventions, conversation/companionship, and short activities and tools to assist in orienting older adults to their new surroundings.32 Although volunteer CGs are not familiar with their assigned patient’s medical issues, programs such as CARE have been shown to improve the experiences of older adults in emergency medical situations.

f. In a disaster context, CGs and health care providers should anticipate the impacts of unfamiliar settings on older adults and should not minimize their significance. This would be especially true for older adults who become separated from their primary CGs, and this separation may be long-lived. In some cases after Hurricane Katrina, care recipients were only reunited with their primary CGs after more than 6 months had elapsed from initial evacuation.33 Health care professionals should expect that in the aftermath of a disaster, CGs will be separated from the elderly adults they care for. There is insufficient evidence to discuss the effect of this separation on older adults. One group in whom this has been studied in the post-disaster context is the pediatric population. In this population, separation from primary CGs has been identified as a stronger predictor of persistent psychological distress than the extent of first-hand exposure to the disaster or trauma itself.34 One could postulate that the same may be true in elderly populations.

g. In light of the success of volunteer temporary CG programs like CARE, many volunteer and community organizations have committed to providing temporary volunteer caregiving services in the aftermath of a disaster. Health care professionals can assist in reducing the stress of CG separation by helping to engage these temporary CGs in the post-disaster period. Many citizens who have volunteered their time to assist older adults may have little experience
Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 4: Caring for older adult populations during the disaster cycle
Lesson 4-1: Working with caregivers

with how to provide care or assist with complex medical tasks. When contacted by emergency shelters providing care to elderly adults, health care professionals can advocate for just-in-time training programs that may improve the comfort levels for both volunteers and older adults.35

III. Health care professionals should also advocate for the maintenance of elderly adults’ confidentiality and dignity during assisted personal care, despite the reality of temporary shelters having few engineered protections for privacy.36 At every opportunity, health care professionals should share information on emergency contact information for older adults (including the contact information of their usual primary CGs). Reuniting older adults with loved ones and familiar care providers may help to improve health outcomes in this population. Health care professionals should be aware that some older adults with cognitive impairment may have relied upon their CGs to provide consent for medical procedures.37 If older adults are separated from their designated proxy decision-maker(s), health care professionals may have difficulty determining who has the authority to provide informed consent. By encouraging temporary CGs to reach out to preidentified emergency contacts as soon and as repeatedly as possible, health care professionals may help to avoid difficult ethical scenarios such as health care surrogate decisions before they occur.

IV. Older adults with fixed or limited incomes may become concerned about the cost of medical care after a disaster. Health care professionals are well suited to provide CGs and care recipients information about Medicare coverage during this period of post-disaster uncertainty. Health care professionals should be familiar with 42 USC§1320b-5, Authority to waive requirements during national emergencies, which specifically addresses this issue for the 60 days following a federally declared disaster (may be extended). This measure allows for the provision of additional funding to ensure sufficient health care items and services are available to meet the needs of those enrolled in the Medicare program.38

V. In this section, we reviewed some of the challenges older adults face in the post-disaster period, which include the stress of unfamiliar environments, CG separation, issues of legal authority of consent, and concerns about out-of-Medicare financial obligations. In each of these cases, health care professionals can directly influence the experience of older adults after a disaster by interacting effectively with CGs. Health care professionals should take comfort in the fact that when elderly adults are well supported by health care professionals and their CGs, they self-report better emotional recovery scores after a disaster than do their younger adult counterparts. In a study of older adults evacuated after Hurricane Katrina (mean age of 60 y), each
additional year of life was associated with a significant improvement in emotional recovery when measured 2 years after the disaster.39

Suggested Learner Activities for Use in and Beyond the Classroom

This activity can be conducted either with learners working individually or with learners working in small groups. If learners are working in small groups, each learner should consider the discussion questions below from his or her perspective and share those thoughts with the group members. At the end of the discussion, a member of each group can share key takeaways from their discussion with the other groups.

Scenario
Frank is an 88-year-old retired industrial designer of Japanese descent. He lives by himself in a single-story detached home outside of Portland, OR. He has a worsening intention tremor in both hands and severe rheumatoid arthritis that limits his walking to less than 100 feet with the aid of a walker. He also has severe bilateral hearing loss that he accommodates through custom bilateral hearing aids. His daughter, Judy, is his primary caregiver and she lives about 45 minutes away in rural Oregon. They have hired a companion aid to help with meals and feeding as Frank’s tremor makes these tasks difficult. Increasingly, the companion has been assisting with personal care including shirt buttoning, hair combing, and teeth brushing. Today they have come to the occupational therapy clinic to discuss upgrading his walker since the tremor is making operating the wheel brakes difficult.

Discussion Question 1
Using the clinical-psychological-social matrix presented in section 4-1.2, develop a list of pre-disaster preparedness considerations that you can assist Judy (his primary CG) in thinking about and addressing.

Follow-on activity (if working in groups)
If the instructor notices that answers provided for question 1 seem to be focused on the elderly adult and not on the CG, instructors are requested to refocus attention towards CG actions specifically.

For example, if learners focus on creating “disaster kits” that elderly adults are to carry with them in the event of an evacuation, how would this specifically apply to Frank? Learners can imagine how difficult it might be to carry such supplies or equipment with a significant tremor while using a walker, even in optimal conditions.
Learners can be directed to imagine how much more difficult such a process would be when pathways are blocked by debris and lighting is difficult (as in the post-disaster setting).

If learners have difficulty with identifying tasks specific to CGs, guide them into thinking about actions that can be taken in advance of a disaster with CGs to minimize what an elderly adult would be expected to do when a disaster strikes. Applying Table 3 to Frank and Judy’s situation may provide some assistance in developing a list of actionable preparedness recommendations.

Discussion Question 2
In the aftermath of an earthquake, Frank is evacuated with his medical information, durable medical devices, and his medications to a FEMA shelter nearby. He has provided shelter staff with emergency contact information. His primary CG Judy cannot be reached. Shelter staff is able to contact you, his health care professional. Create a list of at least 3 anticipated challenges that Frank will face in this new environment without his primary CG and suggest ways his temporary CGs might address them.

Readings and Resources for the Learner
- Required Resources

- Supplemental Resources
Learner Assessment Strategies
1. Discussion question 1 (populate the clinical-psychological-social matrix) can also be used to assess the ability of learners to consider the aspects of disaster preparedness amenable to CG involvement.
2. Discussion question 2 (create a list of challenges related to CG separation) can be used to assess the ability of learners to understand the services CGs provide and how health care professionals can anticipate issues that will occur if CGs are unable to accompany evacuated elderly adults.

Readings and Resources for the Educators
• Required Resources

• Supplemental Resources

Sources Cited in Preparing Outline and Activities Above


36. Office of elderly affairs. Governor’s Office of Elderly Affairs State of Louisiana Website. 


LESSON 4-2
ACCESS AND FUNCTIONAL NEEDS
Lesson: Access and functional needs

Author: Cheryl A. Levine, PhD
Team Lead for At-Risk Individuals
Division for At-Risk Individuals, Behavioral Health, and Community Resilience (ABC)
Office of the Assistant Secretary for Preparedness and Response (ASPR)
US Department of Health and Human Services (HHS)

Tehmina A. Mall
Graduate Student
Mailman School of Public Health
Columbia University

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

Competencies
This lesson supports learning related to the following competencies, with regard to access and functional need considerations and caring for the older adult population during the disaster cycle:


Core Competency 7.0 “Demonstrate knowledge of principles and practices for the clinical management of all ages and populations affected by disasters and public health emergencies, in accordance with professional scope of practice.”
Subcompetency 7.1 “Discuss common physical and mental health consequences for all ages and populations affected by a disaster or public health emergency.”

Core Competency 8.0 “Demonstrate knowledge of public health principles and practices for the management of all ages and populations affected by disasters and public health emergencies.”
Learning Objectives
At the end of this lesson, the learner will be able to:

4-2.1 Describe the CMIST Framework of disaster preparedness for the geriatric population as it relates to healthcare professionals.

4-2.2 Integrate the CMIST Framework into the local healthcare context; apply to preparedness, response, recovery, and mitigation activities relevant to the geriatric population.

Estimated Time to Complete This Lesson
30 minutes

Content Outline
Module 4: Caring for older adult populations during the disaster cycle: Preparedness, response, recovery, and mitigation
Lesson 4-2: Access and functional needs

I. Definition of access and functional needs: At-risk individuals with access and functional needs are those who have, other needs that may interfere with their ability to access or receive medical care before, during, or after a disaster or emergency.
   a. Access-based needs refer to ensuring that resources are accessible to all individuals, such as human services, housing, information, transportation, and medications to maintain health.
   b. Function-based needs refer to restrictions or functional limitations that hinder an individual’s ability to perform fundamental physical and mental tasks or activities of daily living (ADLs), such as eating, toileting, or bathing. This definition reflects the capabilities of the individual, not the condition, label, or medical diagnosis.
   c. A tool for operationalizing access and functional needs and planning for those individuals who may require additional assistance before, during, or after a disaster or emergency is the CMIST Framework, an acronym with the following
cross-cutting categories necessary for whole community\textsuperscript{1} planning and preparedness:

II. CMIST Framework

<table>
<thead>
<tr>
<th>CMIST Category</th>
<th>Definition</th>
<th>Examples</th>
</tr>
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<tbody>
<tr>
<td>C = Communication</td>
<td>Individuals with communication needs may have limited or no ability to speak, see, hear, or understand. During an emergency, people with communication needs may not be able to hear announcements, see signs, understand messages, or verbalize their concerns.</td>
<td>Examples of individuals with communication needs include those who have the following limitations:</td>
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<td>• are deaf or hard of hearing,</td>
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<td>• communicate via American Sign Language (ASL),</td>
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<td>• have limited English proficiency or do not speak English at all,</td>
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<td>• are blind or have low vision (including cataracts or macular degeneration), or</td>
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<tr>
<td></td>
<td></td>
<td>• have cognitive or physiological limitations (including dementia and Alzheimer's disease, an intellectual disability or some type of autism).</td>
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<tr>
<td>M = Maintaining health</td>
<td>During an emergency, people may be separated from family or caregivers. These individuals may require personal assistance services (PAS), or personal care assistance, in maintaining their ADLs.</td>
<td>Examples of ADLs for individuals who require PAS\textsuperscript{2} include</td>
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<td>• eating,</td>
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<td></td>
<td>• bathing,</td>
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<tr>
<td></td>
<td></td>
<td>• dressing,</td>
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<tr>
<td></td>
<td></td>
<td>• grooming,</td>
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<tr>
<td></td>
<td></td>
<td>• transferring, and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• toileting.</td>
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<td></td>
<td>Additional examples of support to geriatric individuals to maintain their health can include</td>
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<tr>
<td></td>
<td></td>
<td>• giving insulin injections or other support in diabetes management,</td>
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<td></td>
<td></td>
<td>• provision of foods that meet specific dietary restrictions, and</td>
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<tr>
<td></td>
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<td>• storage of medications requiring</td>
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</tbody>
</table>
### I = Independence

Preparedness planning requires ensuring that people who are able to function independently if they have their assistive devices or equipment are not separated from their durable medical equipment or service animals and have access to a power source for battery-powered assistive devices.

During planning it is important to be cognizant of the wide range of older adults with access and functional needs. For example, two individuals with the same diagnosis or with what appears to be the same condition may have different access and functional needs.

Example of devices/equipment/technology for maintaining independence include the following:

- mobility aids (wheelchairs, walkers, canes, crutches),
- communication aids (hearing aids, communication boards, computerized communication device),
- medical equipment (catheters, oxygen, syringes, medications, consumable medical supplies), and
- service animals (animals specifically trained to perform tasks to assist people with disabilities such as guide dogs).

### S = Services and Support

During a disaster or emergency, some people with psychiatric conditions (such as dementia, Alzheimer's disease, schizophrenia, or severe mental illness), addiction problems, or traumatic brain injury may become anxious due to transfer trauma. While some individuals are able to function well, others require services and support. People with disabilities are the most knowledgeable about their own needs and health care, and emergency responders should ask people with disabilities what they need.

Consideration should therefore be given to the following:

- People with dementia, an intellectual disability, or autism are especially susceptible to chaos (i.e., loud noises, flashing lights, crowds) and emotional trauma.
- They have a limited ability to understand, depending on the stage of their illness.
- Inform others of the person with dementia’s condition as appropriate.
- Do not leave this individual alone, it only takes a moment for someone to wander away and get lost.
- Do your best to stay calm. Persons...
with dementia, an intellectual disability, or autism will respond to your emotional tone.

**T = Transportation**

People who may require transportation support due to access and functional needs includes some individuals with:
- disabilities,
- age restrictions,
- temporary injury,
- poverty,
- legal restriction, or
- no access to a vehicle.

Examples of preparedness planning for individuals with transportation needs include coordination with mass transit authority, coordination for the provision of accessible vehicles (such as paratransit and accessible buses or other types of accessible mass transit vehicles), coordination for the availability of drivers (especially in a no-notice event or for a long-duration event), and ensuring the availability of fuel. Planning consideration must also be given to vehicles that can safely transport medical devices or equipment such as oxygen.

### III. Preparedness, response, recovery, and mitigation activities using the CMIST Framework

#### a. Preparedness considerations

i. Building consideration of the CMIST Framework into response planning, recovery planning, and mitigation efforts.

1. Example: Transportation Needs. Preparedness planning requires coordination with mass transit authority and coordination for the provision of accessible vehicles (such as paratransit).
2. Example: Use the cross-cutting nature of the CMIST Framework to address multiple access and functional needs. For example, a geriatric individual with communication needs (related to advanced dementia) who also needs assistance with maintaining health (receives personal assistant services).

#### b. Response Considerations

i. The CMIST Framework provides a tool for addressing access and functional needs during a response.

1. Example: The City of Oakland, California, created a training module to facilitate Americans with Disabilities Act
compliant4mass care and shelter services for people with disabilities and older adults in the general shelter environment.


c. The CMIST Framework directly feeds into the areas of response, recovery, and mitigation for greater population benefit and impact.

Suggested Learner Activities for Use in and Beyond the Classroom

1. Learner Activity Idea 1:
   Divide the entire class into 5 groups. Assign each group one CMIST Framework category (i.e., Group #1 is C = Communication, Group #2 is M = Maintaining health, etc.). Ask each group to create a profile for a geriatric individual that highlights the CMIST Framework category they were assigned (i.e., if assigned Group #1C = Communication, create a profile for a geriatric individual who is hard of hearing, has limited English proficiency, or has a cognitive limitation). Profiles should include the name, age, location, and the access and functional needs of the geriatric individual. Selection of disaster or emergency scenarios can be based on local hazards (e.g., earthquakes in California, hurricanes in Alabama, flooding in Minnesota, power outage, heat advisory).

   Each group should then identify the access and functional needs of their geriatric individual before, during, and after the disaster or emergency scenario selected. In addition to identifying the access and functional needs, the group should also identify creative solutions and accommodations for their geriatric individual. For example, Group #2, Maintaining health, may develop a scenario for a frail older adult who has mobility limitations with transferring in or out of bed; perhaps her home is damaged in a tornado and she becomes a temporary resident of a general population shelter. A potential solution for this individual may be to push a shelter bed against a wall, which enables her to transfer in and out of bed independently, thus requiring less PAS.

   Once each group has created this profile and discussed the implications of their individual’s access and functional needs within the context of the disaster or emergency scenario, representatives of each group will share their individual profiles with the class. During the report, the student should describe the access
and functional needs of his or her geriatric individual before, during, and after a disaster or emergency and the role of the health care professional in addressing the individual’s access and functional needs.

Following all the presentations, a large class discussion on the attributes of each geriatric individual should be facilitated by the instructor. The facilitated discussion topics should include the cross-cutting nature of the CMIST Framework, the challenges of supporting individuals with multiple access and functional needs, and levels of preparedness, response, recovery, and mitigation that would be required to meet the access and functional needs of each sample individual.

2. Learner Activity Idea 2 (for clinical health care professionals):
Allow free-form class discussion of the class’ personal experience as health care professionals with individuals with access and functional needs. The discussion should specifically include challenges and successes encountered while providing care to individuals with access and functional needs. Emphasize the abilities and strengths people with access and functional needs have by including a discussion on the health resilience of geriatric individuals. For example, a woman in her 80s may require a walker for mobility, but is otherwise independent (“I” in CMIST Framework).

Next, direct the discussion to using the CMIST Framework to illustrate a whole community, cross-cutting approach for emergency preparedness planning, response, recovery, and mitigation that supports individuals with access and functional needs. Finally, discuss any apparent gaps in the CMIST Framework as a tool to integrate the access and functional needs of older adults into emergency and disaster preparedness, response, recovery, and mitigation activities.

Readings and Resources for the Learner

- **Required Resources**

- **Supplemental Resources**
  - Disaster preparedness planning for older adults. US Department of Health and Human Services, Public Health Emergency website.

- Disaster resources for people with disabilities and others with access and functional needs, emergency managers & planners & disability-focused organizations. June Isaacson Kailes, Disability Policy Consultant website.

- FEMA’s functional needs support services guidance. US Department of Health and Human Services, Public Health Emergency website.


- Understanding how to accommodate service animals in healthcare facilities. US Department of Health and Human Services, Public Health Emergency website.


**Learner Assessment Strategies**

1. Direct students to work in groups to create a presentation outlining the CMIST Framework and its application for addressing the access and functional needs in a specific health care setting where they are likely to encounter a geriatric population (e.g., hospital, skilled nursing facility, Program of All-Inclusive Care for the Elderly [PACE]). Ensure that they address the role of public health partners who might be involved during a disaster or emergency.

2. Ask each learner to draft a response to how their workplace engages in emergency planning and response activities and how the CMIST Framework would fit into that
planning. Have the learner focus on facilitators and barriers to implementation of the CMIST Framework. Divide students into groups to discuss their responses and end with a larger class discussion on the best practices and challenges of integrating the CMIST Framework.

Readings and Resources for the Educators

**Required Resources**

**Supplemental Resources**
Sources Cited in Preparing Outline and Activities Above


LESSON 4-3
PUBLIC HEALTH CONSIDERATIONS
Lesson: Public Health Considerations

Authors: Cheryl A. Levine, PhD  
Team Lead for At-Risk Individuals  
Division for At-Risk Individuals, Behavioral Health, and Community Resilience (ABC)  
Office of the Assistant Secretary for Preparedness and Response (ASPR)  
US Department of Health and Human Services (HHS)

Alana Morrell, MPH Candidate  
Milken Institute School of Public Health  
The George Washington University

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

Competencies  
This lesson supports learning related to the following competencies, with regard to public health considerations during a disaster for the geriatric population:

Core Competency 5 “Demonstrate knowledge of personal safety measures that can be implemented in a disaster or public health emergency.”
Subcompetency 5.1 “Explain general health, safety, and security risks associated with disasters and public health emergencies.”
Subcompetency 5.2 “Describe risk reduction measures that can be implemented to mitigate or prevent hazardous exposures in a disaster or public health emergency.”

Core Competency 8 “Demonstrate knowledge of public health principles and practices for the management of all ages and populations affected by disasters and public health emergencies.”
Subcompetency 8.2 “Identify all ages and populations with functional and access needs who may be more vulnerable to adverse health effects in a disaster or public health emergency.”
Subcompetency 8.3 “Identify strategies to address functional and access needs to mitigate adverse health effects of disasters and public health emergencies.”
Subcompetency 8.4 “Describe common public health interventions to protect the health of all ages and populations affected by a disaster or public health emergency.”

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

4-3.1 Describe the role of public health and state and local health departments in caring for the geriatric population during a disaster or public health emergency.

4-3.2 Identify the various public health environmental hazards and their impact on older adults in a disaster.

4-3.3 Discuss how public health can help to reduce the incidence of disaster and emergency related injury in older adults.

Estimated Time to Complete This Lesson
60 minutes

Content Outline
Module 4: Caring for older adult populations during the disaster cycle: Preparedness, response, recovery, and mitigation
Lesson 4-3: Public health considerations

I. The role of public health and state and local health departments in caring for the geriatric population during a disaster or public health emergency.
   a. Epidemiology and disease surveillance
      i. This section is intended to define epidemiology and disease surveillance and the basic components of this process.
         1. Public health surveillance involves ongoing and systematic collection, analysis, and interpretation of health data to promote disease prevention and control. It is essential to planning, implementing, and evaluating public health practice. Additionally, public health surveillance involves dissemination of critical health data to public health officials who coordinate response activities.¹
         2. To guide public health surveillance, the table below describes the 10 Essential Public Health Services that provide the framework for the public health system with examples relevant to geriatric populations.

<table>
<thead>
<tr>
<th>10 Essential Public Health Services²</th>
<th>Geriatric Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Monitor health status to identify and solve community health problems</td>
<td>Compare medical issues as well as the access and functional needs of the geriatric population you serve with data from state and national surveillance systems.</td>
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<td>• Compare the rate of risk factors for the 65 and older population in your county to the rate of risk factors for the 65 and older population in your state or region of the country. This may reveal a community problem in need of intervention.</td>
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<tr>
<td></td>
<td>• <a href="http://cdc.gov">Centers for Disease Control and Prevention</a></td>
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| **2** | **Diagnose and investigate** health problems and health hazards in the community | Build rapport with local and state health departments to receive current information, and when appropriate, to report health concerns, surveillance issues, and disease cases. Request feedback on epidemiologic investigations conducted on patients by use of guidance from the following resource:  
  - **CDC: Enhancing Surveillance:** This chapter highlights differing surveillance approaches and strategies to incorporate healthcare providers into surveillance efforts. |
| **3** | **Inform, educate, and empower** people about health issues | Work with the local Area Agency on Aging and Senior Centers to disseminate preparedness information geared towards older adults including building a preparedness kit that includes food, water, and medications to last for at least 72 hours.  
  - For more information, go to: [http://www.ready.gov/seniors](http://www.ready.gov/seniors)  
  - Area Agencies on Aging (AAA) were established under the Older Americans Act to respond to the needs of Americans aged 60 and over in every local community. For more information, go to: [http://www.n4a.org/](http://www.n4a.org/) and [http://www.aoa.acl.gov/AoA_Programs/OAA/Aging_Network/Index.aspx](http://www.aoa.acl.gov/AoA_Programs/OAA/Aging_Network/Index.aspx) |
| **4** | **Mobilize community partnerships to identify and solve health problems** | Work with retirement communities and long-term care facilities to implement closed **Point of Distribution (POD)** plans and conduct exercises in the event of a public health event requiring medical countermeasure dispensing in support of treatment or prophylaxis.  
  - For individuals who live independently in private |
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<tbody>
<tr>
<td>homes outside of retirement communities, work with community partners to ensure that they have access to closed PODs or coordinate with general public PODs to accommodate the access and functional needs of these individuals.</td>
<td><strong>Develop policies and plans that support individual and community health efforts</strong></td>
</tr>
<tr>
<td>Work with the local Area Agency on Aging and Medicare Ombudsman to implement policies that integrate older adults into disaster and emergency planning activities, including engaging with emergency management and promoting participation in CERT programs.</td>
<td><strong>Enforce laws and regulations that protect health and ensure safety</strong></td>
</tr>
<tr>
<td>Develop relationships with the legal assistance and elder rights programs funded by the Older Americans Act that promote resilience by empowering older adults to remain independent, healthy, and safe in their homes and communities.</td>
<td><strong>Link people to needed personal health services and ensure the provision of health care when otherwise unavailable</strong></td>
</tr>
<tr>
<td>People who live independently in the community but who rely on personal assistance services to support their activities of daily living may become separated from their caregivers in a disaster or emergency. Develop Memoranda of Agreements (MOAs) between local emergency shelter providers and local personal assistant services providers to ensure that individuals with access and functional needs who may require supportive services can be accommodated in a mass care shelter in the event of a disaster or emergency. In addition, develop MOAs for the continuity of personal assistance services if older adults living independently in the community temporarily lose track of their home health care provider and remain at home rather than go to a mass care shelter.</td>
<td><strong>Ensure a competent public and personal health care workforce</strong></td>
</tr>
<tr>
<td>Ensure that staff roles are clearly defined and expectations are widely understood; healthcare providers’ emergency preparedness and response planning and training should occur at both the county and regional levels. Health care providers</td>
<td>**</td>
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</table>
and public health authorities who respond to disasters are often not the same as those who respond to daily emergencies in a given locality. To ensure continuity of services, it is critical that public health emergency and disaster plans integrate the day-to-day responders with emergency response units from other jurisdictions. For example, this could mean developing Memoranda of Understandings with ambulance service providers in adjacent counties or partnering with a long-term care facility from a different district in the event of a power outage impacting your facility’s area.

- Review the following web resources:
  [http://www.acl.gov/Get_Help/Preparedness/Index.aspx#ServiceProviderPreparedness](http://www.acl.gov/Get_Help/Preparedness/Index.aspx#ServiceProviderPreparedness)

| 9 | Evaluate effectiveness, accessibility, and quality of personal and population-based health services | Perform preparedness exercises and drills regularly to refresh skill sets and make adjustments to current plans. [FEMA](http://www.fema.gov) offers a range of hypothetical disaster situations to evaluate the competence level of the staff, geriatric population, and family members you serve by conducting tabletop exercises. |

| 10 | Research for new insights and innovative solutions to health problems | Use data collected while monitoring the health status of the geriatric population you serve as a springboard for identifying evidence-based solutions. |

3. Disease outbreaks begin at the local level. When health care professionals notice fluctuations and patterns in health outcomes among the geriatric populations they serve, they have the opportunity to contribute to the surveillance process. Public health information moves from the local, to the state, to the federal level; therefore, the role of the local health care provider can be critical to surveillance by contributing and reporting observed changes.

ii. Provide tools to monitor trends and apply public health information in interactions with the geriatric population. Emphasize the following for clinical care providers:

   1. Through the process of monitoring and reporting local, state, and national trends, health care professionals can provide an enhanced assessment of the geriatric population. By practicing routine public health surveillance awareness, health care professionals can enhance the provision of informed, timely, and appropriate care.
• Example (Part 1): I noticed that a large percentage of the residents at my assisted-living facility near Birmingham, Alabama, have high blood pressure. Many of our residents take high blood pressure medications (such as beta-blockers). A side effect of these medications, however, can be inhibited sweating and decreased blood flow to the skin. After checking the Health Aging Data Portfolio for more information about my state, I found that 95.2% and 98% of the geriatric population (≥65) in my state and county respectively take medication for high blood pressure. Therefore, in the event of a heat wave, we should be prepared to mitigate heat exposure and, where necessary, treat large numbers of the geriatric population with heat stress.

2. Health care professionals can incorporate the use of public health data into their routine to provide informed, timely, and appropriate care. For example, the Behavioral Risk Factor Surveillance System (BRFSS) data from CDC provides state and local information to support and evaluate ongoing projects, monitor public health trends and needs, identify risks, and assess health care access. This data can also prevent misdiagnosis and marginalization of the geriatric population.

• Example (Part 2, based on previous example in ii.1): I reported my observation of the relationship between blood pressure medication and heat stress on the geriatric population I serve in Alabama to my local health department and collaborated with their team to create reminders to take extra precautions as temperatures were expected to reach record highs this summer.

II. Environmental hazards
i. Environmental health addresses all the physical, chemical, and biological factors external to a person and all the related factors impacting behaviors. It encompasses the assessment and control of those environmental factors that can potentially affect health. It is targeted toward preventing disease and creating health-supportive environments.

ii. Environmental hazards are elements of the environment that can lead to negative health outcomes and may include the built environment in addition to the natural environment.

iii. As a result of the normal aging process, older persons in good health may experience increased health risks from exposures to environmental pollutants. As we age, our bodies are more susceptible to hazards from the environment, which may worsen chronic or-life threatening conditions.

iv. Common environmental hazards that may be especially harmful to the health of older persons include:
   i. Climate change
   ii. Lead
   iii. Mercury
   iv. Ozone
v. Particle pollution (particulate matter)  
vi. Pesticides  
vii. Temperature extremes  
viii. Water contaminants

<table>
<thead>
<tr>
<th>8 Common Environmental Hazards</th>
<th>Environmental Hazard Scenarios for Group Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Climate Change</strong></td>
<td>A category 5 hurricane is expected to hit your state this weekend and the residents of your adult daycare center will be affected. Sustained winds will reach 160 mph, with a storm surge of almost 20 feet above normal. As the storm moves closer to land, massive evacuations will be required. Certain low-lying escape routes will be flooded starting at 5 hours before landfall. As the storm moves across inland states, it will stall, impacting communities with sustained tropical wind and rain, inland flooding, and tornadoes.</td>
</tr>
<tr>
<td><strong>Lead</strong></td>
<td>A factory explosion resulted in the collapse of several adjacent high-rise buildings in your area. The air quality is poor because particles such as lead make up the gray smoke cloud covering the northern region of the town. Dozens of survivors are being located beneath the rubble each day, many of whom are older adults residing in a nearby assisted-living facility.</td>
</tr>
<tr>
<td><strong>Mercury</strong></td>
<td>Early one Saturday morning, a floor model sphygmomanometer (blood pressure unit) in the room of a nursing home resident began leaking mercury. The operator rolled the leaking unit down a carpeted hallway to the nurses’ station. During the day, staff attempted to clean up the mercury beads in the hallway. Unfortunately, they used a vacuum cleaner which increased the air levels of mercury vapor.</td>
</tr>
<tr>
<td><strong>Temperature Extremes</strong></td>
<td>Temperatures are expected to reach record lows in your area within the next week. A large proportion of the geriatric population in your area relies on public transportation and your area has a large population of individuals experiencing homelessness, including many older veterans.</td>
</tr>
<tr>
<td><strong>Water Contaminants</strong></td>
<td>The continuing care retirement community you serve is located on the shores of Indigo Lake. The 120-mile long, 12-mile wide lake is the source of drinking water for the region and other waterfront municipalities; there are no public groundwater sources available. The city discharges its treated wastewater and storm water into Indigo Lake and takes its drinking water from the same source. Nonpoint source pollution from treated wastewater and storm water agriculture is the priority contamination threat to the water supply. The watershed for the lake spans most of the northern region of your state. A series of thunderstorms bombard the area for 3 consecutive days.</td>
</tr>
</tbody>
</table>
### Following the storms, reports of gastrointestinal ailments emerge.

| **Ozone** | It’s a bright and sunny Thursday afternoon where your community health clinic is located. Several of your older adult patients are calling for appointments and complaining that they are experiencing similar symptoms of coughing, throat irritation, chest tightening, and wheezing. A few of the patients reporting these symptoms have a history of asthma, but several have no history of respiratory tract health issues. After questioning several of the patients, you discover that many experienced symptoms after extended periods of walking outdoors and other forms of physical exertion. The local air quality agency declared an Air Quality Action Day for Ozone because the levels are forecasted to reach unhealthy levels for the next 2 days. |
| **Particle Pollution** | Recent reports indicate that asbestos is present in several cement pipes throughout your area. The local water supplier failed to comply with mandates to reduce the amount of asbestos present. Local government authorities are working on identifying problem areas and information is scarce. |
| **Pesticides** | A truck driver transporting thousands of gallons of pesticide falls asleep at the wheel resulting in a severe collision at 11:30 PM. The driver survives and manages to dial 911 to report the accident. He notes that the pesticides are leaking from the truck onto the road. Cars passing the accident disperse the chemicals for several miles. It begins to rain and the pesticides react with the water creating a poisonous gas. Your nursing home is adjacent to the highway and is immersed in a thick cloud of the gas. |

### III. Injury prevention

i. This section will cover causes of injury and how public health can reduce the incidence of disaster and emergency-related injury.

   i. In the context of this curriculum, injury is defined as “harm or damage to an individual occurring as a result of a public health emergency event or disaster.” Note that injury can be intentional or unintentional.

   ii. Injury often occurs during and after an emergency event as a result of:

       1. Stress and trauma
       2. Evacuation process
       3. Disruption of services
       4. Detachment from social network

   iii. Risk reduction involves measures designed to either prevent hazards from creating risks or lessen the distribution, intensity, or severity of hazards. 

       - Acknowledging the diversity of the geriatric population in terms of individual limitations, race, ethnicity,
socioeconomic status, and access to care is essential to injury prevention during an emergency event. Not every member of the geriatric population faces the same threats during an emergency; therefore, assessing the risks and services available quickly and effectively is critical to preventing injury and maintaining independence.

iv. Identifying your population’s living arrangements and the potential threats in each setting allows service providers to plan for the continuity of services during and after an emergency. Nursing homes, shelters, assisted-living facilities, hospitals, and private residences are areas to consider.

v. Discussion on where injury occurs. *Instructor note: Reinforce the importance of surveillance and monitoring trends during a public health emergency or disaster recovery and response.

1. What are the greatest concerns for each type of living arrangement before, during, and after an emergency?
   - Consider ability to communicate in each setting. Members of the geriatric population living independently may not receive warnings of impending danger through the same channels as the general population (e.g., may not participate on social media or have a smartphone).

2. Why is bidirectional communication important in risk reduction?
   - Consider evacuation procedures and systems such as access to transportation (e.g., it is accessible to individuals with mobility impairments or individuals with durable medical equipment such as an oxygen concentrator) or the ability to access and be accommodated in a general population shelter during an emergency (e.g., will shelter accommodate an individual who relies on a home-health nurse to assist with activities of daily living or will personal assistive services be provided if the individual’s regular care provided is not available?).

Suggested Learner Activities for Use in and Beyond the Classroom

Exercise 1:
Propose the following scenario to students:
You work at the Pleasant Hills Nursing Home in an urban area and care for 80 individuals, many of whom have multiple chronic conditions and depend on the services provided by you and your team. On Tuesday, 4 residents of the Pleasant Hills Nursing Home became ill with nausea, diarrhea, and abdominal pain within 6 hours after lunch was served. Your team
suspects the Pleasant Hills Nursing Home kitchen to be the cause of the observed symptoms and requests that staff thoroughly clean and inspect the kitchen area to ensure that Wednesday’s meals are prepared in compliance with rigorous safety and sanitary standards. Unfortunately, 12 residents become ill by nightfall and by the end of the day on Thursday, more than half of the residents are symptomatic. One of your team members hears on the local news that similar events have transpired at the nearby Whispering Woods Nursing Skilled Nursing Facility, resulting in 3 fatalities. The director calls Whispering Woods who indicates that the cause of the outbreak was believed to be consumption of salmonella-contaminated peanut butter.

Discussion:

- What resources would you use to contain the situation and prevent the spread of illness?
- How can we incorporate the 10 Essential Public Health Services into the situation in Exercise 1? Do you think the incident could be resolved by using these services? If so, how?
- Example: Ensure a competent public and personal health care workforce.
  - In planning for the future, employees managing residents’ meals should have in place viable options to provide nutrition if the kitchen must be closed because of contamination or recalls. Kitchen managers and staff should be aware of resources used to identify food hazards as well as precautionary measures.
- What are some policies or procedures the staff at Pleasant Hills Nursing Home should put into practice to prevent future foodborne illnesses? Share and discuss methods and solutions.

Exercise 2:
Divide the class into 8 groups (depending on class size) and assign each group 1 of the 8 common environmental hazards. Ask each group to perform the following tasks based on their assigned hazard and scenario (refer to the table earlier in the lesson). Each group will present and discuss their environmental hazard, scenario, and strategies to the class.

1. Devise strategies and control measures to safeguard the health of the geriatric population in the setting of your choosing.
2. Assess the risks or secondary events resulting from the emergency.
3. Create an asset map including resources from the EPA Aging Factsheets and other web sources helpful in resolving issues related to your environmental hazard. Ensure that each group considers setting (urban or rural) and time constraints.

**Helpful Hints:** An asset map demonstrates the resources available in your community and how they are connected. To create an asset map, list your community’s strengths and resources, and organize the information into a diagram or table. Use the map to identify ways to use your community’s assets to spread your messages. Refer to page 9 of the CDC’s *Roadway to Better Health-A Guide to Promoting Cancer Prevention in Your Community* for more information.
Do you have a preparedness plan for you and for your family? Are there any aspects of developing a plan that you find overwhelming or difficult? How can we mitigate these difficulties? Think of the people you care for on a day-to-day basis. How prepared are they? Consider aspects of personal preparedness that you find stressful and how additional barriers may complicate the planning process for members of the geriatric community.

Share the following profiles with the group.

Profile 1: Louis
- 73-year-old man living in East Harlem
- Spanish speaker with strong ties to Venezuelan culture
- Lives alone in a high-rise
- History of asthma, arthritis, and hypertension
- Relies on an oxygen concentrator
- Does not own a car
- His only son lives on the other side of the city

Profile 2: Rose
- 86-year-old woman residing in the suburbs of Georgia
- Vietnamese-American immigrant with limited English proficiency
- Lives with her son, daughter-in-law, and their 4 children
- Recently suffered from a stroke that left her bedridden for the last 3 months
- The family relies on Medicaid and Medicare for her care

Profile 3: Jackie
- 80-year-old residing in a long-term care facility in Los Angeles
- Jackie does not identify with any single gender
- Suffers from dementia and depression
- Jackie’s diabetes requires dialysis
- Has specific dietary restrictions

Readings and Resources for the Learner

- Required Resources
  
  A profile created by the Administration on Aging (AOA), Administration for Community Living of the United States, US Department of Health and Human Services, containing facts and statistics about the geriatric population. Important information on employment, education, housing, and insurance coverage are highlighted in this document. This resource is recommended...
because it allows caregivers and medical providers to familiarize themselves with data that may aid them in identifying fluctuations in the health status of the population and quickly implement solutions.

- BRFSS prevalence and trends data. Centers for Disease Control and Prevention website. [http://apps.nccd.cdc.gov/brfss/](http://apps.nccd.cdc.gov/brfss/). Accessed February 4, 2015. This resource provides data on risks associated with chronic disease within the US population. This information is pertinent because a large proportion of the geriatric population has multiple chronic conditions.

- See recent recalls. Foodsafety.gov: Your Gateway to Federal Food Information website. [http://www.foodsafety.gov/recalls/recent/index.html](http://www.foodsafety.gov/recalls/recent/index.html). Accessed February 4, 2015. This resource provides information on recent food recalls with links to additional information on what to do if you have a recalled food product. It is important to be prepared for a food recall before it occurs as the geriatric population is especially vulnerable to foodborne illness because of changes in immunity and the compounding effect of multiple chronic conditions. A large proportion of the population has a fixed income and mobility limitations and is more likely to be unable to seek out alternate sources of nutrition. The website acts as a supporting resource to prevent monetary and nutritional loss for members of the geriatric population.


### Supplemental Resources
- None

### Learner Assessment Strategies
1. Ask each learner to list and describe 6 of the 10 essential public health services; next, provide an example involving caring for the geriatric population in disasters.
2. Ask each learner to list 4 of the 8 most common environmental hazards; next, explain why older adults are at increased risk from these hazards, especially in a disaster.

3. Ask each learner to define injury in the context of this lesson and provide at least 2 causes of injury for older adults during and after a disaster or public health emergency; next, describe how surveillance and monitoring impact the incidence of injury among the geriatric population.

Readings and Resources for the Educator

- Required Resources
    This chapter examines the public health organizations within the United States and the organizations that exist for international public health needs to better understand how agencies at different levels fit together to provide public health services.

- Supplemental Resources
  - None

Sources Cited in Preparing Outline and Activities Above


http://ncdmph.usuhs.edu
Additional Resources Utilized


LESSON 4-4
CLINICAL CONSIDERATIONS
Lesson: Clinical Considerations

Author: Sandra P. Hirst RN, PhD, GNC(C)
Associate Professor
Faculty of Nursing
University of Calgary

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

Competencies
This lesson supports learning related to the following competencies, with regard to clinical considerations for caring for the older adult population during the disaster cycle:


Core Competency 7.0 “Demonstrate knowledge of principles and practices for the clinical management of all ages and populations affected by disasters and public health emergencies, in accordance with professional scope of practice.”
Subcompetency 7.1 “Discuss common physical and mental health consequences for all ages and populations affected by disaster or public health emergency.”

Learning Objectives
At the end of this lesson, the learner will be able to within the scope of one’s professional practice:
4-4.1 Critically reflect upon the knowledge required for clinical practice when working with older adults during disasters.
   o Describe how to assess older adults at risk for disaster-related physical or psychological distress.
   o Identify common health outcomes of a disaster for older adults.
4-4.2 Articulate the disproportionate vulnerability in disasters of older adults who are frail and those who have dementia and identify clinical intervention strategies.
4-4.3 Demonstrate understanding of best practice resources that can be used to improve disaster preparedness, response, recovery, and mitigation and the role of health care professionals in disaster management for older adults.

Estimated Time to Complete This Lesson
90 minutes

Content Outline
Module 4: Caring for older adult populations during the disaster cycle: Preparedness, response, recovery, and mitigation
Lesson 4-4: Clinical considerations

I. Assessment, diagnosis, and treatment or interventions per scope of practice
   a. Triage
   b. Trauma, acute injury or illness
   c. Psychological distress

II. Health promotion
   a. Addressing clinical concerns
   b. Dementia clients

III. Medications
   a. Polypharmacy
   b. Access to accurate medication list
   c. Medications that need refrigeration

IV. Specific aids for daily living
   a. Sensory
   b. Dietary needs
   c. Oxygen
   d. Mobility aids

V. Culturally competent care

VI. Elder abuse and neglect

VII. Palliative care and end of life issues

VIII. Clinical knowledge

Introduction
The following table provides a lesson plan that may be useful to the instructor and students. Specific activities may be modified according to the time available.

The pre-lesson activity is designed to help the learner review and situate one’s current level of knowledge specific to older adults and the context of clinically focused disaster management.
<table>
<thead>
<tr>
<th>Learning Objective and Content</th>
<th>Outcome of Learning activities</th>
<th>Time</th>
<th>Learning activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-lesson activity</td>
<td>• Demonstrate understanding of clinical considerations within one’s professional scope of practice that may be beneficial to the diverse geriatric population.</td>
<td>3 minutes</td>
<td>You are at a senior’s apartment complex and it is under several feet of water because of the river flooding. List 3 or 4 clinical considerations specific to your professional scope of practice. Do a quick search of the Internet to identify if your profession has best practice guidelines that will facilitate the support of older adults during a disaster (see Table Pre-1 provided at end of lesson).</td>
</tr>
<tr>
<td>Health care professional knowledge</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

1. Assessment, diagnosis, and treatment or interventions per scope of practice

|                          |                             | 13 minutes | View all or part of the following videoclip: [https://www.youtube.com/watch?v=9QHDs10e-G0](https://www.youtube.com/watch?v=9QHDs10e-G0) |
|                          | • Discuss the general aspects of triage of the older adult population in the disaster context. | | Review “Presentation Outline One - Acute Illness” at the end of the lesson. |
|                          | • Describe how to assess older adults at risk for disaster-related physical or psychological distress. | | Review “Presentation Outline Two - Seniors’ Psychological Distress” at the end of the lesson. |
|                          |                              | | View all or part of the following videoclip: [http://www.c-span.org/video/?c2704011/clip-meeting-needs-older-americans-disasters](http://www.c-span.org/video/?c2704011/clip-meeting-needs-older-americans-disasters) |
|                          |                              | | Read |
### II. Health promotion

#### a. Addressing clinical concerns

- Identify common mental health outcomes of a disaster.
- List clinical considerations for the health care of older adults with dementia during a disaster.

#### b. Dementia clients

- List essential factors that healthcare professionals should address in developing culturally responsive strategies to benefit the complex needs of diverse seniors.

<table>
<thead>
<tr>
<th>15 minutes</th>
<th>Review the 8 core actions from the psychological first aid field guide: <a href="http://akecdnra.78beta.com/files/FDD_Module_3_-_Emergency_Response_-_P01/player.html">http://akecdnra.78beta.com/files/FDD_Module_3_-_Emergency_Response_-_P01/player.html</a></th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Read “Coping with traumatic events”: <a href="http://emergency.cdc.gov/masscasualties/copingpro.asp">http://emergency.cdc.gov/masscasualties/copingpro.asp</a></td>
</tr>
<tr>
<td></td>
<td>Review “Presentation Outline Number Three - Clinical Considerations” at the end of the lesson.</td>
</tr>
<tr>
<td></td>
<td>Review “Presentation Outline Number Four- Dementia” at the end of the lesson.</td>
</tr>
<tr>
<td></td>
<td>View one of the following videoclips specific to dementia: <a href="http://www.youtube.com/watch?v=6Zfv5UkuQFM">http://www.youtube.com/watch?v=6Zfv5UkuQFM</a> or <a href="http://www.youtube.com/watch?v=iJ3Av3ln6ww">http://www.youtube.com/watch?v=iJ3Av3ln6ww</a></td>
</tr>
</tbody>
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http://ncdmph.usuhs.edu

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[Review “Presentation Outline Two - Seniors’ Psychological Distress” at the end of the lesson.](http://ncdmph.usuhs.edu)
### III. Medications

- **Polypharmacy**
- **Access to accurate medication list**
- **Medications that need refrigeration**

#### a. Polypharmacy

- Describe factors (considerations) that will influence the use of medications by older adults.

5 minutes

- Review “Presentation Outline Number Five - Medications” at the end of the lesson.

- Review the resources identified for diabetic adults at the Outreach Activities and Resources page of the US Department of Health and Human Services:

### IV. Specific aids for daily living

- **Sensory**
- **Dietary needs**
- **Oxygen**
- **Mobility aids**

#### a. Sensory

5 minutes

- Select at least 2 of the subpopulations of older adults identified at the Outreach Activities and Resources page of the US Department of Health and Human Services (disabled, visually impaired, deaf/hard of hearing) and review available resources:

- Review “Presentation Outline Six - Special Aids for Daily Living” at the end of the lesson.


### V. Culturally competent

- **List essential factors that**

5 minutes

- Select at least one of the cultural groups identified at the Outreach Activities and Resources page of the US Department of Health and Human Services:

http://ncdmph.usuhs.edu
Review the document *Preventing and Addressing Abuse and Neglect of Older Adults: Person-Centered, Collaborative, System-Wide Approaches:* [http://rnao.ca/sites/rnao-ca/files/Preventing_Abuse_and_Neglect_of_Older_Adults.pdf](http://rnao.ca/sites/rnao-ca/files/Preventing_Abuse_and_Neglect_of_Older_Adults.pdf) |
| VII. Palliative care and end of life issues | • Identify strategies that will facilitate palliative and end of life care for older adults. | 10 minutes | Review the document *End-of-Life Care During the Last Days and Hours:* [http://rnao.ca/sites/rnao-ca/files/End-of-Life_Care_During_the_Last_Days_and_Hours_0.pdf](http://rnao.ca/sites/rnao-ca/files/End-of-Life_Care_During_the_Last_Days_and_Hours_0.pdf)  
| VIII. Clinical knowledge | | 3 minutes | Identify 3 to 4 clinical considerations important for documentation. |
Suggested Learning Activities for Use in and Beyond the Classroom

1. In groups of 4 to 6, compare and contrast 3 websites specific to disaster management. Consider the following factors: whether the needs of vulnerable or frail older adults are addressed (e.g., those with mobility challenges or are isolated), how communication between older adults and those important to them is addressed, and whether health care professionals can obtain knowledge specific to their own scope of practice. As a group, answer the following question: How will we assess and intervene in the clinical context of care?

2. Interview an older adult who is living alone with a physical or mental health disability and explore his or her perceptions of what he or she might do in a disaster situation (e.g., local river flooded, electrical fire at a substation disenables all electricity for a 10-block radius). Compare your findings with those of a classmate.

3. Select a population of older adults within your community and determine what special clinical needs they might have during a disaster (e.g., vision challenges, mobility limitations, and medication access). What community resources are in place to help this group? What gaps do you identify? What is your clinical role and responsibilities?

Readings and Resources for the Learner

- **Required Resources**

http://ncdmph.usuhs.edu

- Supplemental Resources

Learner Assessment Strategies
1. Jackie uses the following resources to facilitate the implementation of best practice guidelines when working with older adults in disaster situations. Check all the associations that have developed best practice guidelines.

   - American Red Cross
   - FEMA
   - US Department of Homeland Security
   - World Association for Disaster Management

http://ncdmph.usuhs.edu
2. When encountering an older adult in psychological distress, what are the first clinical actions of the professional? Fill in:

- 
- 
- 
- 

(Answer: the professional should first assess for personal safety/risk of harm to self and others. The priority is then to link the older adult to mental health services immediately.)

3. Completion of case study and questions

Focus: Seniors’ health

In the period immediately following a disaster, it is common for individuals of any age to experience physical and psychological health concerns manifested as anxiety, sadness, grief, depression, insomnia, loss of appetite, or blood pressure changes. You have 3 older adults: (1) Mrs. W. is 82 and lives alone in a senior’s apartment. She uses a walker and has a history of hypertension. She is struggling to breathe. (2) Mr. B. is 67 and lives with his wife in their own home. He has a history of cardiac dysrhythmia and is stable on medication. He is complaining of chest pain. (3) Miss S. is 76 and resides in a care facility; she has a history of 3 strokes and is on medication.

Respond to the following questions:

Discuss how you would prioritize your clinical work with these clients.
What are the key clinical practices associated with maintaining and promoting the health and well-being of older adults in disasters?

(Eliminate risks to physical safety, assessment of health status, recognition of presenting trauma, documentation)

Are there existing best practice guidelines and tools within your own clinical discipline that may address the health of older adults in disaster situations?

Readings and Resources for the Educators

- **Required Resources**

- **Supplemental Resources**
  - Fitzgerald K, Maxwell N. *Literature Review: The Roles and Responsibilities of Health Practitioners of Older Adults in Emergency Management.*
Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 4: Caring for older adult populations during the disaster cycle
Lesson 4-4: Clinical considerations


Sources Cited in Preparing Outline and Activities Above


<table>
<thead>
<tr>
<th>Table Pre-1</th>
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<tbody>
<tr>
<td>Discipline</td>
</tr>
<tr>
<td>Health Profession</td>
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<tr>
<td>---------------------------</td>
</tr>
</tbody>
</table>

ANA. *Issues brief: Who will be there? Ethics, the law and a nurse’s duty to respond in disaster.* 2010.
Presentation Outline One - Acute Illness

- Acute illness
  - Clinical concerns
- Acute illness: Defining characteristics
  - Starts suddenly
  - Usually short duration
  - Usually limited to one body system
  - Responds to treatment
- Examples of acute illness
  - Coughs and colds
  - Kidney stone
  - Fractures
- Clinical considerations include:
  - Presence of pain
    - Pain maybe a heralding feature associated with the onset of acute illness in younger adults,
    - However, the same can NOT be said of pain presentation with acute illness in older adults
  - Presence of delirium
  - Importance of documentation
- Diagnosis is contingent upon:
  1. Knowledge as to its prevalence among older adults
  2. A problem-focused history
  3. A focused physical examination
  4. Heightened awareness of the possibility for an older adult
- Atypical presentation
  - A non-specific symptoms occurring outside of the normal rubric of traditional signs and symptoms, which may signify an impending acute illness in an older adult.
  - Non-specific signs and symptoms may include:
    - Apathy
    - Confusion
    - Dyspnea
    - Falls
    - Fatigue or excessive sleepiness
    - Incontinence
    - Poor appetite
    - Unexplained change in behavior
- Older adults who are at greater risk for atypical presentations:
Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 4: Caring for older adult populations during the disaster cycle
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Presentation Outline Two - Seniors’ Psychological Distress

- Seniors’ psychological distress: Assessment, Diagnosis, and Treatment / Intervention
  Clinical Considerations
- Consider
  - In mental health terms, a CRISIS refers not to a traumatic disaster event or experience, but to how an older individual responds to the situation.
- Role of health care professionals
  - Older adults may be reluctant to seek or accept help.
  - Some older adults may turn to their faith based communities, to their family and friends, to their family physician, or other health care provider.
  - Can support development of disaster plans specific to needs of older adults within their own workplace.
  - Can work as part of the inter-professional response team.
- Two approaches
  - Traditional counseling
    - Older adult may self-identify as distressed, anxious, court ordered
    - Office based
    - Diagnosis & treatment
    - Goal is to enhance functioning
    - Psychotherapeutic focus
    - Duration may be long term
  - Crisis counseling
    - Self-identify as having disaster related distress
    - Home & community based
    - Examines strengths & coping skills
    - Seeks to restore pre-disaster functioning
    - Duration usually short term
- Crisis counseling strategies
  - Provide information about common physical and psychological reactions to a disaster
  - Provide information about stress and coping
  - Help restore the older adult’s sense of control
  - Encourage use of social support system(s)
- Traumatic stress

- Over 85 years of age
- Have multiple comorbidities; the "frail"
- Are on multiple medications
- Have cognitive or functional impairment
Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 4: Caring for older adult populations during the disaster cycle
Lesson 4-4: Clinical considerations

- “refers to the emotional, cognitive, behavioral and psychological experiences of individuals who are exposed to, or who witness events that overwhelm their coping and problem solving skills”
  - Source: Lerner & Shelton, 2001

- Trauma
  - Characteristics of the trauma
    - Intensity or severity
    - Duration
    - Predictability
    - Proximity to trauma
  - Characteristics of the older adult
    - Prior exposure to a traumatic stress
    - Family history
    - History of mental illness
    - Socially isolated
    - Language and cultural barriers
    - Frail and vulnerable
  - Post-event factors
    - Availability and quality of support systems
    - Time to rebuild home and community - return to “normal”

- Common mental health problems after a disaster
  - Adjustment disorder
  - Anxiety
  - Depression
  - Grief reactions
  - PTSD

- Barriers to use of services
  - Those who do not self-identify as having a mental health problem
  - Symptom misattribution
  - Preference for location of service
  - No treatment or service options available

- Assessment
  - Older adult
    - Identify older adult’s proximity to disaster
    - Identify presence of risk factors
    - Learn about the recovery process:
      - Was aid available?
      - Did relocation occur?
      - Was there initial support available?
• Vulnerability
  o Contributory factors
    • Limitations due to disability
    • Cognitive impairment
    • Chronic health conditions
    • Poverty
    • Difficulties evacuating
    • Language
    • Cultural barriers
    • Lower reading level
    • Isolation from information about disaster and related services

Presentation Outline Three - Clinical Considerations: Disaster Triage
• Clinical Considerations: Disaster Triage
• Information to consider / ask
  o Name, Age, Gender
  o Chief complaint
  o History of presenting complaint
  o Mechanism of injury (if present)
  o Past medical / health history
  o Current medications
  o Allergies to medications
  o What other information would be useful for you to obtain?
• Basic steps
  o Airway, Breathing, Circulation
  o Skin vitals (color, moisture, temperature)
  o Pulse
  o Respiration
  o Visual inspection e.g. lacerations, bruising
  o Level of consciousness
  o Note that these steps are regulated by one’s professional practice standards
• Reflective questions
  o What are the priorities in a triage experience?
  o What ethical dilemmas might you experience as a health care professional posed by disaster triage?

Presentation Outline Four - Dementia and Disasters
• Dementia and Disasters
• Considerations
Those assisting someone with dementia remain calm themselves. The older adult with dementia will respond to the emotional tone set by those around them.

Identify if health care providers have agency / professional practice guidelines for disaster situations.

Older adults with dementia are especially vulnerable to chaos and emotional trauma.

They have a limited ability to understand what is happening and they may forget what they have been told about a specific disaster.

First responders should be informed about community members with dementia as they may get confused and not understand what is happening.

The older adult with dementia should not be left alone. It only takes a few minutes to wander away and get lost, creating an even higher risk situation. Changes in routine, traveling, and new environments can cause an increase in behavioral symptoms, including wandering, agitation, delusions, and sleep disturbance.

Adapt communication strategies to respond to behavior and needs of the older adult with dementia.


**Accommodation challenges**

- Identify possible accommodation options if the older adult with dementia requires continuous care.

**Is there an emergency shelter nearby, does it support dementia adults?**
- Would the number of people using the shelter contribute to increased stress in the older adult?

**Presentation Outline Five - Medications**

- **Medications**
  - Older adults, drugs, and Disaster Considerations

- **Older adult**
  - May not be able to see or read medication instructions
  - High anxiety may contribute to memory problems (e.g. not remembering name of medication or when to take it)
  - Some medications (e.g. insulin) will require nutritional intake
  - Inability to access medications may contribute to declines in health

- **Effectiveness of Medications**
  - Effectiveness of medication may be destroyed by high temperatures
  - Medication may be contaminated if exposed to contaminated water
  - Effectiveness of some medications may be impaired if not refrigerated (e.g. heparin, insulin, somatropin); lack of electrical power

- **Considerations**
If a contaminated product is considered medically necessary and would be difficult to replace quickly; contact for example, Red Cross, poison control, health departments, etc. for guidance.

For medications that have to be made into a liquid using water (reconstituted), the drug should only be reconstituted with purified or bottled water.

A seven day supply of medications is recommended.

A list of all medications that an older adult is on should be carried in the wallet/purse.

Presentation Outline Six - Special Aids for Daily Living

- Specific Aids for Daily Living
  - Implications for clinical practice
- Sensory status
  - If:
    - If hearing is impaired
    - If sight is impaired
    - If speaking is impaired
    - If smell is impaired
    - Clinical practice implications:
      - Unable to hear instructions
      - Unable to see possible dangers
      - Unable to ask for help
      - Unable to recognize some disaster(s)
- Dietary needs
  - Is the older adult on a special dietary? Why?
    - For e.g.
      - Diabetes mellitus sugar restrictions?
      - Kidney failure are there fluid restrictions?
      - Hypertension is salt restricted (table salt)
  - Are there known allergies?
  - Are medications to be taken with meals?
  - Is help required to eat?
- Oxygen
  - Can the older adult breathe on his or her own?
  - Is supplemental oxygen needed? What is the prescribed rate? Is there a spare tank? How long does a tank last for?
What are the implications if others smoke within the vicinity of the older adult who requires supplemental oxygen?

- Mobility aids
  - A correlation exists between the ability to perform everyday activities and maximal physical capacity.
  - In general, the reduction in maximal physical capacity increases with age - and even more for inactive older adults.

- Falls
  - Most falls occur out of doors
    - Women are more likely to report indoor falls
  - A drop in blood pressure can trigger a fall when going from lying to sitting to standing quickly

- Clinical considerations
  - Assess
    - Gait and walking ability of older adult
    - Use of mobility aids e.g. walker, cane
    - Vision of older adult, (e.g. glasses)
    - Environmental hazards
Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 4: Caring for older adult populations during the disaster cycle
Lesson 4-5: Psychosocial

LESSON 4-5
PSYCHOSOCIAL
Lesson: Psychosocial

Author: Lisa M. Brown, PhD, ABPP
Professor
Pacific Graduate School of Psychology
Palo Alto University
Palo Alto, California

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

Competencies
This lesson supports learning related to the following competencies, with regard to psychosocial considerations for caring for geriatric populations during the disaster cycle:


Core Competency 7.0 “Demonstrate knowledge of principles and practices for the clinical management of all ages and populations affected by disasters and public health emergencies, in accordance with professional scope of practice.”
Subcompetency 7.1 “Discuss common physical and mental health consequences for all ages and populations affected by a disaster or public health emergency.”

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

4-5.1 Describe mental health issues and psychosocial problems common in older adults during disasters.

4-5.2 Provide an overview of evidence-supported interventions that can be used to support older adults during a disaster.

Estimated Time to Complete This Lesson
- 120 minutes for basic overview of mental health issues during the recovery phase.
- People who want to learn how to deliver interventions after disasters to affected populations should complete
  - Psychological First Aid training (6 hours)
    - Course can be accessed at http://learn.nctsn.org/course/index.php?categoryid=11
I. Age in and of itself does not make a person vulnerable.
a. Some older adults may be a valuable resource during disasters. They can
   i. Serve as volunteers in assisting responders and affected populations
   ii. Offer knowledge and perspective of past disasters that inform current
ten disaster-related activities
b. A constellation of factors makes it more or less difficult for older people
   before, during, and after disasters. These include
   i. Impaired cognition, mobility, or senses
   ii. Decreased social network or unavailable social support
   iii. Limited finances
   iv. Low literacy
   v. Mental or medical problems, acute or chronic
c. The ability of people to adjust and cope after a trauma is mitigated by their
   capacity to access tangible support and assistance.
   i. Older adults may have difficulty determining who to call for assistance
   and may be unsure about which organizations are available to provide
   help.
   ii. Older adults may be unclear about what crisis counseling and therapy
   can and cannot do to help them recover from disasters.
d. Older adults at increased risk for adverse consequences include the following
   groups:
   i. Those who are socially isolated
   ii. Those who are frail
   iii. Those with chronic illness
   iv. Those who are cognitively impaired
   v. Those with a history of exposure to an extreme traumatic stressor
e. Severity of trauma (i.e., the dose and duration of the traumatic stressor) is one
   of the best predictors for
   i. Likelihood of developing post-traumatic stress disorder (PTSD)
   ii. Severity of PTSD
   iii. Chronicity of PTSD
f. A one-size-fits-all approach with older adults does not work for preparedness or
   recovery.
g. Disaster needs of older adults should be based on where they live, because

http://ncdmph.usuhs.edu
level of support will vary depending on setting and resources.

i. Community dwelling
1. Senior communities, planned or naturally occurring
2. Aging in place; may be surrounded by younger families in their community
3. Homebound older adults

ii. Special considerations with community-dwelling older adults
1. Many older adults, especially those aged 85 and older, have chronic physical illnesses or disabilities that affect their ability to prepare and recover from a disaster.
2. Many older adults may be a caregiver to a spouse who has a chronic physical illness or disability, which affects their ability to prepare and recover from a disaster.
3. Community-dwelling older adults are less likely to complain, ask for support, and receive services or resources after a disaster.
4. Older adults not affiliated with a community organization before the disaster are at risk for not receiving services.
5. Older adults may be worried about who is trustworthy; those who will provide information need to be identified before a disaster.
6. Many older adults may be concerned if the “help” provided will really be helpful.
7. Homebound older adults may not possess the knowledge or information needed to make informed decisions and take adequate steps to prepare for disasters.
8. Homebound older adults may not have the ability to access public or private transportation to purchase supplies or pre-enroll in special needs shelters.
9. Formal and informal caregivers may need to provide assistance
10. Impaired physical mobility, confinement to a bed or wheelchair, and vision or hearing problems further compound disaster-related stress.
11. Outreach programs need to locate older adults who may not possess sufficient knowledge to access services or the physical ability to leave their homes and stand in line for assistance.
12. Probability of home health aid service interruption is high; the home health aide may be dealing with personal or family issues after a disaster and may not be able to work.
13. Homebound older adults with medical or mental health needs may require care in an assisted-living facility or nursing home during all phases of a disaster.

iii. Institutionalized or facility-dwelling older adults include those who live in
1. Nursing homes
2. Assisted-living or residential care facilities (ALFs)
3. Continuing care retirement communities
iv. Special considerations with institutionalized or facility-dwelling older adults
   1. Nursing home residents may fare best during disasters if staff has taken part in planning and drills.
   2. Nursing home residents are provided with continuity of care whereas ALF residents may not have the same level of coverage and support.
   3. Level of disaster support to be provided is detailed in the ALF contract residents sign when moving to the facility and prior to a disaster.
   4. Institutions that are closed for an extended period of time force residents to receive shelter and care outside their community.
   5. Nursing home staff have relationships with their residents, which are not the same as those of hospital nurses with short-stay patients; the resident’s social network is disrupted.
   6. Emergency relocation of persons with significant cognitive impairment presents a unique set of challenges and can result in increased morbidity and mortality.

II. Psychological reactions to disaster
   a. Normal psychological responses in the immediate aftermath of a disaster include the following:
      i. Shock
      ii. Fear
      iii. Denial
      iv. Numbness
      v. Anger
      vi. Sadness
      vii. Shame
      viii. Despair
      ix. Hopelessness
      x. Flashbacks
      xi. Grief
      xii. Relief to have survived the event that may be accompanied by feelings of elation

xiii. The above psychological responses (i to xii) are subsyndromal presentations and:
      1. Do not meet DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, 5th edition) diagnostic criteria
      2. Are common
      3. Interfere with functioning and may be quite distressing
      4. Should be treated and not ignored
b. Anxiety is different from fear. Fear is a response to danger. People may feel anxious without an actual threat. Sometimes people feel both anxious and excessively or unduly worried. Symptoms of anxiety include the following:

i. Fatigue
ii. Disturbed sleep
iii. Jumpiness, jitteriness, trembling
iv. Muscle aches, tension
v. Dizziness, lightheadedness
vi. Gastrointestinal upset
vii. Dry mouth, sensation of a lump in the throat, choking sensation
viii. Clammy hands, sweating
ix. Racing heartbeat, chest discomfort
x. Shortness of breath or the feeling of being smothered

c. Depression - People can be anxious and depressed at the same time. Sadness does not always equal depression, and depression is not always marked by sadness. Symptoms of depression include the following:

i. Sleep changes, difficulty falling or staying asleep, sleeping more than usual
ii. Change in activity level, such as being tired, less energetic, nervous, or not able to sit still
iii. Appetite changes, e.g., lost appetite, food no longer tastes good, increased appetite and weight gain
iv. Sad feelings most of the day nearly every day, feelings of hopelessness or worthlessness
v. Troubled thoughts, e.g., difficulty making decisions, thinking about death or suicide, problems with concentration or attention
vi. Personality changes, e.g., irritable, lack of motivation, quick to lose temper, loss of pleasure in enjoyable activities
vii. Survivor guilt
viii. Suicidal ideation or behaviors

d. Acute stress disorder is characterized by the development of severe anxiety, dissociative, and other symptoms that occurs within 1 month as a response to a traumatic stressor. Symptoms include the following:

i. Numbing, detachment, or absence of emotional responsiveness
ii. Being in a daze (i.e., reduction in awareness)
iii. Derealization
iv. Depersonalization
v. Inability to recall an important aspect of the trauma (i.e., dissociative amnesia)
vi. Recurring images, thoughts, nightmares, illusions, or flashbacks of the traumatic event
vii. Reliving the traumatic event
viii. Becoming distressed at reminders of the traumatic event
ix. Avoiding stimuli (i.e., people, places) that lead to remembering or re-experiencing the traumatic event
x. Trouble sleeping
xi. Irritability
xii. Difficulty concentrating
xiii. Inability to sit still or to stop moving
xiv. Constantly tense or on guard
xv. Startled too easily or at inappropriate times

e. PTSD - The DSM-5 diagnostic criteria includes a history of exposure to a traumatic event that meets specific stipulations (i.e., direct exposure, witnessing, indirectly, repeated) and persistence of symptoms for more than one month from each of four symptom clusters: intrusion, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity. Symptoms include:

i. Intrusion symptoms
   1. Recurrent, involuntary, and intrusive memories.
   2. Traumatic nightmares.
   3. Dissociative reactions (e.g., flashbacks) that may occur on a continuum from brief episodes to complete loss of consciousness.
   4. Intense or prolonged distress after exposure to traumatic reminders.
   5. Marked physiologic reactivity after exposure to trauma-related stimuli.

ii. Avoidance
   6. Trauma-related thoughts or feelings.
   7. Trauma-related external reminders (e.g., people, places, conversations, activities, objects, or situations).

iii. Negative alterations in cognition and mood
   8. Inability to recall key features of the traumatic event.
   9. Persistent negative beliefs and expectations about oneself or the world.
   10. Persistent distorted blame of self or others for causing the traumatic event or for resulting consequences.
   11. Persistent negative trauma-related emotions.
12. Markedly diminished interest in (pre-traumatic) significant activities.
13. Feeling alienated from others (e.g., detachment or estrangement).
14. Constricted affect: persistent inability to experience positive emotions.

iv. Alterations in Arousal and Reactivity
15. Irritable or aggressive behavior
16. Self-destructive or reckless behavior
17. Hypervigilance
18. Exaggerated startle response
19. Problems in concentration
20. Sleep disturbance

f. Complicated Bereavement - feelings worsen over time and last longer than 6 months after the death
   i. Intense sorrow and pain at the thought of a loved one; focus on little else but the loved one's death
   ii. Extreme focus on reminders of the loved one or excessive avoidance of reminders
   iii. Intense and persistent longing or pining for the deceased
   iv. Problems accepting the death
   v. Numbness or detachment
   vi. Bitterness about the loss
   vii. Feeling that life holds no meaning or purpose
   viii. Irritability or agitation
   ix. Lack of trust in others
   x. Inability to enjoy life or think back on positive experiences with the loved one

III. Post-disaster assessment
   a. Assessment is conducted not to generate a clinical diagnosis but to address the needs of 3, functionally discrete subgroups of disaster survivors:
      i. Those who are well-functioning and not in need of immediate assistance
      ii. Those who are acutely distressed and exhibiting a temporary reduction in functionality
      iii. Those who are or who will become dysfunctional and not able to execute basic activities of daily living
   b. The first and third groups are distinguished by a history of behavioral health issues, current level of impairment following the disaster, and lack of available
social support. Those who have any of these risk factors are referred for a follow-up evaluation with a behavioral health specialist.

c. Stepped care model of treatment
   i. Moving from intervention (i.e., psychological first aid) to formal treatment (e.g., cognitive behavioral therapy), there is an escalation in the intensity of care for those who need assistance with recovery.
   ii. A stepped care framework matches presenting needs with the least intensive therapy that is still expected to provide significant and beneficial outcomes and is adjusted or increased in steps according to lack of effect or failure of lower-intensity therapies.
   iii. Trauma exposure is a risk factor for a wide range of psychiatric disorders.

d. Special considerations when assessing older adults
   i. Use of a cognitive screen is recommended when assessing an elderly person who appears confused or too quiet.
   ii. Screen for cognitive impairment such as dementia or delirium.
   iii. Assessment of trauma and related symptoms should be routine.
   iv. Older adults may fail to report or may minimize traumatic experiences.
   v. Older adults may want to focus on physical rather than emotional symptoms.
   vi. Suicide assessment is particularly important because older males are at greater risk for death by suicide.

e. Special considerations when providing psychological intervention or treatment to older adults
   i. Allow for extra time to listen to concerns.
   ii. Maintain eye contact with the older adults and be at eye level.
   iii. Normalize reactions and responses.
   iv. Do not appear to doubt or disbelieve the person’s account of what happened.
   v. Do not inquire about details of the traumatic episode at this time.
   vi. Do not ask questions or make statements that suggest that you hold the person responsible for this incident such as, “What were you doing in a place like that?”
   vii. Older adults may fail to report or minimize traumatic experiences.
   viii. Older adults may focus on physical rather than emotional symptoms.
   ix. Older adults may be less familiar with therapy, and more time may be needed to educate them and develop a treatment plan.
   x. Older adults have many life examples and experiences to draw on during therapy.
   xi. Use their language.
xii. Periodically inquire about their satisfaction with the therapy process and rate of progress.

xiii. Consider offering therapy at a slower pace.

xiv. Use personal examples and life review

xv. “Say it, show it, do it.”

xvi. Repeat and simplify complex ideas if it would be beneficial.

xvii. Consider having older adults use a notebook to organize their thoughts and as a reminder of therapy.

xviii. Consider scheduling shorter, more frequent, and best-time-of-day sessions.

xix. For older adults with sensory impairment, consider using assistive devices for hearing or visual impairments.

xx. Confirm that the older adult can read and/or write.

xxi. Consider using materials with large print.

xxii. Record sessions if it would be beneficial.

xxiii. For older adults with physical impairments, consider offering shorter sessions for fatigue or pain.

xxiv. Attend to environmental barriers (e.g., wheelchair navigation, rug, low chair).

xxv. Offer flexibility in the meeting place.

xxvi. Use older adults’ strengths.

xxvii. If beneficial use life review to point out strengths and accomplishments

xxviii. Restructure “mistakes” as learning opportunities and situations in which the older adults did the best they could.

f. Psychological first aid

i. After disasters, psychological first aid is the early intervention of choice for the American Red Cross, the Medical Reserve Corps, and state departments of health.

ii. *Early intervention* has been defined as “...any form of psychological intervention delivered within the first four weeks following mass violence or disasters” (National Institute of Mental Health, 2002).

iii. Psychological first aid is typically an undocumented, short-term intervention that is administered in response to a disaster near the location where it occurred.

iv. If evidence exists of continuing flashbacks, dissociation, or derealization experiences, then the survivor is likely to require more intensive psychological care by a behavioral health specialist (Marmar, Wiss, & Metzler, 1997).
v. If disaster-related distress persists in the days and weeks after a disaster, crisis counseling is indicated.

vi. Make a referral if the survivor has
   1. A problem that is beyond your capability or level of training
   2. Difficulty maintaining contact or communicating (e.g., does not appear to be oriented to time, place, person, or situation)
   3. An acute or chronic medical or mental health problem or condition that needs immediate attention
   4. A medication need
   5. Difficulty performing daily functions or needs assistance with activities of daily living
   6. Desire for additional counseling (e.g., some older adults may want to speak with a religious figure or counselor)
   7. Suspected or discovered elder abuse, neglect, or criminal activity
   8. Threatens to harm himself or herself, you, or others or there is a concern for the safety of the survivor, others, or yourself

g. Crisis counseling
   i. In the weeks and months after an event, those who require or desire more assistance with psychological recovery are offered crisis counseling.
   ii. A small but significant number of people receive formal psychotherapy after mass casualty events.
   iii. Crisis counseling programs are managed by a designated state agency (i.e., department of health or child and family welfare) and are delivered at a variety of nontraditional sites (i.e., schools, homes, mental health clinics, community centers) located in the affected community.
   iv. Crisis counseling services are delivered by laypeople who have attended a training workshop.
   v. The goal of crisis counseling is to help survivors cultivate adaptive coping skills and recover to their pre-disaster state of functioning.
   vi. Crisis counselors do not make diagnoses and no records of the sessions are kept.
   vii. Crisis counselors meet survivors where they are in the recovery process and tailor their treatment accordingly.
   viii. People who need more intense treatment are referred to licensed clinicians who can deliver formal behavioral health care.
   ix. Make a referral if the survivor has
      9. Ongoing difficulties with coping
10. Severe stress reactions that are not lessening in intensity
11. A worsening of a preexisting medical, emotional, or behavioral health problem
12. Requested traditional psychotherapy or more intense services

h. Traditional psychotherapy with an evidence base
   i. Cognitive-behavioral therapy approaches
      13. Behavior therapy
      15. Rational-emotive therapy
      16. Problem-solving therapy
      17. Dialectical-behavior therapy
      18. Acceptance and commitment therapy
      19. Mindfulness-based cognitive therapy
   ii. Acceptance and commitment therapy
   iii. Prolonged exposure therapy
   iv. Cognitive processing therapy
   v. Eye movement desensitization and reprocessing

i. Treatment considerations with older adults
   i. Older persons with mental health problems are responsive to psychotherapies, group therapies, counseling, and psychotropic medications when necessary.
   ii. Education to decrease misattribution of somatic symptoms and increase acceptance of mental health treatment should be provided.
   iii. Avoid negative inquiries and labels.
   iv. Echo the older adult’s words or concerns.
   v. Normalize, but don’t minimize.
      20. “Because most people have had difficult experiences at some point during their life, I routinely ask about past events.”
      21. “You are not alone.”
   vi. Validate, validate, and validate.
      22. “Many people have had these experiences and are deeply affected by them. They often feel angry, embarrassed, and fearful for some time afterwards. It is an understandable reaction to a very frightening experience.”
      23. “That must have been very frightening.”
   vii. It is appropriate to express care and concern.
      1. “I am sorry that this has happened to you.”
      ii. Trauma survivors frequently decline referrals; this may be especially true of older adults.
      iii. Most people who have been traumatized just want to forget about it, hoping it will go away without intervention or treatment.
      iv. Older adults may not realize the connection between trauma and
PTSD.

v. Older adults may not realize the toll trauma may have taken upon their emotional and physical health (e.g., depression, PTSD, chronic pain syndromes).

IV. Coping
a. Provide information about stress reactions and coping to reduce distress and promote adaptive functioning.
   i. Provide basic information about stress reactions.
   ii. Review basic information on ways of coping.
   iii. Teach simple relaxation techniques.
   iv. Assist with anger management.
   v. Identify what the survivor has done in the past to cope.
   vi. Encourage adaptive coping behaviors and discourage maladaptive coping behaviors.
   vii. Help the survivor identify and consider different coping options.
   viii. Identify and acknowledge the survivor’s individual coping strengths.
   ix. Discuss the negative consequences of maladaptive coping behaviors.
   x. Facilitate a sense of personal control over coping and adjustment.

V. Social support
a. Assist with the transition from formal (i.e., Red Cross) to informal (i.e., friends and family) social support systems.
b. Help survivor develop a social network diagram to identify family, friends, and neighbors if needed.
c. Locate local community programs.

VI. Barriers to care include the following:
a. Substance abuse
b. Low socioeconomic status
c. Language and cultural barriers
d. Severe mental illness
e. Emotional pain
f. Self-blame
g. Shame
h. Problem recognition
   i. Symptom misattribution
   j. Readiness to change
   k. Belief that talking about it will make it worse
   l. Belief that providers can’t be trusted or past negative reporting experiences
   m. Some people may be reluctant to accept assistance from government agencies or find completion of the paperwork required to receive aid daunting.
   n. Some people may turn to religious leaders, family members, informal social networks, or their personal physician for relief from their distress.
Symptoms associated with PTSD, depression, and anxiety may motivate some older adults to ask for medication from their physician.

Case Vignette
Margaret is an 84-year-old grandmother. Her husband died several years before the tornado struck her small Midwest town. Her son and his family were forced to move from the town after their home was destroyed. As a result of the storm, 2 of her closest friends moved into an assisted-living facility in a neighboring town. It’s been a month since the tornado and Margaret feels sad and lonely most of the day. She stopped attending the senior group at her church and is becoming increasingly isolated. She no longer drives and is having her meals delivered by a local hot lunch program.

What are your main concerns with Margaret?

How will you proceed?

Margaret just informed you about the detail of the tornado.

How do you respond?

What do you do and say?

Consider the following issues:

- Elicit Margaret’s view of her problems.
- Allow time for discussion and questions.
- Respect Margaret’s choices and promote efficacy and self-control over her life.
- Work as equal partners to address Margaret’s problems.
- Recognize the importance of client activation from the beginning.
- Develop a treatment plan together with concrete goals, strategies, and a timeline.
- Provide education about the problem.
- If beneficial, explain the causes of symptoms.
- Explain what happens if symptoms go untreated.
- Assess the interaction of the problem with other illnesses.
- Provide written, video, and verbal education.
- Provide education about treatment.
  - Treatment options (medication/therapy, type of therapy)
  - Treatment rationale (why it works)
  - Treatment strategies (how it works)
  - Treatment timeline (how long, how often, when start to improve?)
- Foster a strength-based approach (as opposed to deficit-oriented) focusing on skills building and future-oriented goals.
- Establish rapport and trust (e.g., provide emotional safety).
• Remember the goal is not for Margaret to disclose any or all details but rather to feel safe, develop trust, and ultimately become more functional.
• Be aware that rural communities may have a smaller pool of local talent and fewer resources to support incoming temporary crisis counseling programs.
• Help to restore Margaret’s sense of control.
• Encourage networking and reestablishing contact with informal and formal support, providers, and clergy.

Suggested Learner Activities for Use in and Beyond the Classroom
1. Invite learners to work as partners or in a small group to review a case study (using the resources provided at the end of this lesson or using a case study the educator/trainer is already familiar with). Ask them to identify key issues and concerns, generate potential solutions, describe facilitators and barriers to services, and develop a treatment/action plan to facilitate recovery. Groups should report back to the full class for further discussion.

2. Invite learners to work as partners or in a small group to develop a peer-to-peer program using older adults to assist vulnerable older adults (i.e., homebound, mobility impaired) in accessing crisis counseling and behavioral health services after a disaster. Ask them to identify key issues/concerns, generate potential solutions, describe facilitators and barriers to services, and develop a plan to facilitate recovery. Groups should report back to the full class for further discussion.

3. Ask learners to independently complete the Social Network List and develop a Social Network Map (see Skills for Psychological Recovery Field Guide for forms and instructions). Using the completed list and map, ask learners to identify strengths and weaknesses within their social network, consider what they might do to address any weaknesses and to exploit their strengths, and to share their impression of the social network exercise. Ask learners to consider the value of using this exercise with an older adult, to identify potential issues that might result during the process, and to develop approaches to address those concerns.

4. Ask learners to identify all the mental health services that are available for mental health care and substance abuse within a 20-mile radius from their home. Learners can use a telephone book or the Internet to locate available local services. Next, ask learners to determine if public transportation is available from their home to 2 different types of mental health service providers that are located in 2 different areas of their community. Have the learner note how long it would take them to walk from their home to the bus or train, the frequency of public transportation, the cost of transportation, and the estimated time from home to the mental health service...
provider. Identify the challenges and develop a brief plan for enhancing access and providing disaster mental health services (i.e., crisis counseling, psychotherapy) to distressed, older adult survivors after an event.

Readings and Resources for the Learner

- **Required Resources**

- **Supplemental Resources**

**Learner Assessment Strategies**

1. Learners work as partners or in a small group to review a case study and identify key issues and concerns (i.e., elder abuse, family crisis, depression, dementia), generate
potential solutions, describe facilitators and barriers to services and care, and develop a treatment/action plan to address areas of concern after a disaster.

Readings and Resources for the Educators

- Required Resources
  - National Center for PTSD
  - SAMHSA
  - Office of the Assistant Secretary for Preparedness and Response

- Supplemental Resources
  - None

Sources Cited in Preparing Outline and Activities Above


LESSON 4-6

DISASTER HUMAN SERVICES
Lesson: Disaster Human Services

Author: Ellen E. Seaton, MA, LMSW
Social Services Director
Community Services Department
Harris County, Texas

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

Competencies
This lesson supports learning related to the following competencies, with regard to disaster human services for caring for geriatric populations in disasters.


Competency 2.0 “Demonstrate knowledge of one’s expected role(s) in organizational and community response plans activated during a disaster or public health emergency.”

Subcompetency 2.1 “Explain one’s role within the incident management hierarchy and chain of command established within one’s organization/agency in a disaster or public health emergency.”

Competency 8.0 “Demonstrate knowledge of public health principles and practices for the management of all ages and populations affected by disasters and public health emergencies.”

Subcompetency 8.3 “Identify strategies to address functional and access needs to mitigate adverse health effects of disasters and public health emergencies.”

Competency 9.0 “Demonstrate knowledge of ethical principles to protect the health and safety of all ages, populations, and communities affected by a disaster or public health emergency.”

Subcompetency 9.1 “Discuss ethical issues likely to be encountered in disasters and public health emergencies.”

Subcompetency 9.2 “Describe ethical issues and challenges associated with crisis standards of care in a disaster or public health emergency.”

Subcompetency 9.3 “Describe ethical issues and challenges associated with allocation of scarce resources implemented in a disaster or public health emergency.”
Learning Objectives
At the end of this lesson, the learner will be able to:

4-6.1 List the key community partners for their organization and how they interact after a disaster or public health emergency.

4-6.2 Develop planning considerations for working with community partner organizations during and after a disaster or public health emergency.

4-6.3 Identify strategies in conjunction with community partner organizations for the continuation or replacement of services in the event some community organizations are not able to continue operations either during or after a disaster or public health emergency.

Estimated Time to Complete Lesson
60 minutes

Content Outline
Module 4: Caring for older adult populations during the disaster cycle: Preparedness, response, recovery, and mitigation
Lesson 4-6: Disaster human services

I. Integration of human service systems
   a. Older adults receive and depend on a wide variety of both social and medical services.
      i. A majority of older adults live independently in the community.¹
      ii. Many can live independently because of the array of services they can access.
   b. Disruptions of services (e.g., power, water, medical, caregiver) due to a disaster or public health emergency can result in serious, and sometimes fatal, consequences. The type of disaster can vary, but it is the disruptions in the lives of the older adults that seem to most influence outcomes.
      i. Example one: Hurricane Katrina, 2005
         1. Many older adults were evacuated to a mass shelter in Houston, Texas, where they had access to a medical complex and other services.² Yet, because of the older adults’ various chronic conditions and other factors, services were difficult to access. Back in New Orleans, 66% of all who died were over the age of 65 years and many others moved into nursing homes when they had previously been living in the community.³
      ii. Example two: West, Texas, Fertilizer Plant Explosion, 2013
         1. Residents at West Rest Haven Nursing Home had to be evacuated. During the next 2 months, residents died at double the rate that
would normally have been expected. Even though the explosion did not directly kill these residents, it certainly played a major role in these deaths.\(^4\)

c. Socioeconomic factors also contribute to how older adults are affected by disasters and public health emergencies.
   i. Older adults may be much more reluctant to evacuate from their homes when it may be necessary.\(^5\)
   ii. Older adults may be dependent on family, friends, and neighbors to assist them and advocate for them.
   iii. Older adults may not be able to prepare for a disaster by purchasing extra food, water, etc, because of low fixed incomes.
   iv. If the disaster causes a loss of electricity, the older adult on a low fixed income may have difficulty replacing food and medications that require refrigeration. This may put an older adult in the position of having to choose between replacing food or replacing medications.
   v. Even if supplies such as food and water are available free, older adults may not be able to transport the supplies from the point of distribution back to their home. Also, the supplies of food made available to the general public probably will not comply with any special dietary restrictions that are common with chronic health conditions like diabetes, heart disease, etc.
   vi. Older adults are more likely to have low literacy and may not fully understand preparedness and recovery instructions.

d. Consider the needs of the older adult clients that you and your organization work with on a daily basis to determine what community services might be necessary during or after either a disaster or public health emergency. Review the following list of potential services and feel free to add others.
   i. Medical services including, but not limited to, doctor appointments, clinic appointments, physical therapy, medically related home visits, etc. Medications can be obtained in various ways including pharmacies, mail delivery, clinics, etc. Many older adults with chronic illnesses are able to remain independent because they have routine visits for home healthcare services.
   ii. Special Needs Shelter services may be needed by clients who require electricity to run portable medical equipment, refrigeration of medication, or oxygen. Check requirement for securing Special Needs Shelter services and determine client eligibility prior to a disaster.
   iii. Food assistance. Clients may be able to shop for their own food needs, have meals delivered to their home, pick up food at local food banks, or attend congregate meal sites in their neighborhood. Some clients can
prepare their own meals whereas others may need assistance with meal preparation. Many older adults on fixed incomes receive assistance from the Supplemental Nutrition Assistance Program (SNAP) and may qualify for emergency SNAP benefits in an emergency. After a presidentially declared disaster, additional benefits, known as D-SNAP, may be available to vulnerable seniors. Older adults with chronic health conditions may have special diets. If a disaster causes widespread power outages or if streets become impassable, then an older adult may have difficulty securing the food necessary for them to remain healthy.

iv. Transportation services. Older adults may or may not have their own cars. If not, some will rely on public transportation. However, others may need transportation services available in the community to get to doctor visits, grocery stores, etc. Transportation also becomes a significant issue if evacuation is warranted. Buses designated for evacuation may not be able to transport oxygen tanks and may not have onboard toilets.

v. Homemaker services. Many older adults can remain independent because someone comes into their home routinely to assist with some housekeeping, light chores, maybe some grocery shopping, etc.

vi. Social supports. Older adults may rely heavily on friends and family for assistance and companionship. Places such as community centers and religious institutions may provide consistent social contacts that keep older adults from becoming isolated in their homes. This support system may significantly erode if formal caregivers, neighbors, and friends evacuate or relocate out of the area.

vii. Utility assistance. Because many older adults living on fixed incomes struggle to afford groceries, medications, rent, home upkeep, etc, financial assistance with utility payments can provide a very important resource. This type of financial assistance can come from various sources including, but not limited to, local social service agencies, local utility companies with customer assistance funds, and some faith-based agencies. The Low Income Home Energy Assistance Program (LIHEAP) is a federal program that provides funds to states to provide utility assistance and weatherization assistance. One way to find this resource for your area is to check with the National Council on Aging Benefits CheckUp. After a presidentially declared disaster, additional assistance may be available for eligible seniors.

e. Consider the various community agencies and organizations that provide these services to your older adult clients. Some organizations may not be open or
may have restricted services during or after a disaster or public health emergency.

i. If services are discontinued even for 1 or 2 days owing to a disaster or public health emergency, how long would it take before your clients find themselves in an emergency situation?

ii. Determine who in your organization communicates with community partners.

iii. In many communities, members of the aging networks will meet at least annually to discuss disaster preparation and response. An aging network consists of any local agencies or organizations that work with seniors and that come together for training, networking, problem solving, etc. Large communities may have more than one aging network with one focusing on a topic such as nursing home care and another focusing on a topic like home-based care. In smaller communities an aging network may include all local area senior services. If your organization is not already a part of these meetings, then how can your organization become more involved?

iv. Disasters and public health emergencies can be very traumatic. While advocating for and securing services to care for the physical needs of your clients, also consider their behavioral health needs. If your clients need either short-term or long-term counseling after an event, what resources are available in your community to provide this? Again, after a presidially declared disaster, additional resources may be available in your community. How can you find out about these resources? Depending on your local community, you may need to check with the local health department or with a local mental health authority.

d. Government agencies and departments your organization may interact with to receive assistance or guidance

i. On the federal level the Department of Homeland Security’s Federal Emergency Management Agency (FEMA) may deploy resources and personnel into an area to assist after a federal disaster declaration. Older adults may need help in accessing services from FEMA if they need help with temporary housing or home repairs. You may either provide assistance to older adults in securing this assistance or refer them to other local agencies that can provide some short-term disaster case management services.

ii. After a federally declared disaster, FEMA may provide funding to individual states for a Disaster Case Management Program. It is then up to each state to determine which local area agencies will administer the actual case management program. According to FEMA, disaster case
management involves “…assessment of the client’s verified disaster-caused unmet needs, development of a goal-oriented plan that outlines the steps necessary to achieve recovery, organization and coordination of information on available resources that match the disaster-caused unmet needs, the monitoring of progress toward reaching the recovery plan goals, and when necessary client advocacy.”

iii. Health and Human Services Department. Various agencies may become involved with state and local governments depending on the particular disaster. Funding and programs could originate from a variety of sources including, but not limited to, the Administration on Community Living, Center for Medicare and Medicaid Services, Office of the Assistant Secretary for Preparedness Response (ASPR), and the Administration for Children and Families (ACF).

iv. On a state level, there are departments that may manage programs that provide home health care services, protective services for adults, SNAP benefits, etc. All of these services could be impacted by a disaster or public health emergency. These programs may also see a surge of clients, because older adults may need at least some temporary assistance in an emergency.

v. Local government agencies include area agencies on aging and any city or county health and human service departments. These local departments can be good sources to find resources when normal pre-disaster resources have been disrupted.

vi. There are several nongovernmental agencies that may provide services during or after a disaster or public health emergency. These agencies include, but are not limited to, the American Red Cross, Salvation Army, and Voluntary Organizations Active in Disaster (VOAD). It will be helpful to meet with one or any of the agencies that may have local offices in your area to learn specifically what services they have that will assist older adults when the need arises.

II. Continuity of services
   a. The best way to ensure that your organization and the services you provide continue to operate as effectively as possible during or after a disaster or public health emergency is to prepare ahead of time.
      i. Your organization may already have a disaster plan in place. Review this at least annually and know where you and your clients fit into the process.
      ii. When considering disaster response plans for your organization, consider the following:
1. What essential functions will need to continue after the emergency?
2. How will your responsibilities change during a disaster or public health emergency?
3. Client caseloads and workloads may increase. Older adults may need additional services or a different level of services at least temporarily after a disaster.
4. Where will you work during or after a disaster or public health emergency?
   a. Does the building you work in have a generator?
   b. Can you work in your same location if there is a loss of electricity?
   c. Are there backup locations if necessary or can staff work from home?
   d. How will workload and caseloads change if there are staffing shortages due to a disaster or public health emergency? Staff may be affected by damaged homes, impassable streets, or illness (themselves or family), etc.

   iii. Your organization may already be involved in community planning around disaster response. If so, know how this affects you and your clients.

   iv. If you and your organization are already involved in community planning, then you may also be a part of the planning that is done in conjunction with local emergency managers and public health officials.

   v. Poor planning by local healthcare services and a resulting lack of coordination with community emergency managers is considered one of the biggest risks to the health and well-being of older adults during and after a disaster or public health emergency.\(^8\)

b. Communication is one of the best tools to use in preparing for, dealing with, and responding to disasters and public health emergencies. This involves communication between organizations and their clients, communication within organizations among all staff members, communication between community partner agencies, and communication with local emergency managers and local public health officials.

   i. Communication with older adult clients about disaster preparation must be done in a way that is both usable and makes sense.
      1. Information should be comprehensible to clients and be delivered by trusted sources.\(^9\)
      2. Many websites are available that provide much information about what is needed to prepare for disasters, but simply handing a list
of supplies to an older adult does not ensure that the supplies will be on hand when needed. Information from these websites can serve as a starting point for conversations with older adults about preparation.

3. Consider how you will communicate with older adult clients during or after a disaster or public health emergency. If your work location has to move or if services are suspended for any length of time, how will that be communicated? Will you have a system for checking in with your clients to see how they are doing?

4. How will your communication with older adults vary if they have either vision or hearing impairments?

   ii. How will your organization communicate with staff during or after a disaster or public health emergency? Also, how will you communicate with your organization?

      1. If your actual work location needs to change, how will you know this?
      2. How will an organization find out if all staff are okay in the event of a disaster? Is there a phone number for all staff to call in and report or is there some form of texting or social media that can be used for this?
      3. If you, or any staff member, cannot make it into work due to a disaster or public health emergency, how will you contact your organization?
      4. If your organization works in more than one location and phone lines are down, what plans are there for personnel in different locations to be able to communicate?
      5. Are all staff members encouraged to maintain individual or family disaster preparedness plans?

   iii. Plan before a disaster or public health emergency occurs how you will communicate with community partners.

      1. How will your organization communicate with community partners during or after a disaster or public health emergency? How will you know if they are open or if any services are temporarily restricted or suspended?

         a. Telephone
         b. Cell phones
         c. Text
         d. Skype
         e. Social media
         f. In person
g. Other forms of communication

2. The best time to become acquainted with your community partners and plan for any type of disaster is long before the disaster happens, not during the immediate aftermath.

3. As mentioned previously, organizations who form aging networks in your community may already meet to discuss disaster preparedness and response. If so, how can you get information on these meetings and participate? If not, how can you or your organization begin these discussions?

4. Find out who your community emergency management and public health officials are and communicate with them regarding disaster planning and response.
   a. Does your organization know what to expect from emergency management and public health officials during and after a disaster or public health emergency? Both groups can be a good source for referrals for services needed by older adults.
   b. Do your community emergency management and public health officials know what to expect from your organization during or after a disaster or public health emergency?
   c. The Centers for Disease Control and Prevention report that disaster preparedness planners now understand the importance of reaching out to older adults to learn what may be needed in the event of a disaster or public health emergency.10

iv. Tabletop exercises

1. In addition to attending or hosting meetings to discuss disaster preparedness and response, tabletop exercises are a good way to determine if current plans are adequate or if there are gaps in plans that need to be addressed.

2. FEMA defines *tabletop exercises* as “…discussion-based sessions where team members meet in an informal, classroom setting to discuss their roles during an emergency and their responses to a particular situation….Many tabletop exercises can be conducted in a few hours, so they are cost-effective tools to validate plans and capabilities.”11

3. These types of exercises can be conducted within an organization or they can be conducted with a wide array of community partners.
4. Local community emergency management and public health officials can be very helpful in both coordinating and conducting a tabletop exercise.

v. Whether you engage in meetings within your organization, discussions among community partners, or tabletop exercises, planning for disasters and public health emergencies needs to happen every year.
   1. Plans may change as organizations change.
   2. As people move and change jobs, new people need to be trained and informed on disaster plans and emergency response plans.

III. Needs caused by the disaster
   a. Ethical conundrum: What if there is a shortage of resources, providers, supplies, or medications following a disaster or public health emergency?
      i. Immediately after a disaster or emergency (the first 72 hours or so depending on the exact disaster), there may be obstacles to obtaining emergency supplies.
         1. How can you help older adults navigate systems to obtain needed supplies or help them with transportation to get to the supplies and back home?
         2. What if the shortage involves medicines or vaccines? How would this affect your older adult clients?
      ii. When medical resources become overburdened and scarce, health care providers may shift from individual patient care to caring for an entire population.12
      iii. The Institute of Medicine reports in Crisis Standards of Care regarding shortages of medical supplies12:
          1. Plans and protocols need to be based on an allocation based on fairness.
          2. Priority should stem from factors such as, vulnerability, protecting first responders, etc, and account for the most at risk.
          3. Policies should allow for equitable and just distribution of scarce resources.

Suggested Learner Activities for Use in and Beyond the Classroom
1. If all learners are from the same organization, then divide into groups of 5. If learners are from different organizations, have attendees divide up into groups of 3 to 5 with co-workers from their same organization. Have each group develop a list of organizations, local agencies, or community partners that they interact with during the course of normal operations. Discuss which organizations it would be necessary to stay in contact with to maintain normal operations during or after a disaster or public
health emergency. Discuss what methods would be utilized to maintain contact with these partner agencies and organizations if there is a disruption in electricity. What if there is a staff shortage due to an emergency? Are there multiple contacts within a partner agency that can be reached?

2. Large group discussion: Develop a tabletop exercise that can be completed by your organization. Pick a disaster or public health emergency that could happen in your area. Outline the parameters of the emergency: how long does it last, what is the damage to housing and general infrastructure, how many people are affected, is a disease highly contagious, etc. How are your clients affected? Do clients need housing, medical treatment, etc? How does this affect your organization? What is your response within your organization? Are you able to work from your regular worksite or do you have to relocate to an alternative worksite? Develop 3 scenarios in which a client is affected and then develop a response to respond to the needs of your client.

Readings and Resources for the Learner

- Required Resources

- Supplemental Resources
  - None

Learner Assessment Strategies

Multiple Choice Test:

1. A majority of older adults live:
   a. In nursing homes
   b. Independently in the community
   c. In some type of assisted-living facility
2. Older adults are at risk for being traumatized by a disaster when:
   a. Warnings are issued and there is adequate time to prepare
   b. There is no warning and no time to prepare
   c. a and b

3. What are some of the factors that put older adults at risk during either a disaster or a public health emergency:
   a. Chronic health conditions such as high blood pressure and diabetes
   b. Physical impairments that may cause difficulty with mobility
   c. Physical impairments that may cause problems with either vision or hearing
   d. Economic difficulties that may be encountered with a low fixed income
   e. a, b, and c
   f. All of the above

4. Planning for potential future disasters and public health emergencies involves:
   a. Developing response plans within your organization
   b. Developing response plans with appropriate community partners
   c. Working with local emergency managers and public health officials
   d. All of the above

5. In the event of a mandatory evacuation, older adults:
   a. Are always the first ones to jump on the bus, because they never have their own transportation
   b. May need assistance because of physical impairments
   c. May not have adequate supplies of medications to take with them
   d. b and c

6. Which of the following is NOT a factor for consideration when communicating with older adults about disaster preparation:
   a. Written materials may be confusing and may need to be tailored to the older adult’s specific situation.
   b. As long as older adults have all the items on a disaster preparation checklist, they will be fine in any disaster.
   c. Some may not have access to television or social media and cannot get the latest information.
   d. Some may have vision or hearing impairments that may make getting necessary information difficult.

7. Older adults who live independently in the community:
Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 4: Caring for older adult populations during the disaster cycle
Lesson 4-6: Disaster human services

1. b, 2. c, 3. f, 4. d, 5. d, 6. b, 7. b, 8. h, 9. e, 10. b.

Writing Exercise:
Write either a narrative or an outline that tells who your clients are and what services they currently receive from both your organization and various other community agencies or organizations. Those learners who are not currently working can write from the perspective of an organization where they would hope to work in the future. What is the overall health condition of your clients? List 5 community resources that could assist you in their care. What chronic illnesses do they have? How do these illnesses affect day-to-day functioning?
What types of medications are they on? What type of medical devices do they use? What would happen to your clients if they lost electricity for an extended period of time because of a disaster? How long could they go without routine community services before their health is affected? Finally, include a section on how you and your organization can address these concerns before, during, and after a disaster or public health emergency.

Readings and Resources for the Educators

- **Required Resources**

- **Supplemental Resources**
Sources Cited in Preparing Outline and Activities Above


LESSON 4-7
PREPAREDNESS ISSUES
Lesson: Preparedness issues

Author: Catherine G Ling PhD, FNP-BC, FAANP
        Civ, Assistant Professor
        Family Nurse Practitioner DNP and PhD Programs
        Daniel K. Inouye Graduate School of Nursing
        Uniformed Services University of the Health Sciences

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

Competencies
This lesson supports learning related to the following competencies, with regard to caring for the geriatric population during the preparedness phase of the disaster cycle:


Core Competency 8.0 “Demonstrate knowledge of public health principles and practices for the management of all ages and populations affected by disasters and public health emergencies.”
    Subcompetency 8.2 “Identify all ages and populations with functional and access needs who may be more vulnerable to adverse health effects in a disaster or public health emergency.”
    Subcompetency 8.3 “Identify strategies to address functional and access needs to mitigate adverse health effects of disasters and public health emergencies.”

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

4-7.1 Describe elements of the disaster cycle.
4-7.2 Apply understanding of safety responsibilities and principles of working with families of geriatric patients prior to a disaster.
4-7.3 Evaluate local and/or institutional specific access to care and economic issues for geriatric populations during a disaster.

Estimated Time to Complete This Lesson
120 minutes

Content Outline

http://ncdmph.usuhs.edu
Module 4: Caring for older adult populations during the disaster cycle: Preparedness, response, recovery, and mitigation
Lesson 4-7: Preparedness issues

I. Quick introduction to the disaster cycle (note that although the background for these elements was pulled from nursing research, the information is applicable interprofessionally).
   a. Mitigation
      i. Definition: Systems-level planning and preparation to lessen the impact of non-event-specific threats
      ii. Concrete examples from local community/institution
   b. Preparedness
      i. Definition: Pre-event planning and arrangements to minimize negative impact
      ii. Concrete examples from local community/institution
   c. Response
      i. Definition: Intra-event response to specific threats to well-being
      ii. Concrete examples from local community/institution
   d. Recovery
      i. Includes reconstruction and evaluation
      ii. Definition: Normalization of daily living and environment; can lead back into mitigation
      iii. Concrete examples from local community/institution

II. Safety (Note to Instructors: define this section specifically on the basis of your learners’ roles and practice setting)
   a. Unique considerations for the elderly
      i. Older adults are on a spectrum of need, function, and vulnerability.
      ii. The spectrum can range from fully independent to frail and dependent upon others for routine activities of daily living and survival.
   b. Physical safety of self and loved ones
      i. Hazards arising from disaster
      ii. Hazards arising from sheltering in unknown environment
      iii. Hazards arising from interruption of daily routine
      iv. Hazards arising from fatigue and events (including mental and behavioral health)
   c. Environmental safety (Instructors: define this section specifically on the basis of your learners’ roles and practice setting)
      i. Food
      ii. Water
iii. Shelter  
iv. Power  
v. Health care resources (professional, pharmaceutical, facilities, etc)  
vi. Transportation  
vii. Communication  

III. Working with family and caregivers (Instructors: define this section specifically on the basis of your learners’ roles and practice setting)  

a. Pets and preparedness  
i. Sheltering facilities that accept pets  
ii. Expectations of pet owners when presenting to those facilities  

b. Community-based versus facility-based living  
i. Autonomy (ethical principle and legal obligation)  
ii. Staffing issues (expectations, care of the caregiver’s families)  
iii. Communication with local family members  
iv. Decision-making authority at the individual and institutional levels  

c. Caring for the caregiver  
i. Personal and family safety needs  
ii. Compassion fatigue  
iii. Mental health supports  

IV. Access to care  
a. Medical, mental health  
i. Identify local resources for physical and mental health care  

V. Economic issues  
a. Broad construct  
i. Where are the jobs?  
ii. Where do people get their money? How do they pay for goods and services?  
iii. What happens if the ability to collect income or make payments is interrupted for the elderly and their caregivers?  

Suggested Learner Activities for Use in and Beyond the Classroom  
1. Disaster cycle for elderly in their institution or community  
a. Prepare a map, diagram, or chart of the stages of the disaster cycle  
i. Complete map, diagram, or chart with specifics for each disaster stage. Please include the following details:  
   1. Agencies with authority, including a point of contact  
   2. Relevant policies and procedures  
   3. Specific resources
On the basis of the created map, diagram, or chart, identify the following:

1. Where safety, population-specific care, access to health care, and economic needs of the elderly are addressed
2. Role-specific expectations of the learner
3. Questions about local resources or support agencies (where are the learners not sure of resources or plans)
4. Opportunities to improve current plans and policies

b. Create small groups for discussions with no more than 6 to a group. One group member should act as leader and another as scribe.
   i. Compare completed individual maps, diagrams, or charts.
   ii. Compile resources and questions into an aggregated map, diagram, or chart.
   iii. Share findings with the larger group.

Readings and Resources for the Learner

- Required Resources

- Supplemental Resources
  o None

Learner Assessment Strategies

1. Review the individual learner’s completed disaster cycle map, diagram, or chart for the elderly in their institution or community.
   a. Are the specifics at each stage outlined?
   b. Does it include the following:
      i. Agencies with authority, including points of contact?
      ii. Relevant policies and procedures?
      iii. Specific resources?
c. Did the learners identify the following:
   i. Role-specific expectations?
   ii. Questions about local resources/support agencies?
   iii. Opportunities to improve current plans and policies?

2. Small group discussion sessions
   a. Evaluate the small group’s presentation of the aggregate map, diagram, or chart.

**Readings and Resources for the Educators**

- **Required Resources**
  - *Caring for Vulnerable Elders During a Disaster: National Findings of the 2007 Nursing Home Hurricane Summit; May 21-22, 2007; St. Petersburg Beach, Florida.*

- **Supplemental Resources**
Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 4: Caring for older adult populations during the disaster cycle
Lesson 4-7: Preparedness issues


LESSON 4-8
RESPONSE ISSUES
Lesson: Response issues

Author: Catherine G Ling, PhD, FNP-BC, FAANP
        Civ, Assistant Professor
        Family Nurse Practitioner, DNP and PhD Programs
        Daniel K. Inouye Graduate School of Nursing
        Uniformed Services University of the Health Sciences

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

Competencies
This lesson supports learning related to the following competencies, with regard to caring for geriatric populations during the response phase of the disaster cycle:


Core Competency 7.0 “Demonstrate knowledge of principles and practices for the clinical management of all ages and populations affected by disasters and public health emergencies, in accordance with professional scope of practice.”
Subcompetency 7.1 "Discuss common physical and mental health consequences for all ages and populations affected by a disaster or public health emergency."
Subcompetency 7.2 “Explain the role of triage as a basis for prioritizing or rationing health care services for all ages and populations affected by a disaster or public health emergency.”

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

4-8.1 Describe the elements of geriatric-specific triage protocols.
4-8.2 Apply understanding of surge capacity and tracking to the local geriatric population by use of both best practice standards and local resources.
4-8.3 Evaluate institutional and/or local sheltering plans for geriatric populations.

Estimated Time to Complete This Lesson
90 minutes

Content Outline
Module 4: Caring for older adult populations during the disaster cycle: Preparedness, response, recovery, and mitigation
Lesson 4-8: Response issues

I. Triage protocols
   a. Geriatric specific
      i. Basic first aid to SWiFT (Seniors Without Families Triage) geriatric-specific triage and exam considerations
   b. Roles
      i. Triage roles
      ii. What is the learners’ role in triage protocols

II. Surge and capacity
    a. Surge in various settings
       i. Definition of surge and surge capacity
       ii. Protocols for planning: hold or reroute

III. ID and tracking
     a. Medical records
     b. Prescriptions
     c. Support/family: What lessons from tracking of children are applicable for the frail elderly?

IV. Sheltering
    a. Shelter-specific issues
       i. Special needs
       ii. Resources
    b. Sheltering in place
       i. Resources
       ii. Logistics
       iii. Ethical/legal considerations
    c. Evacuating
       i. Resources
       ii. Logistics
       iii. Ethical/legal considerations
    d. Decision-making
       i. Logistics
       ii. Ethical/legal considerations

Suggested Learner Activities for Use in and Beyond the Classroom
1. Ask learners to create 3 separate maps, diagrams, or charts related to triage and older adults in disasters. The first map, diagram, or chart should track triage for
geriatric patients coming to a local emergency room, the second for older adults
coming to a local community clinic, and the third for older adults coming to a local
private medical practice. Then ask learners to make recommendations for further
training or improvement related to triage in each of these health settings.

2. Ask learners to create 3 separate maps, diagrams, or charts related to surge and
tracking and older adults in disasters. The first map, diagram, or chart should track
the current surge and tracking for geriatric patients coming to a local emergency
room, the second the current surge and tracking for older adults coming to a local
community clinic, and the third the current surge and tracking for older adults coming
to a local private medical practice. Then ask learners to make recommendations for
further training or improvement related to surge and tracking for each of these health
settings.
   a. Debate sheltering in place versus evacuation for older adults specifically.
   b. Split the learners into 3 groups. Assign each group one of the topics below.
      i. Shelter in place
      ii. Local shelter
      iii. Evacuation
   c. Groups should present issues related to their topic (below) for older adults in
disasters. Following each group’s presentation, foster a discussion among the
entire group of learners.

Readings and Resources for the Learner
• Required Resources
  o Barbisch DF, Koenig KL. Understanding surge capacity: essential
doi:10.1197/j.aem.2006.06.041
  o Aldrich N, Benson WF. Disaster preparedness and the chronic disease
  o Okie S. Dr. Pou and the hurricane: implications for patient care during
  o Hagen J. Protecting the elderly in times of disaster: the critical need for
comprehensive disaster planning and exercise design. Forum on Public
  o Hoffman S. Preparing for disaster: protecting the most vulnerable in


• Dosa DM, Grossman N, Wetle T, Mor V. To evacuate or not to evacuate: lessons learned from Louisiana nursing home administrators following Hurricanes Katrina and Rita. *J Am Med Dir Assoc.* 2007;8(3):142-149.


• **Supplemental Resources**


Learner Assessment Strategies

The following learner assessments are linked to the learner activities described above.

1. Map, diagram, or chart: triage
   a. Assess learner’s understanding of triage process in general.
   b. Assess learner’s understanding of role in the triage process.

2. Map, diagram, or chart: surge & tracking
   a. Assess learner’s understanding of surge concepts.
   b. Assess learner’s understanding of role in tracking process.

3. Debate/discussion
   a. Assess learner’s understanding of shelter versus evacuation issues with older adult populations.
   b. Assess learner’s understanding of ethical implications.

Readings and Resources for the Educators

- Required Resources
  o Same as above readings and resources for the learner

- Supplemental Resources
  o Same as above readings and resources for the learner

LESSON 4-9

RECOVERY ISSUES
Lesson: Recovery issues

Author: Melen McBride, PhD, RN, FGSA
Associate Director, Emerita
Stanford Geriatric Education Center
Stanford University, School of Medicine

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

Competencies
This lesson supports learning related to the following competencies, with regard to recovery issues related to caring for the geriatric population during the disaster cycle:


Core Competency 7.0 “Demonstrate knowledge of principles and practices for the clinical management of all ages and populations affected by disasters and public health emergencies, in accordance with professional scope of practice.”
Subcompetency 7.1 “Discuss common physical and mental health consequences for all ages and populations affected by a disaster or public health emergency.”

Core Competency 11.0 “Demonstrate knowledge of short- and long-term considerations for recovery of all ages, populations, and communities affected by a disaster or public health emergency.”
Subcompetency 11.3 “Identify strategies for increasing the resilience of individuals and communities affected by a disaster or public health emergency.”

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

4-9.1 Discuss the concept of resilience as it applies to older adults in the recovery phase of disasters.

4-9.2 Identify strategies to enhance the health of older adults in the recovery phase of disasters that are within the learner’s scope of practice as a health professional.

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4-9.3 Create a simple zero/low-cost, short-term intervention program for a group of nonagenarians who are in a temporary general emergency shelter waiting to return to their home.

Estimated Time to Complete This Lesson
90 minutes

Content Outline
Module 4: Caring for older adult populations during the disaster cycle: Preparedness, response, recovery, and mitigation
Lesson 4-9: Recovery issues

I. Background:
   a. In 2011, the Presidential Policy Directive 8: National Preparedness (PPD-8) was released in response to the lessons learned and insights gained from the experiences and volumes of reports generated from the September 11 disaster and subsequent major disasters, e.g., anthrax, Hurricane Katrina, Hurricane Wilma. A foundation was created for an integrated, multilayered approach to the shared responsibility of the whole community for preparing for threats and hazards that endanger the nation’s security and health. Five core capabilities were identified as critical elements necessary for preparedness and resilience that would guide individuals, communities, faith-based communities, private organizations, and federal, state, and local governments achieve the National Preparedness Goals (NPGs). Success is defined as, “A secure and resilient Nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk.”

b. The NPGs developed in September 2011 by the Department of Homeland Security consisted of 2 documents: the National Response Framework (NRF) (http://www.fema.gov/media-library-data/20130726-1914-25045-1246/final_national_response_framework_20130501.pdf) and the National Disaster Recovery Framework (NDRF) (http://www.fema.gov/pdf/recoveryframework/ndrf.pdf). For Lesson 4-9, we will focus on the recovery phase described in the NDRF. The NDRF has 9 core principles that maximize the opportunity for success when infused into action plans. The recovery core principles are: 1) individual and family empowerment, 2) leadership and local primary, 3) pre-disaster recovery planning, 4) partnerships and inclusiveness, 5) public information, 6)
unity of effort, 7) timeliness and flexibility, 8) resilience and sustainability, and 9) psychological and emotional recovery.

c. Embedded in the disaster recovery core principles is the interconnectedness and multidirectionality of the post-disaster recovery process. It is a continuum that starts at pre-disaster and continues on to long-term recovery. The recovery continuum has four phases: the pre-disaster preparedness (ongoing), short-term recovery (days), intermediate recovery (weeks to months) and long-term recovery (months to years). There are overlapping recovery activities across the continuum that could increase geriatric resilience. For example, after a disaster, to support the older adults’ psychological and emotional recovery (core principle #9), counseling can begin for those who would benefit while in the short-term recovery phase. Ongoing care that includes engaging their support networks at the intermediate phase may channel energy to constructive action, and at the long-term recovery phase a follow-up referral for ongoing treatment and services may strengthen resilience and belief that a future is achievable. Figure 1 on page 8 of the NDRF has examples of activities across the recovery phases or within each phase for the recovery continuum. It is an excellent guide to planning individual or group recovery activities during the post-disaster period when older adults and their families are looking at their immediate future and wondering how much internal resources (resilience) they have for the tasks ahead. As older adults, caregivers, and their communities attend to the tasks of re-creating their lives, returning to pre-disaster life or adapting to a permanently modified life, they would at some point seek assistance from local resources such as health and social services, housing, businesses (grocery stores, drugstores, banks, etc), systems (water, transportation, communication, law enforcement, etc), and local government to meet their needs. Local resources that are viable, ready, and resilient in every phase of the disaster recovery continuum are critical to a strong recovery among older adults, their families, and the whole community. Examples of activities for public health and health care, business, and other essential elements of disaster recovery are also presented in Figure 1 on page 8 of the NDRF.

d. In 2009, the US Department of Health and Human Services disseminated nationwide the first National Health Security Strategy (NHSS) to energize efforts towards reduction of the health effects of mass disasters and to fill a gap in disaster preparedness brought on by the September 11 disasters and the devastation caused by Hurricane Katrina. While communities have responded by developing and strengthening their capabilities to reach a level of resilience needed to withstand all-hazards events, new threats to the health and security
of communities and the nation continue to evolve. Building on the progress made through the national emphasis on health security and priorities, the National Health Security Strategy and Implementation Plan, 2015-2018 (NHSS/IP) provides strategic direction of meaningful and purposeful actions that align with the vision for “a nation that is secure and resilient in the face of diverse incidents with health consequences, with people in all communities enjoying a level of security against threats to their health and well-being.” The NHSS/IP goal to “strengthen and sustain communities’ abilities to prevent, protect against, mitigate the effects of, respond to and recover from incidents with negative consequences” is supported by 5 strategic objectives. These are as follows:

1. Build and sustain healthy, resilient communities.
2. Enhance the national capability to produce and effectively use both medical countermeasures and nonpharmaceutical interventions.
3. Ensure comprehensive health situational awareness to support decision-making before incidents and during response and recovery operations.
4. Enhance the integration and effectiveness of the public health, health care, and emergency management systems.
5. Strengthen global health security.

A major challenge to disaster preparedness training and disaster management is the implied inclusivity in the whole community framework. Various health disciplines contribute knowledge and skills to the science, education, and practice of disaster management, and the overall focus for disaster management is a continuum from systems to community, family, and individual. Within these foci are populations (e.g., ethnic/racial minorities, special needs and vulnerable groups, persons with disability, veterans, LGBT communities) that add another layer of complexity for disaster planning and management. The Federal Emergency Management Agency adapted “access needs and “functional needs” as 2 broad categories of services and resources that disaster management may use to ensure that individuals and communities with these types of needs do not fall through the crack in disaster situations. The NPG, NRF, NDRF, and NHSS/IP are guides to integrating, weaving, and blending discipline-specific expertise into an interprofessional, collaborative model that would fit into the team approach model for disaster management. The core competencies for disaster medicine and public health preparedness were made more suitable to accommodate diverse perspectives from various health disciplines by creating questions that align with the competencies. 
model enables a practitioner in a specific discipline to apply a question for a specific group of older adults with “access needs” or “functional needs” and contribute the information to the decision-making process to meet the need of the group.

Community health resilience is the “ability of a community to use its assets to strengthen public health and healthcare systems and to improve the community’s physical, behavioral and social health to withstand, adapt to and recover from adversity.”

II. Resilience

a. A simple definition of resilience is “to spring back into shape” or “the capacity to recover quickly from difficulties.” In a broader context, resilience is the capacity to respond and recover in interdependent systems (from a cellular to a global context) that face potential destruction from a massive-scale event such as flu pandemic, war, or natural disasters. Specific to the individual, e.g., the older adult, geriatric resilience is the “processes of, capacity for, or patterns of positive adaptation during or following exposure to adverse experiences that have the potential to disrupt or destroy the successful functioning or development of the person.”

A consensus emerged from private-public initiatives by governments (local, state, and national) with stakeholders from the global community that resilience as a tool for preparedness must be a whole community approach. This approach is the combined effort of “private and public sector and non-profit stakeholders to identify the community’s collective needs to prepare for, respond to and recover from an emergency event, and determine what capabilities are required to be resilient in the face of all-hazards threat.”

Community health resilience is the “ability of a community to use its assets to strengthen public health and healthcare systems and to improve the community’s physical, behavioral and social health to withstand, adapt to and recover from adversity.” As presented in Section I, successful recovery after a disaster is linked to 9 post-disaster recovery core principles and 5 strategic objectives.

i. Evacuate or choose to shelter-in-place.

ii. Community health resilience is the continuum of readiness, adaptability, and accountability of a community to prepare and respond with the required capacities and capabilities for every phase of all-hazards disasters.
b. Leadership and community health resilience: When post-event evacuation of Katrina survivors began, Houston, TX, was one city that received 23,000 individuals who were transported by bus to the Reliant Astrodome Complex. The Harris County Health Department collaborated with Baylor College of Medicine and Harris County Hospital District to set up a comprehensive medical unit (CMU) staffed by nurses, social workers, physicians from various disciplines, pharmacists, physical therapists, phlebotomists, and other health care professionals to handle the medical and social needs of the survivors. Of those seen at the CMU, 56% were aged 65 years and older. Many had mobility issues related to cognitive loss, vision or hearing deficits, or being very sick. There was no guidance from the disaster plan for frail elders who needed medical attention, and those who had no family or friends were at risk because of their inability to access medical services. A system was needed to expedite delivery of services and a group of providers formed a team to help the frail elders without advocates. The team was called SWiFT: Seniors Without Families Triage; a screening tool was developed to assess and identify needs or triage. The team worked together until the last frail elder had been served. Below is the SWiFT quick screening tool used on hundreds of evacuees. The team members learned on the spot about post-disaster care for frail elders. The collaboration between 2 states, accessing transportation services, using a sports facility as an evacuation center, and providing health services through the County Health Department, County Hospital District, and a medical school is an example of successful post-disaster recovery involving vulnerable older adults. This is compelling evidence of community health resilience that also sparked the creativity of the group to invent a rapid screening tool (Table 1) to bring health care to a high-risk population. Engaging and sustaining community health resilience in the immediate and long-term post-disaster recovery process (12 months and beyond) would require multidimensional approaches.

i. **Table 1. Post-Disaster Tool for Triaging Frail Older Evacuees**

<table>
<thead>
<tr>
<th>SWiFT Level</th>
<th>Explanation</th>
<th>Post-Disaster Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cannot perform at least one basic ADL (activities of daily living: eating, bathing, dressing, toileting, walking, continence) without assistance</td>
<td>Immediate transfer to a location that can provide skilled or personal care (i.e., assisted living, nursing home, hospital)</td>
</tr>
<tr>
<td>2</td>
<td>Trouble with instrumental activities of daily living (i.e., finances, benefits management, assessing</td>
<td>Needs to be connected with a local aging services manager</td>
</tr>
</tbody>
</table>
### III. Spirituality, rituals, and ceremonies

#### a. A literature review of disaster research showed that middle-aged adults were more affected by their experience with disasters than were older adults. Despite the abundance of life challenges and disadvantages from physical and cognitive impairments, chronic pain, disruptions, and psychological losses, etc, post-disaster coping in older adults is better than in middle-aged adults.\(^{14}\) This observation was attributed the older adults having acquired effective coping skills throughout their lifetime, which suggests that middle-aged adults have the capacity to learn more effective coping skills across the lifespan. Thus, developing good coping skills early in life would be an important component of community health resilience.

#### b. In health promotion programs for optimum elder health, older adults learn coping skills. Some of these skills derive from complementary alternative medicine (CAM) which can be used to manage symptoms from multiple chronic conditions.\(^{15}\) The National Center for Complementary Alternative Medicine defines CAM as “treatments that are not part of contemporary conventional medicine. They are used in conjunction with conventional medicine and alternative interventions are used in place of conventional intervention.”\(^{16,17}\)

#### c. Healing practices have been a part of CAM for over 3000 years, and a holistic approach to the various modalities is fundamental to the philosophy of unity and connectedness of the body, mind, and spirit. The NIH’s Complementary Alternative Medicine Program (CAMP) classifies CAM intervention modalities into: alternative medical system (Indian Ayurvedic Medicine, traditional Chinese Medicine, and homeopathy), mind/body interventions (meditation, prayer, cognitive and creative therapies), biologically based therapies (herbs, vitamins, food), manipulative therapies (massage, chiropractic medicine), and energy therapies (Reiki, chi gong, and magnetic fields).\(^{16}\) CAM interventions tend to have more appeal to culturally diverse groups partly because they are usually minimally invasive, low risk, and affordable and the holistic approach

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| 3 | Minimal assistance with ADL or Instrumental activities of daily living | Needs to be connected with a rescue organization service (i.e., Red Cross) |

The simple 1, 2, 3 designation is easy to apply and can be used to assess the urgency of need and intervention required.

Source:


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aligns with many cultural group’s health belief system,\textsuperscript{18} such as focusing on the multilayered symptoms of complex chronic conditions and internal and external losses that older adults encounter in daily life. Among the positive gains from the use of CAM modalities is identifying and strengthening spiritual energy, a benefit that can help older adults during a disaster experience, especially during the immediate and long-term post-recovery phases.

d. The wide use and popularity among older adults of CAM has been shown in the following studies: (1) a 2007 study showed that 4 out of 10 adults used at least one CAM modality in the past month;\textsuperscript{19} (2) in a large sample study, 88% of the older adults aged 65 or more used CAM;\textsuperscript{20} and (3) among participants aged over 50 (N=848), about 70% used at least one CAM modality, and in this group, CAM use was curative (44% ) and preventive (58%).\textsuperscript{15} Some CAM therapies that may strengthen older adults’ resilience after a disaster are briefly discussed in this section.

e. Spiritual care and spirituality-oriented post-disaster programs

i. Leadership and long-term post-disaster community health resilience: Immediately after the September 11, 2001, disaster, faith-based organizations developed programs to assist with rescue, relief, and recovery efforts. Leaders and members of the faith communities collaborated to assist people who were impacted by the event and the disaster recovery workers. As time passed, the demands of the extensive recovery effort, the need to coordinate the numerous complex post-disaster recovery activities, and the recognition of the need for resources to be prepared for future disasters led to the formal incorporation of New York Disaster Interfaith Services (NYDIS) in 2003 as a federation of faith-based service providers and organizations. This innovative model for long-term disaster recovery evolved into a resource for training programs for members and clients to address all phases of the disaster life cycle, which includes mitigation education, preparedness training, planning, recovery, and advocacy programs. The federation serves by inspiring, connecting, and providing resources to faith communities in the city in disaster to create an urban environment of social justice. The recovery programs provided by NYDIS focus on unmet needs through client advocacy, caseworkers, clergy support groups, pastoral care, interfaith discussion groups, and other programs. These resources accommodate all religious needs and are cultural and language competent.\textsuperscript{21}

f. Natural environment, traditions, and community healing
i. In an e-mailed note, a neighbor described the following scenario: “Late April 2011, just one and half months after a powerful 9.0 scaled earthquake and tsunami hit the Tohoku (north eastern) region of Japan, as many as one hundred thousand regional people visited Miharu-cho, located only 30 miles west of the crippled Fukushima-Daiichi-Nuclear-Power-Plant. The purpose for their visit was only one—to view and appreciate the beauty of the light pink-colored cherry blossoms fully bloomed over the branches of a 1,000-year-old tree called “Taki Sakura” (waterfall-like cherry blossoms). Despite a warning of possible radiation surrounding the area, these viewers were overwhelmed while seeing the cherry flowers blooming so beautifully that spring as in the previous years. Tearfully gazing at the blossoms, many senior citizens said to a news reporter that they were spiritually encouraged enough by that old cherry tree to restart their own lives under the difficult circumstances” (M McBride, personal communication, 2011).

This moving and inspiring narrative is a reminder to health and service providers that there are elements in the natural environment with which survivors of disaster may find spiritual connectedness and personal meaning. In guiding communities to aim for greater enhancement of community health resilience, preservation of open spaces, historical structures, art, music, folksongs, books, and other representations of human existential experience are important sources of comfort, inspiration, and hope.

g. Creative art therapy

i. The American Music Therapy Association defines music therapy to be the systematic use of music within a relationship between a client and professional music therapist for a specific goal that involves restoring, improving, or maintaining psychophysical, emotional, psychosocial, and neurological functions.22 It is the clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program. The power of music to reach a level of awareness and understanding when spoken words may be temporarily or permanently ineffective is commonly found in persons with dementia. Clinical studies using familiar songs have shown a positive effect on memory for association as well as mood state.23 Listening to pleasing and relaxing music can help to decrease pain.
Experiences, induce relaxation, catch and hold attention, promote social interaction, and induce other global effects on the mental and psychological state of a person.\textsuperscript{17} Active music making by sound production with vocal or breathing exercises, drumming, and song writing can be helpful emotional outlets. Passive music by listening to prerecorded music may help with relaxation, induce sleep, mask environmental sounds, or create imagery. Techniques for both active and passive music are intervention tools that disaster responders can provide for older adults in the recovery phase.

ii. Individualized music is an evidence-based, nonpharmacologic approach to manage agitation in older persons with dementia. It is defined as music that has been integrated into the person’s life and is based on personal preference.\textsuperscript{24} This type of intervention uses prerecorded music from an inventory of the older person’s repertoire of favorite music and songs from childhood and from any phase of the person’s lifespan. In a disaster, older adults with dementia who are in a shelter are at risk of becoming agitated. Every type of disaster has numerous stimuli that are potential triggers for agitation that can escalate. The ideal time to intervene with individualized music is about 5 to 10 minutes before overt signs of agitation. Often, the primary caregiver can determine in the 24-hour period when the person usually becomes agitated, e.g., before a bath. Typical triggers are also known to the caregiver. A quiet or low activity room at home or in the evacuation shelter helps to maximize the intervention effect. The patient can listen with a headset to her or his favorite music from a small battery-operated tape recorder, portable DVD player, or iPod. Health care and social service providers who have geriatric clients or patients with dementia can work with the family or caregivers to put together a music intervention kit for home use and for the older person’s preparedness go-bag. Teach the family and caregivers to prerecord the patient’s favorite music, how to observe for triggers to agitation in a disaster situation, when to apply the intervention, and how to observe the effect. The intervention should be stopped if agitation increases and another activity should be substituted. Family and caregivers for persons with dementia who use this intervention at home would be an asset to disaster responders and to the staff and volunteers at evacuation centers.

The mid-range theoretical foundation for individualized music includes cognitive impairment, progressively lowered stress threshold (PLST),
agitation, and individualized music. PLST is a phenomenon where a stimulus triggers the gradual onset of agitative behavior and application of individualized music stops or decreases the intensity of the agitation.\textsuperscript{24} The intervention has been used in nursing homes by nursing staff and trained nursing assistants as well as by family caregivers in the home setting.

Evacuation shelters may consider partnerships with local businesses, church community groups, civic organizations, or schools on a project to include in the evacuation shelter’s resource inventory equipment and a collection of popular tunes from different decades. Two or more shelter volunteers from some of the partners can be responsible for the use, storage, and security of the individualized music project. As a local project, the opportunity to get to know families who are looking after an older person who is cognitively impaired may help strengthen community health resilience.

iii. The individualized music intervention for agitation in persons with dementia is an evidenced-based alternative approach for managing agitation. Individualized music is defined as music that has been integrated into the person’s life and is based on personal preference.\textsuperscript{24}

IV. Resources for post-disaster recovery

a. Communication tool: The Safe and Well Website\textsuperscript{25} (https://safeandwell.communityos.org/zf/safe/add) is a free service via the Internet where a disaster survivor can post “Safe and Well” messages for family and friends to view. Participation is completely voluntary and the person who is registered on the site can update the entry at any time. When a family member is searching, the survivor’s name, address, or phone number is needed to make the search. The information on the search result will have just the first and last name, date and time of registration, and the message(s) that the survivor allows to be viewed to describe her or his situation. To be registered with Safe and Well implies the participant agrees to the use of the posted information as entered on the site. Older adults who are relatively functionally and cognitively intact, comfortable about personal disclosure, computer literate or willing to accept help with technology, and have knowledge about where they are if they were involved in mandatory evacuation may benefit from this resource.
b. Psychological First Aid\textsuperscript{26} is an “evidence-informed” approach to reduce the initial distress from the impact of the disaster and enable short-term and long-term coping and adaptive functioning of older adults. The basic objectives are to

- Establish a human connection in a nonintrusive, compassionate manner.
- Calm and orient emotionally overwhelmed or distraught survivors. Provide physical and emotional comfort.
- Enhance immediate and ongoing safety.
- Help survivors to express their specific immediate need and concerns and gather additional information as appropriate.
- Offer practical assistance and information to help residents address their immediate needs and concerns.
- Connect residents as soon as possible to social support networks that could include other residents, family members, friends, volunteers, and community organizations (such as Rotary, Kiwanis, etc), and spiritual support.
- Support adaptive coping, acknowledge coping efforts and strengths, and empower and encourage survivors to take an active role in their recovery.
- Provide information that may help residents cope effectively with the psychological impact of disasters.

The intervention meets four basic standards. They are to be

- Consistent with research on risk and resilience following trauma,
- Applicable and practical in field settings,
- Appropriate for developmental levels across the lifespan, and
- Culturally informed and delivered in a flexible manner.

Psychological First Aid is provided by teams of mental health workers and other disaster response staff as members of the disaster responders. They are distributed to a variety of response units such as responder teams, Incident Command Systems (ICS), primary and emergency health care, faith-based organizations, Community Emergency Response Teams (CERTs), Medical Reserve Corps, the Citizens Corps, and other disaster relief organizations. Many of them work in the field of behavioral health and have volunteered through their workplace or nonprofit organizations.
c. Peer-to-Peer Disaster Relief Model: The Project Liberty Peer Initiative (PLPI)\textsuperscript{27} was a post-September 11 response of the New York State Office of Mental Health (NYSOMH) to deliver free and nondiscriminatory mental health services from more than 70 individual service sites in the city. The target population was mental health consumers who had histories of trauma and psychiatric disability and were at high risk for re-traumatization or re-occurrence of post-traumatic stress symptoms. The Howie the Harp (HTH) Advocacy Center, a peer-run community organization, received funding from the Federal Emergency Management Agency (FEMA) through the NYSOMH to develop and provide a citywide program consisting of: (1) individual counseling and referral, (2) group counseling, (3) public education, and (4) a “warm line” offering telephone support, counseling, and referrals. With extensive outreach, the PLPI staff were able to connect with over 10,000 people with prior or existing mental illness. Peer service providers and peer service recipients benefitted from the program. For example, peer providers acquired skills for transitioning to another position and peer recipients learned to cope with post-disaster effects from a peer who had experience with similar issues. Although the program lasted 18 months (March 2002-August 2003), some peer providers and peer recipients banded together and developed ways to continue aspects of the program. The HTH Advocacy Center was a resource before PLPI and beyond the PLPI funding. The PLPI is a disaster relief program similar to programs after the 1995 Oklahoma City bombing and the 1998 North Ridge Earthquake in Los Angeles that effectively reached and served high-risk, underserved populations. However, the PLPI focused on people with prior or ongoing mental illness and it remains unclear how much and how long peer-provided service is necessary for this high-risk population to transition into post-disaster life.\textsuperscript{28} The PLPI is included here as a reminder that post-disaster recovery services tend to have an unstable or impermanent quality along with the positive outcomes. Transition planning is an important aspect of post-disaster recovery to enable individuals, communities, and systems to move with confidence into post-disaster life. The PLPI program served as a model of non-traditional mental health services for the mental health consumer community.

Suggested Learner Activities for Use in and Beyond the Classroom
1. Invite learners to work in small groups to discuss the following questions:
   a. What constitutes resilience in older adults in the recovery phase of disasters?
   b. What can you do as a health professional, within your scope of practice, to enhance the health of older adults in the recovery phase of disasters?
c. How might you work interprofessionally in this effort?
d. What information might you provide to an older adult after a disaster that could contribute to healthy resilience?

Groups then report to the full group on the results of their discussions.

2. Ask the learners to work in small groups to design a simple zero/low-cost, short-term intervention program for a group of nonagenarians who are in a temporary general emergency shelter waiting to return to their home. Groups should then describe the results of their discussions to the full group.

3. Ask learners to pick a partner and select one of the activities below:
   a. Develop a fact sheet on safety for older adult survivors of a neighborhood fire who will be returning to their homes in a week.
   b. Develop a list of resources for immigrant older adult survivors who are returning to their partially burned homes.
   c. Interview a shelter manager to identify types of activities at the shelter for older adults with medical needs.

Readings and Resources for the Learner
- Required Resources
  - Fisher D, Rote R, Miller LV, Romprey D, Filson B. Resource paper: from relief to recovery: peer support by consumers relieves the traumas of disasters and recovery from mental illness. Presented at: After the Crisis: Healing from Trauma after Disasters Expert Panel Meeting; April 24-25, 2006; Bethesda, MD.

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- Supplemental Resources
  o Alzheimer’s Disease and Disaster Preparedness. National Institute on Aging website.
  o Older adults resource collection. Substance Abuse and Mental Health Services Administration website.
  o Wilken CS, Bobroff LB, Minton E. Disaster planning tips for older adults. IFAS Extension University of Florida.
  o Weil FD. Post-Hurricane Katrina research and recovery work. Frederick D. Weil, Department of Sociology, Louisiana State University website.
  o Guess What I Learned as a Peer Counselor: The lessons are social in nature. New York City Voices website.

Learner Assessment Strategies
1. Ask each learner to select a type of disaster that could occur in his or her community. Ask learners to answer the following questions:
   a. What should health professionals in the community be focusing on related to the health of older adults in the days, months, and years after this type of disaster?
   b. What strategies or programs can be employed prior to the disaster to enhance the health of older adults after this type of disaster?

2. Go to this link http://www.cnn.com/2011/US/08/12/katrina.houston/
   Read Thom Patterson’s article “Katrina evacuees shift Houston’s identity,” view the video, and write a 1000 word blog on your responses to the items below.
   a. Identify the changes experienced by the Katrina evacuees.
   b. Describe the lingering psychological and emotional effects from Hurricane Katrina.
c. Identify resources and activities that evacuees could access to help resolve issues in item b.
d. Describe the coping mechanisms being used by the evacuees.
e. Identify the services and other resources that are supporting the recovery successes of the evacuees.

If the learners wish to share their blogs, this could be a class project and the blogs could be posted on the NCDMPH website.


Readings and Resources for the Educators

- Required Resources

- Supplemental Resources
  - Fisher D, Rote R, Miller LV, Romprey D, Filson B. Resource paper: from relief to recovery: peer support by consumers relieves the traumas of disasters and recovery from mental illness. Presented at: After the
Crisis: Healing from Trauma after Disasters Expert Panel Meeting; April 24-25, 2006; Bethesda, MD.

Sources Cited in Preparing Outline and Activities Above


http://www.oxforddictionaries.com/us/definition/american_english/resilience

http://www.ecologyandsociety.org/vol13/iss1/art9/.


24. Gerdner L. Individualized music for persons with dementia [video]. Stanford Geriatric Education Center, Stanford University School of Medicine website. 

25. Register on the Safe and Well List. American Red Cross website. 


LESSON 5-1
HOSPITAL
Lesson: Hospital

Authors: Dr. Bobbie Sue Oglesby Johnson, DNP, FNP-BC
Hunter Holmes McGuire Veterans Affairs Medical Center
Richmond, Virginia

Mr. Jason M. Smith, BA, Capt. USMC Retired, Director Emergency Management
Hunter Holmes McGuire Veterans Affairs Medical Center
Richmond, Virginia

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

Competencies
This lesson supports learning related to the following competencies, with regard to special considerations for the geriatric population in a hospital setting in disasters:


Core Competency 7.0 “Demonstrate knowledge of principles and practices for the clinical management of all ages and populations affected by disasters and public health emergencies, in accordance with professional scope of practice.”
Sub competency 7.1 “Discuss common physical and mental health consequences for all ages and populations affected by a disaster or public health emergency.”

Core competency 8.0 “Demonstrate knowledge of public health principles and practices for the management of all ages and populations affected by disasters and public health emergencies.”
Sub competency 8.1 “Discuss public health consequences frequently seen in disasters and public health emergencies.”
Sub competency 8.2 “Identify all ages and populations with functional and access needs who may be more vulnerable to adverse health effects in a disaster or public health emergency.”
Sub competency 8.3 “Identify strategies to address functional and access needs to mitigate adverse health effects of disasters and public health emergencies.”
Sub competency 8.4 “Describe common public health interventions to protect the health of all ages and populations affected by a disaster or public health emergency.”
Learning Objectives
At the end of this lesson, the learner will be able to:

5-1.1 Describe specific planning considerations for hospitals in caring for older adults in disasters.

5-1.2 Describe clinical issues relevant to caring for older adults in disasters in the hospital setting.

Estimated Time to Complete This Lesson
120 minutes

Content Outline
Module 5: Setting: Special considerations for older adults
Lesson 5-1: Hospital

I. Hospital
   a. The following sections include information on how disasters affect older adults and include suggestions about how to prepare for these occurrences in the hospital setting. Additional sections include information about common health problems encountered when caring for older adults in the hospital setting.
      i. Disaster plans involving older adults
         1. The overall goal of geriatric disaster planning is to reduce the health impacts of disasters on older adults. This planning should include medical care of the elder, transfer to and from hospitals, and the use of proper equipment for older adults.

II. Review of disasters affecting the geriatric community
   a. Disasters affecting the geriatric community that may require older adults being transferred into the hospital setting include such scenarios as natural disasters, infectious outbreaks, and manmade events. Many older adults in a disaster may present at a hospital with dehydration, depression, trauma, interruption of skin integrity, and fall-related injuries.¹
      i. A synopsis of disasters with special issues for the geriatric population follows.
         1. Natural disasters, such as floods, tornados, and hurricanes, are just a few of the natural disasters that could affect older adults.
During the 2005 gulf hurricane season, 74% of the over 1500 people who perished were over 60 years old.2

2. During Hurricanes Katrina (29 August 2005, category 4 Katrina in New Orleans and Gulf Coast) and Rita: 103 of the 877 victims were from nursing homes and 49% of these were older adults age 75 and older; almost half of these older adults died by drowning.3,4

3. On the eve of Katrina, elderly or disabled populations were less likely to evacuate and relied on the heavily impacted city hospital for treatment.5

4. Of the deaths specifically related to Katrina, 75% were persons over 65 years old.3

5. Factors relating to survival in such hurricanes include the severity of sustained trauma.6

6. Infectious disease is also a concern for older adults residing in the hospital setting before, during, and after a disaster:
   a. Vaccination, isolation, and other handling procedures for infectious disease outbreaks, in regards to influenza, methicillin-resistant *Staphylococcus aureus* (MRSA), and other disease is important. In addition, vaccination for known diseases is necessary. Disaster planning scenarios should consider and include information on pandemics and infectious diseases. If a 1918-type flu pandemic should occur today, studies show that hospital supplies and bed capacity would be overwhelmed after 2 to 3 weeks.7

7. Estimations concerning pandemics have shown extrapolated evidence for 865,000 possible hospitalizations, which included those at greatest risk who have chronic illnesses and include the elderly.8 Plans to vaccinate individuals over 65 for influenza could impact as much as 75% of those persons over the age of 65.6,9

8. Terrorist attacks
   a. Terrorist attacks can affect older adults and frail elderly populations. Geriatric individuals are at risk of being injured during shootings and bombings, which are the most common of terrorist disasters.10
   b. Even small pipe bombs can result in a significant casualty rate.11
   c. Mandating medical facilities to accept victims of a disaster has been shown to be beneficial. A plan for the
involvement of healthcare facilities with rapid transport capabilities is important in terrorist attacks.\textsuperscript{10}

d. Studies have shown that approximately 50\% of injuries from terrorist attacks contain those with head, neck, and chest and upper extremities damage. This type of injury is of greatest concern for health professionals working in a hospital. Authorities will make decisions based on the type of destruction device utilized. Those persons beyond 6 meters from an average device will have less impact regarding injuries. It is important to keep in mind that secondary injury from flying objects and tertiary injury from being thrown up against other objects can result in thermal, tissue, or bone injury and amputation.\textsuperscript{10}

9. Terrorist attacks have also brought forward the challenge of dealing with large numbers of walking wounded and worried well in hospital settings. Reverse triage in hospitals involves identifying and marshalling this group because walking wounded will often arrive prior to more serious injuries and may clog medical delivery systems, thus delaying care to more critical patients.\textsuperscript{12} One should provide quick care to this group so they can clear the area.

III. Review hospital disaster plans to ensure they include information on providing inpatient care for older adults.

a. The following was adapted from the 9 components of the World Health Organization (WHO) hospital emergency response checklist for use in planning for older adult populations in the hospital setting. The proposed checklist includes information on the following:

i. Incident Command System
ii. Communication
iii. Continuity of essential health services and patient care
iv. Surge capacity
v. Human resources
vi. Logistics and management of supplies, including pharmaceuticals
vii. Essential support services
viii. Infection prevention and control
ix. Case management
x. Surveillance: early warning and monitoring
xi. Laboratory services

b. General disaster planning for hospitals
General disaster planning in hospitals is important no matter what age group is involved. In the hospital setting, geriatric population issues involve many variables such as multiple comorbidities, polypharmacy, hurried placement, and treatment. Hospitals need to plan in the areas of incident command, communication, surge capacity, human resources, essentials of patient care, case management, and other support services. Supply management for pharmaceuticals and direct patient care supplies are important. In addition, hospital plans need to be in place for infection control, surveillance, and ancillary services such as laundry, waste management, morgue, and nutrition service provision.13

i. Additional hospital planning should focus on older adults and include regular drills, evacuation route scenarios, an Incident Command Center, food vendors, backup food vendors, and plans for specific patient dietary needs, medications, and security. Transport scenarios should be considered and should include plans for transport, reciprocal shelters such as hotels or gyms, portable ramps, wheelchairs, stretchers, resident assisted ventilator transport, patient lifts, medication administration and other patient supply transport, oxygen, suction, nonambulatory patient transport assisted by emergency medical services, and chair lifts accommodations on the second floor and beyond.9

i. Another key concept in hospital disaster planning is external coordination efforts between facilities. Hospitals, nursing homes, and long-term care facilities will often fully coordinate with first responder and important partners. Regional coordination is especially important during widespread natural disasters and in particular during evacuations. Following Hurricane Katrina, with 2 major hospital evacuations and numerous small facilities affected, there was no regional hospital authority or specific entity providing coordination assistance for hospitals.14 To assist with better coordination between health care partners, Memorandums of Understanding (MOUs) and agency contacts should be a well-defined aspect of disaster planning and hospital plans.

c. Specific hospital plans: the Emergency Operations Plan (EOP)

i. The EOP of a hospital is a general set of guiding principles and guidelines used to respond during an internal or external disaster. Key to the EOP is the delineation of lines of authority, command, and control along with actions necessary to support disasters likely to be encountered by the organization. The plan should include15:

- Legal basis for emergency response activities.
- Pre-emergency drills.
• Lines of authority.
• Alternate care sites for providing treatment.
• Decontamination and hazardous materials response.
• Post-emergency critiques of any hospital response.

IV. Hospital Incident Command System

a. The hospital Incident Command System (HICS) is a system designed for hospitals and is intended for use in both emergency and nonemergency situations. It provides hospitals with the tools needed for preparedness, response, and recovery from emergencies both within the hospital and as members of the broader community.

V. Incident Command System

a. The Incident Command System (ICS) is a common tool shared among responders to allow for a coordinated response to any emergency. The ICS is prescribed as part of the National Incident Management System (NIMS), which was codified in 2003 under Homeland Security Presidential Directive/HSPD-5.

b. The ICS outlines 5 major functional areas: command, operations, planning, logistics, and finance/administration. Organization within the ICS is fluid and depends on the situation. Functional areas are set up on the basis of needs identified at the Command level. The ICS response is based on 14 management concepts or principles\textsuperscript{16}:

i. Common terminology that allows diverse groups to work across different incident command functions.

ii. Modular organization: top-down model based on size and complexity of the incident.

iii. Unified command structure: ICS and unified command allow for range of response from single jurisdictions to multiple agencies and jurisdictions sharing command responsibility.

iv. Management by objectives: each incident operational period is managed through the establishment of incident objectives, which in turn develop response strategies.

v. Incident action plan: written or verbal plan explaining incident objectives

vi. Integrated communications: objectives are met through a common communications plan.

vii. Span of control: key to an effective response, ICS supervisory responsibility should range from 3 to 7 with 5 being optimal.

viii. Comprehensive resource management: accurate picture of resources available to respond to an incident.

ix. Designated incident facilities: incident command posts, bases, and staging areas are designated as needed.
x. Establishment and transfer of command: set up at beginning of any response and requires a briefing to transfer.

xi. Chain of command and unity of command: orderly lines of authority with every person having only one designated supervisor.

xii. Accountability: each functional area accounts for all resources under its control.

xiii. Deployment: only resources requested are involved in incident response.

xiv. Information and intelligence management: means of collecting and sharing incident-related information.

c. Tying in the ICS to hospital disaster planning is important. Every response follows a planning flow initiated by the event, moving onto development of objectives and through meetings and briefing to bring the process back to identification of new objectives. This process is known as the Planning P.

d. Disaster plans including community support should provide a command center where information about disaster preparedness, response, and recovery should evolve. The inclusion of other local medical centers, including hospitals, in handling the disaster is important.

e. For more information about how HICS and ICS relate to one another please visit http://www.emsa.ca.gov/disaster_medical_services_division_hospital_incident_command_system_resources.

VI. Communication

a. Communication to hospital staff and community will help to manage stress of those involved and increase the confidence of the staff and community. There should be a designated emergency medical leader telephone line and family telephone line planned for 24/7 operation. Plans for alternate communication methods are important, especially if landlines or cell towers are out; these plans should include communicating via social media about important messages that relate to individuals and their families. Hospital communicators who deal with families should provide alternate support plans to receive their loved ones. Sometimes, the nurses at the transferring facility or family can be a source of information regarding how to care for the patient. An electronic medical record can be remotely accessed, especially if paper medical records are destroyed during the disaster. Including copies of the older adult patient’s advanced directives is important when transferring members of this group from a disaster setting.

i. Translation services are necessary if older adult hospital patients speak another language. Professional interpreters can be contracted for assistance at the hospital setting before, during, or after a disaster.
addition, online translation sources may be utilized prior to the disaster.¹⁸

VII. Surge capacity
   a. Surge capacity can be defined as the “ability to manage a sudden, unexpected increase in patient volume (i.e., number of patients) that would otherwise severely challenge or exceed the current capacity of the health care system.”²⁰ Emergency planners are faced with the reality that staffed hospital beds may be decreasing in availability. In the 1990s alone, the Centers for Disease Control and Prevention estimated that as many as 10,000 staffed inpatient medical/surgical beds and up to 7800 intensive care unit beds were lost as the result of hospital closings and consolidations.²¹ When planning for surge, it is critical to identify unique stresses for each department within the facility. For example, one of the first steps for a surge plan is likely to be emptying the emergency department. Identifying space near the emergency department to house those patients should be a part of any surge plan. Also, utilizing beds not normally staffed during a disaster may be possible through disaster protocols involving additional medical staff and changes to traditional patient to staff ratios.²²
   b. The hospital will need to estimate the capacity of each unit and make plans for expansion. Use of computer-based programs such as Flu Surge may help a facility plan for pandemic.²³ For country-level health system pandemic influenza planning, France developed a Monte Carlo simulation model for testing various scenarios.¹⁷

VIII. Human resources
   a. Human resources: Adequate staff will be needed to care for older adults in hospitals during a disaster. When a disaster is announced, the retention of staff present at the time, including preventing some staff from leaving the hospital if appropriate, and calling in those with specialized training, all prove to increase survival of patients. Having said this, personal needs of employees must be considered. There needs to be an adequate employee resource pool for which lodging provisions have been arranged and one must keep in mind provisions for pets.⁹
   b. In providing hospital care to the elderly, special care should be taken in regard to delirium, malnutrition, polypharmacy, pulmonary complications, and skin breakdown.¹⁸,²⁴,²⁵ Several specialists may need to be enlisted to provide adequate care. A physician specialized in the treatment of the elderly will help to detect and treat known geriatric complications such as altered mental status, urinary tract infection, and dehydration. Recommendations regarding
medication management state that an approach that discourages polypharmacy when treating those of the geriatric age group results in fewer side effects of polypharmacy.

c. A pharmacist should be enlisted to care for problems associated with polypharmacy and chronic disease management in the setting of disaster such as ensuing cognitive loss and or confusion.\textsuperscript{18}

d. Additionally, a disaster may require the help of gastroenterologists, ophthalmologists, and thoracic, vascular, and orthopedic surgeons.\textsuperscript{11}

e. Extra staff may be needed to help care for the elderly to prevent abuse and neglect of the elderly, because they are particularly susceptible to abuse and neglect during the time of a disaster.\textsuperscript{18} The use of restraints and added force and voice tone is never appropriate for the care of these individuals.\textsuperscript{18} Additionally, the loss of hearing and sight may cause instructions normally adhered to become jumbled.\textsuperscript{18}

f. Therapists may be needed to implement devices or resources to increase sight (readers or magnifying glasses) or hearing (pocket talkers), which could increase cooperation of the individual. Likewise, even for the individual with the ability to ambulate, wheelchair use during this time could decrease falling risk.\textsuperscript{18}

g. The enlistment of retired nurses and other trained medical personnel would be an added resource to utilize. Retired nurses may be available for use, because 33\% of the nation’s nurses are over 50; and in one study, 27\% of the nurses were interested in volunteering.\textsuperscript{26}

h. For bedridden individuals, extra staff will be needed to ensure their cleanliness and position change every 2 hours. Dietary services may need to make plans to provide soft or chopped food for residents with swallowing difficulties. Additional staff may be needed to feed or otherwise observe individuals who have dysphagia (difficulty swallowing).\textsuperscript{18} A general rule of keeping the head up for 1 hour after being fed or the provision of thickened liquids may be in order until full diagnoses can be established for transferred individuals with dysphagia.

IX. Logistics and management of supplies, including pharmaceuticals

a. Education/training of staff: Staff should be trained to be aware of some of the specialized needs of residents in this age group and how these needs might impact their care. Many supplies and equipment are needed as well as devices to locate missing residents.

b. Training and planning will help to ensure a swift transition to provide power to run equipment, mitigate, prepare, respond to drills, educate staff, and regularly update plans.\textsuperscript{24,35}
c. Key components to an emergency plan for those of geriatric age include communication with local authorities, vendors, and suppliers identified as part of the plan such as providers of transportation, medical and food provisions, and patient tracking and identification devices.³⁰

d. Logistical concerns include transporting these and other expert staff to the hospital to ensure their safety.¹⁸

e. Supplies such as enteral feeding bags used to provide nutrition to those individuals being fed by tube, other nourishment supplies, Foley catheter supplies, wheelchairs, hearing aids and batteries, glasses, and medication refrigerators are needed as well as plans for mental health activities and medical record keeping supplies for which limited paper copies may be recommended in case of power failure.¹⁰ A previously arranged and secure evacuation plan including receiving facilities and power supplies including a generator placed above flood level to operate equipment is essential, as are prescription supplies with backup of prescription orders.¹⁰ The plan should be a living document that is updated to include new vendors, transportation arrangement, etc.¹⁰ One study found that gasoline was needed to provide cars to staff who were working during the disaster as well as to run generators.²⁸ A week of backup supplies are needed to include food, power to run equipment, incontinence supplies, medications including IV fluids, batteries, generators, emergency plugs in all rooms, washers and dryers, and kitchen lights. The support of local authority connections is important when federal agencies are not able to help quickly enough.²⁸

f. Particular situations related to geriatrics include provision of the appropriate supplies, which may consist of diapers, incontinence pads, tube feeding pumps, nutritional supplements, jet nebulizer mask and units, bathing cloths, and emollients.

X. Essential support services

a. Possible support staff may consist of psychologists, counselors, medical social workers, volunteers, medical students, surgeons, or psychiatrists. Privacy screens or quiet meeting places or exam rooms may be needed for staff. A specific planned approach for pain and psychologically related medication use post-devastation in a disaster may be in order.²⁹ Stress felt by patients and staff can be great, and provisions need to be made both for the patients for their chronic and acute conditions and for staff for their relocation.²⁸ Additional stress may be present from mistreatment of older adults. Be alert and report signs of abuse such as bruising, anxiety, and lacerations.¹⁹

b. Infection prevention and control
i. Infection control: Infection control in hospitals and of those who are evacuated is of the utmost importance. Residents with draining wounds or signs of pneumonia, including cough and shortness of breath, may necessitate isolation procedures such as contact precautions.19

ii. Proper hand washing, including provisions for contact and airborne isolation, will be important in infection control planning. Modification to heating and air systems on an emergent basis may help to maintain air clearance with the addition of particulate respirators (fit tested N95 mask).22 To prevent the spread of infection within the geriatric environment, prior planning would involve plans for contact or droplet isolation if needed for evacuees of the geriatric age group.

iii. Provision of vaccines and antiviral drugs (especially for influenza) are important.17 The Department of Health and Human Service’s plan does not dictate the distribution or rationing of vaccines.30 The elderly may not be top priority for vaccines, and antiviral drugs may not be available. Therefore, proper hand washing, masks, and restriction of visitors may need to be considered as well as mortuary issues.27 The provision of vaccines or antiviral drugs will be important. To prevent the spread of infection within the geriatric environment, prior planning should involve immunizations to prevent the spread of disease during or after a disaster.

iv. Case management

1. Case managers are important to provide specialized care, find payer sources, and enable transfer of older adult patients in hospitals before, during, and after a disaster.

2. Case managers should keep records of the evacuees, their names, addresses, families, and payer sources. If federal disaster monies are slow to surface, patients may be stressed about finances. Case managers can help to ensure these stressors are minimized.

v. Surveillance for early warning signs and situational monitoring

2. The planning section of the Hospital Incident Command Center is responsible for tracking disaster developments and including a plan to evacuate patients to a more secure area.

3. A group of individuals will need to continuously survey the situation and be ready to evacuate the hospital if the organization becomes compromised. Shelter in place or evacuation plans need to be anticipated. Specific shelter in place plans need to include consideration of the disaster type, such as having high floors for
floods, windows or battery-operated lights for light infusion, or lower floor locations in case of tornados.

4. Always knowing who is in the building and sending escorts when needed so as to not lose patients will be important. 

5. Early warnings may induce the need to further evacuate the hospital to a safer area. Since Hurricane Katrina in 2005, great concern and planning for transfer and care of our most frail and elderly was realized. Thus, long-term care facilities as well as assisted-living facilities were encouraged, if not mandated, to make plans to have their residents transferred before or during a disaster. These plans include the transfer of those individuals to hospitals. It is important to consider the need for an identification system including patient names, allergies, major diagnosis, and information about the sending and receiving facility. Accessible buses or vehicles with patient lifts will be needed. Some plans to evacuate at night may be considered for cooler weather or less traffic.

i. Laboratory services

6. A provision for onsite or off-site laboratory services will be needed to help diagnose and treat individuals, especially in a pandemic setting. Other testing may be needed including the ability to obtain arterial blood gases, complete blood count with differentials, influenza spot tests, coagulation international normalized ratio (INR) determination, strep testing, and specimen culture and sensitivity. Specialized arrangements for wave testing, bedside occult blood testing, and INR may be necessary. Contaminated waste management contracts should be set up before a disaster for disposal of sharps and biohazardous items. Laboratory supplies such as monitors for blood glucose, INRs, etc will need to be arranged. Other needed lab supplies include such items as alcohol wipes, tourniquets, and venipuncture supplies.

i. After-action planning:

7. Meetings held after disasters should reflect on the most recent disaster and discuss ideas for improving performance during future disasters. Staff should think of concrete examples of successes and failures and apply them to their future work. These after-action sessions are suggested to meet quarterly and include administrative staff.
8. During Katrina, failed disaster plans contributed to 34 geriatric deaths. After-action studies revealed that persons charged in the deaths did not follow facility evacuation plans. Related deficiencies were found in water provision, host facility planning, prior hazard analysis, training of employees, routes of evacuation, planning for fire or other emergency, care of patients with specialized problems and needs, and basic plans for disaster. Of these specific needs, items of concern included planning for incontinence of bowel and bladder, dementia, mental disabilities and disorders, body transfer, feeding, and toileting. Specific problems resulted in dehydration, skin tears, and depression. A large number of deficiencies were found in provision of water and routes of evacuation.

Suggested Learner Activities for Use in and Beyond the Classroom

1. Form several small discussion groups with your learners and invite them to list 5 important items to think about regarding the care of older adults with access and functional needs. In addition, ask learners to list 5 logistical considerations of hospital evacuation of older adults with access and functional needs, before or during a disaster.

2. Imagine you are in charge of setting up the hospital unit that will house residents from a local long-term care facility. A group of volunteers has agreed to help you with this task. The volunteers include nurses from a local retired nurses group, a group of student RNs in their second year of training, and a representative from a medical supply company who has equipment to help with the disaster. Discuss how you will utilize each group of volunteers to staff your hospital unit.

Learner Assessment Strategies

1. Ask learners to form groups of 3 and write a list of 5 specific planning considerations for hospitals in caring for older adults in disasters.

2. Ask learners to work independently and write a list of 3 clinical issues relevant to caring for older adults in disasters in the hospital setting.

Readings and Resources for the Learners and Educators

- Suggested Resources
  - Healthcare COOP & Recovery Planning. Assistant Secretary for Preparedness and Response.
Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 5: Setting: Special considerations for older adults
Lesson 5-1: Hospital

Sources Cited in Preparing Outline and Activities Above


LESSON 5-2

AMBULATORY CARE
Lesson: Ambulatory Care

Author: Mary E. Mather, MSN, RN-BC, CNL, VHA-CM
Nurse Manager Primary Care
FTOPC, BHOPC, SBOPC
Clinical Nurse Advisor
VA ONS Gerontological Nursing Field Advisory Committee
South Texas Veterans Health Care System

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

Competencies
This lesson supports learning related to the following competencies, with regard to special considerations for the geriatric population in ambulatory care settings in disasters:


Core Competency 5.0 “Demonstrate knowledge of personal safety measures that can be implemented in a disaster or public health emergency.”
Subcompetency 5.1 “Explain general health, safety, and security risks associated with disasters and public health emergencies.”
Subcompetency 5.2 “Describe risk reduction measures that can be implemented to mitigate or prevent hazardous exposures in a disaster or public health emergency.”

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

5-2.1 Discuss preparedness and protective measures health professionals in ambulatory care settings need to take before, during, and after disaster situations.

5-2.2 Describe the actions that will be performed by health professionals in ambulatory care during disaster situations.

Estimated Time to Complete This Lesson
30 minutes
Content Outline
Module 5: Setting: Special considerations for older adults
Lesson 5-2: Ambulatory Care

Introduction:
Since the disasters of September 11, 2001, and the devastation of Hurricanes Rita and Katrina, communities have been mandated to have emergency preparedness plans to facilitate care and enable functioning until aid from regional, state, or federal agencies is made available. Planning committees and guides have been developed to provide expert guidance on the emergency management process and to remove readiness barriers by providing tools, strategies, and processes during emergencies. Once an emergency situation has been identified and an area of the country is experiencing a devastating event, aspects of the National Incident Management System, including the Incident Command System, will be implemented within the community. This standardized emergency management framework establishes a common approach to how entire communities will prepare for, respond to, and recover from a large-scale emergency or disaster. All disaster information will be filtered through a network of public safety agencies and emergency operations centers; each community facility has an emergency response liaison who will be the point of contact and connection to the response network. The emergency response liaison will instruct the ambulatory care facility on their role during the disaster. Ambulatory care facilities are defined as medical care provided on an outpatient basis, including diagnosis, observation, consultation, treatment, intervention, and rehabilitation services. This care can include advanced medical technology and procedures even when provided outside of hospitals. First, patients in those areas will be secured, the facility will be instructed on the immediate areas of concern, and transportation to a safe environment will be facilitated. The transition of older adults who have special needs of transportation, mental illness, and disabilities will require focused coordination. The emergency response liaison will instruct the facility on their function according to the disaster and the proximity of the facility to the disaster site. Many functions can occur from the ambulatory care facility, such as providing triage for the immediate disaster area, functioning as a transition center for patients, functioning as a communication center, or providing shelter to name a few. Ongoing communication with the community is essential to managing concerns within the population about risk, managing infection control, maintaining public interest in and involvement with preparedness activities, and sustaining the trust that will be essential in directing the public effectively and safely during a disaster.

Content Outline:
I. Components of the planning process are structured to be a template because no community is exactly like another; structures, governance, resources, and
The capabilities will vary.\(^2\)

http://www.jointcommission.org/assets/1/18/planning_guide.pdf.

a. Define the community: the associations of groups of people living together in a specific geographical area; fire, law enforcement, roads, bridges, transportation systems, schools and universities, hospitals, nursing homes, ambulatory care centers; culture; and language.

b. Identify and establish the emergency management team. Developing a plan with community partners is integral to success. This is vital to maintaining a successful preparedness and safety plan. The emergency operations plan addresses preparedness measures, emergency response, and evacuation planning so that the workplace can plan for a variety of emergency situations. For example, hospital leaders may bring together clinic leaders, law enforcement, and community transportation leaders for planning at the local level annually to discuss emergency preparedness for the community and any new additions to the existing plans.

c. Determining the risks and hazards the community faces requires thinking outside the box. An all-hazards approach will prepare the community for prevention, protection, mitigation, response, and recovery. A risk assessment considers the geographical area and the possibilities of natural disasters of hurricanes, earthquakes, or tornadoes but also must consider mass casualty events as well such as transportation accidents, nuclear or chemical weapons, and infectious disease outbreaks.\(^2\) The National Commission on Terrorist attacks recognizes that preparedness must address vulnerability to hazards—not just natural possibilities, but human intentional (terrorism) or human unintentional (technological) as well.

d. Set goals for preparedness and response planning. The basic general goals will be to save lives and protect health, protect and sustain the critical infrastructure, find dual uses for existing capabilities, and create an inventory of resources that may be needed in an emergency situation. Preparedness is an ongoing process using training and public education and outreach campaigns. City-wide and community-wide discussions and operations-based exercises maintain competencies and provide learning experiences based on the Homeland Security Exercise and Evaluation Program.

e. Determining current capacities and capabilities is necessary to support efforts to meet the needs of disaster victims, which could include providing shelter, food, and emergency first aid; collecting information to report on victim status; and assisting with reuniting families.

II. Ambulatory care functions during disaster relief may vary to meet the demands of the victims. Older adults who have special needs will need to be identified to
accommodate physical, mental, and care needs during transitions. Safe transitions of current patients in the facility is necessary. To facilitate transitions, the community partners in transportation, emergency medical services, fire department, and law enforcement should be contacted to organize transportation in the event the roadways or streets are damaged or blocked. The patients transitioned are tracked by use of a centralized identification process so that family members can be informed of their location.

a. The emergency response liaison will communicate which functions are required of each facility.

b. Determine staff roles and responsibilities: this should be outlined in the emergency operations plan. There should by an on-scene incident commander, a safety officer, and section chiefs for all areas (clinical, clerical, support staff). These leaders will provide updates and instructions on the level of disaster relief that will be offered. Identification of an emergency assembly area is recommended, as is identification of those individuals who have special needs or who have disabilities. The safety officer will focus on infection control to prevent contamination.

c. Emergency supplies and equipment are maintained at each work site. The recommended supplies are first aid supplies, flashlights, extra batteries, battery-operated AM/FM radio, paper copies of work documents, personal protective equipment, notebook computer with wireless broadband access, and two-way radio. This should be an assigned duty that is maintained and stocked regularly. It is recommended that the supplies be adequate for your staff and patients for a minimum of 3 days. When a community-wide event occurs, just-in-time vendors will deliver the supplies needed to sustain operations for 3 days; the on-scene commander will determine the supplies needed.

d. Establish a communication system in the facility that provides internal mass notification of the impending disaster. The on-scene incident commander will have direct communication with the emergency operations center and will deliver all instructions to the section chiefs. When normal communications (normal in-house telephone systems, cell phones, hospital pagers) are interrupted, the on-scene commander will communicate by use of two-way radios, satellite phones, and e-mail or WebEOC.

e. Demobilization after the disaster is primarily concerned with returning the facility to its previous state and restoring normal staffing practices.

The Hazard Vulnerability Analysis and Statewide Risk Assessment are generally used to develop the Emergency Operations Plan for each facility and should be reviewed annually. These plans are based on the organization’s experiences to identify events that could affect...
demand for services and the ability to provide those services, the likelihood of those events occurring, and the consequences of those events.

Suggested Learner Activities for Use in and Beyond the Classroom

1. Invite learners to work in groups of 4 and develop a list of important practices that should be in a disaster plan for an ambulatory care setting. If any of the learners work in ambulatory care and have access to an existing plan, invite them to review that plan to see if any additions could be made to the list already formulated.

2. Invite one or more learners who have experience working in an ambulatory care setting to describe past disaster preparedness exercises that they have participated in and lessons from those exercises, which can be applied to the care of older adults in disasters. Other learners will serve as audience members for these presentations and should be prepared to identify action items for their own work setting as a result of these presentations.

Readings and Resources for the Learner

- Required Resources
  - None

- Supplemental Resources
  - None

Learner Assessment Strategies

1. Prepare a short briefing that would be appropriate for leadership and staff of an ambulatory care setting. The briefing should describe key issues that should be considered in caring for older adults in a disaster.

Readings and Resources for the Educators

- Required Resources

- Supplemental Resources
  - None

Sources Cited in Preparing Outline and Activities Above


LESSON 5-3

HOSPICE
Lesson: Hospice

Author: Marco Ruiz, MD, MPH, FACP, FIDSA
Louisiana State University Health Sciences Center-New Orleans
Associate Professor of Clinical Medicine
Sections of Infectious Diseases
Section of Geriatric Medicine

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

Competencies
This lesson supports learning related to the following competencies, with regard to special considerations for the geriatric population in hospice settings in disasters:


Core Competency 7.0 “Demonstrate knowledge of principles and practices for the clinical management of all ages and populations affected by disasters and public health emergencies, in accordance with professional scope of practice.”
Subcompetency 7.1 “Discuss common physical and mental health consequences for all ages and populations affected by a disaster or public health emergency.”
Subcompetency 7.2 “Explain the role of triage as a basis for prioritizing or rationing health care services for all ages and populations affected by a disaster or public health emergency.”
Subcompetency 7.3 “Discuss basic lifesaving and support principles and procedures that can be utilized at a disaster scene.”

Core Competency 8.0 “Demonstrate knowledge of public health principles and practices for the management of all ages and populations affected by disasters and public health emergencies.”
Subcompetency 8.1 “Discuss public health consequences frequently seen in disasters and public health emergencies.”
Subcompetency 8.2 “Identify all ages and populations with functional and access needs who may be more vulnerable to adverse health effects in a disaster or public health emergency.”
Subcompetency 8.3 “Identify strategies to address functional and access needs
Learning Objectives
At the end of this lesson, the learner will be able to:

5-3.1 List common clinical challenges encountered by providers who care for hospice patients during and after a disaster
5-3.2 Evaluate and prioritize management strategies before, during, and after a disaster for hospice patients
5-3.3 Construct a framework for damage control and prevention in disaster mode for hospice patients

Estimated Time to Complete This Lesson
120 minutes

Content Outline
Module 5: Setting: Special considerations for older adults
Lesson 5-3: Hospice

I. First topic: Characterization of geriatric hospice populations
   a. For more information about what hospice is please visit the following website: http://www.hospice.org/hospice-care/what-is-hospice/.
   b. As populations age, the pattern of disease that people suffer and die from also changes. Increasingly, more people die as a result of serious chronic illnesses such as heart disease, cerebrovascular disease (including stroke), respiratory disease, and cancer.¹,²

Core Competency 9.0 “Demonstrate knowledge of ethical principles to protect the health and safety of all ages, populations, and communities affected by a disaster or public health emergency.”
Subcompetency 9.1 “Discuss ethical issues likely to be encountered in disasters and public health emergencies.”
Subcompetency 9.2 “Describe ethical issues and challenges associated with crisis standards of care in a disaster or public health emergency.”
Subcompetency 9.3 “Describe ethical issues and challenges associated with allocation of scarce resources implemented in a disaster or public health emergency.”

http://ncdmph.usuhs.edu
c. Although hospice and palliative care are now well established as appropriate and the use of hospice services in the United States has increased for over 30 years since the Medicare hospice benefit was established by Congress in 1982, hospice remains underutilized. Approximately 83% of the people cared for by the hospices in the United States are over the age of 65 years, and almost 40% of these are diagnosed with some form of cancer that is considered to be a disease of aging.3

d. The focus of hospice care is improving the quality of life (QOL) of patients and families. Older patients differ from younger adults in several important respects. First, many older people live with chronic disease. The average person over the age of 75 lives with 3 chronic conditions and takes prescription medications. Second, patients living with chronic disease benefit from a focus on maintaining function, because their condition cannot be cured. Third, the elderly respond to pharmaceuticals differently than younger adults. They have atypical clinical responses and metabolize medications more slowly. The older adult is much more prone to polypharmacy, putting them at risk for interactions between multiple drugs prescribed for a variety of conditions. In addition, prior studies have shown that older adults with advanced cancer report less symptom intensity than do younger patients.4

e. Hospice settings are dealing with geriatric patients on a more frequent basis. Therefore, a profound knowledge of the unique aspects of geriatric care is needed to deal with this population.

f. A potential outcome during a disaster is the possibility of patient death. This event has to be acknowledged by staff working during a disaster and by everyone involved in the care of these patients.

II. Second topic: Clinical challenges faced by providers who care for geriatric hospice patients

a. Clinical management of geriatric hospice patients: The elderly population is physiologically heterogeneous—healthy, older adults generally do well under ordinary circumstances, but in a disaster, the loss of physiological reserves associated with aging and other physical limitations, such as sensory deficits, cognitive disorders, and chronic illnesses, can put them at risk.

b. Older adults have other risk factors; they tend to have the lowest average income of all age groups, and elderly immigrants may have language barriers that hinder their ability to communicate and advocate for themselves.5,6

c. During a disaster, existing health care shortages will have the greatest impact on the elderly, who currently (1) comprise the highest number of patients
coming to hospitals and emergency rooms by ambulance; (2) have the highest hospitalization rate, highest mortality, and greatest length of stay for influenza-related hospitalizations; and (3) use a disproportionate share of hospital resources for virtually all medical illnesses.\textsuperscript{7,8}

d. Emergency rooms are often used as safe havens when patients’ regular caregivers are unavailable during a disaster. This trend is bound to be magnified as elderly individuals lose access to services and caretakers.\textsuperscript{7}

e. In the United States, there is a shortage of geriatricians. Many nongeriatricians care for elderly patients but often are not trained to care for those who are truly frail, leading to age biases, lessened expectations, inadequate assessment, and preventable medical errors.\textsuperscript{7,8}

f. Most common clinical challenges during a disaster. Accurate and timely diagnosis of patients of all ages is critical for prioritization during triage. Unfortunately, many factors hinder accurately diagnosing acutely ill, elderly patients, resulting in delayed diagnoses, under- and over-treatment, and poor outcomes. Basic precepts to consider when assessing elderly individuals include the following\textsuperscript{9,10}:

i. Physiologic heterogeneity. When evaluating acutely ill, older adults, triage personnel must take into account that these individuals have a variable range of physical and cognitive function.

ii. Unknown baseline functional status. Many older adults coming to emergency departments have delirium or dementia, making it difficult to obtain an accurate medical history. In addition, while many have dementia or physical impairments, others have normal baseline function, which may be difficult to discern in acute illness. Whenever possible, care providers should try to ascertain baseline functional status from reliable sources, including family members, home attendants, or nursing home staff. This is an important step to determine functional variations in patients during a disaster.

iii. Chronic disease and comorbidity. Multisystem disease creates symptomatic noise in patients and is common in geriatric presentations. Multiple diagnoses may be possible; therefore, physicians should not unify the diagnosis (combine symptoms into a single diagnosis).

iv. Atypical presentations. Many acute illnesses present atypically in the elderly. Commonly, diseases present with altered mental status instead of or in addition to presenting with classic signs or symptoms that would direct the clinician to the affected organ system. There also may be a paucity of symptoms, or signs may be subtle or absent. These
presentations are classic for geriatric patients and are the source of multiple misdiagnoses and unfocused initial treatment strategies.

v. A lack of trained geriatricians. Geriatric medicine training develops skills in functional assessment, cross-specialty geriatric prescribing, and management of multi-system disease and chronic illness. The field also prepares clinicians to manage medical and behavioral problems in patients with dementia and a range of other syndromes that affect both frail and relatively healthy elderly patients.

vi. Death of geriatric hospice patients. This happens not infrequently during a disaster. It has been well documented in many studies that senior patients and vulnerable patients are at very high risk of losing their lives during a disaster. This is a huge challenge for personnel working in this setting. First, personnel have to acknowledge the fact that death is a potential outcome during a disaster. Second, the logistics related to a death have to be reviewed. Making sure that body bags are part of the tools before an emergency is very helpful. Ensuring rapid communication with family members about the outcome of loved ones is another way to rapidly deal with this situation. A debriefing exercise may also be beneficial.

III. Third topic: Management strategies before, during, and after a disaster

a. The following are potential items to be considered in the setting of a disaster:
   i. Development of a handbook of specific guidelines for geriatric hospice patients.
   ii. Expertise in geriatric medicine, hospice, and related disciplines. Ensure that all disciplines are represented on the emergency preparedness committee, including geriatric specialists to serve as planners, staff leaders, educators, and direct care providers or consultants and hospice and palliative medicine specialists to serve as consultants and sometimes primary physicians.
   iii. Plan to implement guidelines and policies. These plans should address key issues in managing the frail elderly and other vulnerable adults.
   iv. Update or adopt new policies addressing key issues that develop after pilot testing of policies. These policies may include the use of nonclinical volunteers from hospital staff and prescreened volunteers from the community to assist in patient care, including feeding, toileting, and other basic tasks; in clinical decision-making for patients who are unable to do so and have not executed a formal advance
Directive, such as a health care proxy; and in providing grief counseling and emotional support for patients and caregivers.

v. Maintain an inventory of essential inpatient and outpatient medications to serve the special needs of the elderly in hospice settings. Be sure to include special formulations, such as liquid, crushable, and low-dose medication; a minimum 4-day supply of common outpatient medications for elderly patients who may not be able to return home; and an adequate supply of injectable morphine and other medications and equipment needed for palliative care. Equally important is the provision of medications for common symptoms including, nausea, vomiting, constipation, anxiety, skin breakdowns, and others.

vi. Establish relationships with community-based senior service agencies and create coordinated disaster plans for all vulnerable adults. It is important to network with community-based senior and hospice organizations (volunteer organization) that could provide guidance, leadership, and organization in an emergency setting.

vii. Plan for a family information and support center in conjunction with local authorities. This center should be designed to serve adults seeking missing adults during disasters and should include special areas and services for families and other concerned parties connected to frail elderly or vulnerable adults.

viii. On an ongoing basis, identify and credential unaffiliated professionals who are willing to serve as volunteers in emergency settings. Recruit individuals from the fields of geriatric medicine, nursing, and related fields (especially residents in the local community). Establish in advance mandates on credentialing unaffiliated, professional volunteers during a disaster. It is very important to also train these professionals in the setting in which they will be practicing.

ix. Consider using nonclinical volunteers to help staff. Health care institutions should, on an ongoing basis, identify, credential, and train volunteers, especially those who live nearby, and enable nonclinical volunteers (as well as nonprofessional hospital staff and family members) to provide direct patient services, such as feeding, toileting, and other basic tasks.

x. Pilot test action plan in a simulated controlled environment. This will allow gaps in the organization to be recognized and will allow opportunity for improvement.

Suggested Learner Activities for Use in and Beyond the Classroom
1. Lead a class discussion about the health and systems impacts of triage by residence of geriatric hospice patients. Possible discussion questions are as follows:
   a. Describe the risk stratification of types of illness and injury associated with a disaster in geriatric hospice patients.
   b. What are the public health implications of triaging geriatric hospice patients?
   c. What information should health professionals provide for safe management of geriatric hospice patients?

2. Ask learners to respond to the following question, either verbally or in writing: How can you as a health professional, within your scope of practice, contribute to the preparedness for, response to, and recovery from disaster regarding geriatric hospice patients?

3. Invite learners to work in small groups to draft a public service announcement for your county on actions citizens should take to reduce the health impact of emergencies on geriatric hospice patients.

4. Invite a member of another response professional group to discuss interprofessional coordination and collaboration necessary in response to an emergency. Discuss barriers to such interprofessional coordination and collaboration. These barriers should be evaluated in the context of geriatric hospice patients.

5. As a group, develop strategies that could be implemented to protect the well-being of geriatric hospice patients during a disaster. What professions or organizations in your local community could participate in this effort?

6. Invite students to work in groups of 4. Ask them to discuss the following scenario. There are 10 hospice patients stranded in a local facility after a disaster. The medical director on call is not available. There is one nurse, one physician, and one nurse assistant with these patients. There are not enough pain medication supplies. Patients are in severe pain. Some of them request IV medications to die. What would you do? How would you respond to the patient’s request? How would you allocate resources?

Readings and Resources for the Learner

- Required Resources
Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 5: Setting: Special considerations for older adults
Lesson 5-3: Hospice

Supplemental Resources
The following resources will be useful for geriatrics and palliative care and hospice providers.


Learner Assessment Strategies
2. Demonstration of skills in developing a framework to avoid disaster: a workshop for prevention. For this activity, learners should think about a disaster in the setting of geriatric hospice patients.

Readings and Resources for the Educator
- Required Resources


- Supplemental Resources

**Sources Cited in Preparing Outline and Activities Above**


LESSON 5-4
SKILLED NURSING FACILITIES
AND
ASSISTED-LIVING FACILITIES
Lesson: Skilled Nursing Facilities and Assisted-living Facilities

Author: Kathryn Hyer, PhD, MPP
Professor and Director, Florida Policy Exchange Center on Aging
School of Aging Studies
University of South Florida

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

Competencies
This lesson supports learning related to the following competencies, with regard to conditions present in the geriatric population who are living in skilled nursing facilities and assisted-living facilities in disasters:


Core Competency 2.0 “Demonstrate knowledge of one’s expected roles(s) in organizational and community response plans activated during a disaster or public health emergency.”
Sub competency 2.3 “Explain mechanisms for reporting actual and potential health threats through the chain of command/authority established in a disaster or public health emergency.”

Core Competency 3.0 “Demonstrate situational awareness of actual/potential health hazards before, during, and after a disaster or public health emergency.”
Sub competency 3.2: “Describe measures to maintain situational awareness before, during, and after disaster or public health emergency.”

Core Competency 4.0 “Communicate effectively with others in a disaster or public health emergency.”
Sub competency 4.3 “Identify strategies for appropriate sharing of information in a disaster or public health emergency.”

Core Competency 5.0 “Demonstrate knowledge of personal safety measures that can be implemented in a disaster or public health emergency.”
Sub competency 5.2 “Describe risk reduction measures that can be implemented to mitigate or prevent hazardous exposures in a disaster or public health emergency.”
Core Competency 6.0 “Demonstrate knowledge of surge capacity assets, consistent with one’s role in organizational, agency, and/or community response plans”
   Sub competency 6.1 “Describe the potential impact of a mass casualty incident on access to and availability of clinical and public health resources in a disaster or public health emergency”

Core Competency 7.0 “Demonstrate knowledge of principles and practices for the clinical management of all ages and populations affected by disasters and public health emergencies, in accordance with professional scope of practice.”
   Sub competency 7.1 “Discuss common physical and mental health consequences for all ages and populations affected by a disaster or public health emergency.”

Core Competency 8.0 “Demonstrate knowledge of public health principles and practices for the management of all ages and populations affected by a disaster or public health emergency.”
   Sub competency 8.3 “Identify strategies to address functional and access needs to mitigate adverse health effects of disasters and public health emergencies.”

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

5-4.1 Distinguish the unique role of federally certified skilled nursing facilities from state-licensed residential care facilities within the health care and housing continuum during a disaster or public health emergency.

5-4.2 Describe local, regional, and state integration of skilled nursing facilities and residential care facilities into the Emergency Support Functions and structures.

5-4.3 Determine the ability of local and state Emergency Operations Centers (EOCs) to access formal disaster preparedness plans of skilled nursing facilities for the range of emergencies that might occur (required only for skilled nursing homes under the Centers for Medicare and Medicaid Services [CMS]).

5-4.4 Identify strategies for appropriate communication among state and local emergency management and providers during and after the disaster to assist skilled nursing facilities or assisted-living providers to shelter in place. State and local EOCs may deploy assets to facilities as a disaster unfolds to mitigate residents’ adverse health events.

5-4.5 Identify risk reduction measures and assets that can be mobilized to assist skilled nursing facilities or residential care facilities if emergency requires partial evacuation to other facilities (transfer of specific residents such as dialysis patients) or total evacuation.

Estimated Time to Complete This Lesson
I. Distinguish the unique health care and housing role of federally certified skilled nursing facilities from state-licensed residential care facilities during a disaster or public health emergency.
   a. Define federally certified skilled nursing facilities and provide purpose, resident description, and disaster preparedness regulations.
      i. The Nursing Home Reform Act (The Omnibus Budget Reconciliation Act of 1987) requires that residents in skilled nursing facilities receive periodic assessments, a comprehensive personalized care plan, nursing services, social services, rehabilitation services, pharmaceutical services, dietary services, and, if the facility has more than 120 beds, the services of a full-time social worker. About 15,700 facilities nationally are licensed by states and certified to bill Medicare and Medicaid directly for services. Each facility must be in “substantial compliance” with the requirements of the Nursing Home Reform Act as verified through state inspections.¹,²
      ii. Over 1.3 million residents receive care daily in skilled nursing facilities that serve people with increasingly complex medical conditions and with high physical and cognitive functional demands.² Two-thirds of nursing home residents are women.² About 15% are under age 65 and 42% are over age 85.² Two distinct groups are represented. Skilled facilities serve Medicare residents in need of rehabilitation after acute illness or hospital stay; stays range from 5 to 90 days for short-term rehab. Most short-stay residents return to the community within 90 days. A second population served, primarily paid by state or federal Medicaid funds, is of residents who need long-term care services because they cannot live independently or require more care than assisted living can provide. Most long-stay residents have cognitive impairment and about 90% require substantial personal assistance to bathe, dress, and toilet and about 60% require assistance to eat meals.²
      iii. Emergency preparedness federal regulations (CMS) require that skilled nursing facilities develop all-hazard disaster preparedness plans, evacuation plans, and fire safety plans.³ Facilities must have detailed written plans and procedures to meet all potential emergencies and
disasters. CMS has a checklist for skilled facilities and standards for review of plans. Copies of plans are to be filed with local emergency operations offices but review of plans varies considerably. Plans are required to be available for staff, and new staff are to be trained. Regulations require that fire drills and recommend emergency plans be routinely practiced by nursing homes. Skilled nursing facilities are NOT required to adhere to Incident Command Structure but must outline staff duties and responsibilities during emergencies.

b. Define assisted-living facilities and provide purpose, resident description, and disaster preparedness regulations.

i. Assisted-living and residential care facilities are licensed or certified by states as communities, as care providers, or as communities providing specific types of care. Focusing on choice, privacy, and autonomy, these facilities are a fast-growing part of housing and health care services available to older and disabled adults.

1. States, not the federal government, regulate this mix of 24-hour awake staff with hospitality services that feature communal dining and a private room. Most facilities have a dizzying range of allowable and available health care services.

2. About 60% of the assisted-living facilities have fewer than 25 residents, thus making routine inspection and oversight difficult. About 30% of facilities over 25 beds provide the majority of assistance to residents and 14% have more than 100 residents. Assisted living is funded with private funds and only about 17% of assisted-living residents receive some care with Medicaid assistance. Because assisted living is considered community living, there are fewer regulations and less oversight.

3. Assisted-living facilities may have specialty licenses and services such as licensed mental health facilities for younger seriously mentally ill residents versus dementia care and services for older adults. The license categories will alter disaster plans and may drive the needs for evacuation and need for services.

ii. Nationally, 750,000 Americans live in 22,200 assisted-living or residential care communities.

1. Assisted-living residents are older on average than nursing home residents with the modal resident a woman aged 87 years. Assisted-living residents enter less disabled than nursing home residents but may live for many years and “age in place” with increasing frailty and dependency. About 60% of assisted-living
residents who leave assisted living transition to the higher skill level of a nursing home. About 60% of residents need assistance with bathing and 45% need help with dressing.

2. An estimated 40% of residents have Alzheimer’s or other dementia and about 59% of the largest buildings have special dementia units. Receiving assistance with medications is a service needed by many residents, as is assistance with health-related services.

3. Almost 7% of residents are under age 65 and may serve seriously mentally ill residents. These residents may not require the physical assistance with daily living tasks but require supervision and medication administration.

iii. Unlike the federal standards that regulate nursing homes, assisted-living emergency preparedness regulations vary by state. Some assisted-living facilities discharge residents to family or special care facilities during storms, and mass shelters may receive assisted-living residents, although most states try to prevent that outcome.

1. Most states have strict fire codes and require basic emergency preparedness plans but few have all-hazard disaster preparedness. The federal government through CMS issued emergency preparedness recommended practices, and national associations for assisted living (e.g., Assisted Living Federation of America) have planning tools and guidelines for members.

2. It is critical to learn the state and local requirements and likelihood of facilities to be able to monitor and report concerns about resident care before, during, and after an emergency or disaster. Many states recommend all-hazard plans to be developed and filed with health departments or local emergency management.

II. Describe local, regional, and state integration of skilled nursing facilities and residential care facilities into the Federal Emergency Management Agency Emergency Support Functions and structures.

a. Skilled nursing facilities are generally included as health care providers in state and local ESF-8.

i. Review state ability to identify all skilled nursing providers either through geo-codes or registry system requiring updates of residents.

ii. Review state skilled nursing home requirements for number of days required to store water, food, and power/generator capacity, including fuel storage for residents.
iii. Identify likely areas in which nursing homes may require assistance such as need for transportation if evacuation is needed and fuel (recovery).  

iv. Encourage regional simulations of disasters and include skilled nursing facilities.  

b. Assisted-living facilities may be part of local ESF-8 but because of many small assisted-living facilities, mass shelters (ESF-4) may allow assisted-living providers to use mass sheltering.

i. Review state requirements for assisted-living sheltering and determine if residents are likely to be subgrouped within mass care shelters during disasters.

ii. Identify and classify residential care providers (include board and care or family caregiving homes) that may require assistance. Classification may be by license type or category of population served (elders, developmentally delayed, physically disabled, and residential facilities serving people with mental health or substance abuse).

iii. Encourage states to geo-code facilities and require registration to communicate during disasters and emergencies.

III. Determine the ability of local and state EOCs to access formal individual skilled nursing disaster plans that are required under CMS and any assisted-living plans that may be required by the state (preparedness period).

a. Skilled nursing facilities

i. Compare specific provider’s disaster plans as filed with local emergency management to actual situation in disaster area to assess likely impact on ability to continue operations.

ii. Activate state emergency operations plan, which should include registry of all providers that updates information and provides resident census, providers’ capacity to receive additional residents, operational concerns, and expectations for sheltering in place or evacuation.

iii. Evaluate criteria to shelter in place versus evacuate facility given registry information and how emergency is unfolding.

b. Assisted-living and residential care facilities

i. Activate state emergency operations plan, which should include registry of all providers that updates information and provides resident census, providers’ capacity to receive additional residents, operational concerns, and expectations for sheltering in place or evacuation.

ii. Assess classification of facilities by likely needs during type of disaster.

iii. Local emergency management offices should encourage providers to develop effective emergency plans and drill for all hazards.
c. Encourage regional community-wide simulations of disasters and include all long-term care providers to help develop local resiliency networks and knowledge of potentially vulnerable populations who may require assistance during disasters.7

IV. Identify strategies for appropriate communication among state and local emergency management and providers during and after the disaster to assist skilled nursing facilities or assisted-living providers as the disaster unfolds to mitigate adverse health events for residents.13,14

a. Skilled nursing facilities: Case study of Mother’s Day Flood 2006, Mary Immaculate Health/Care Services.15 Review the case study to examine how Mary Immaculate Health Care skilled nursing facility prepared to shelter in place during a flood but eventually had to evacuate its residents. The experience described in the case study allows learners to experience the management of an emergency from the nursing home administrator’s perspective during all phases of this emergency. Review case studies and experiences of California nursing homes during wildfires and Georgia nursing homes during wildfires.16,17

b. Assisted living: Review Centers for Disease Control and Prevention Adult Care Emergency Preparedness Exercise Toolkit and California Assisted Living Association tips for providers to determine elements that are important in assisted-living or residential care settings to maintain communication with local or regional emergency management.18

   i. Evaluate plans after drills or simulations by using federal checklists.
   ii. Involve community and businesses to build community resilience and mutual aid agreements.

c. All providers’ emergency preparedness communication plans should:

   i. Verify dissemination of emergency management phone numbers and communication links for providers to report status.
   ii. Establish (state or providers) daily “call-in” line at set time during emergency. Number should be toll-free. Have many lines and allow nursing home and assisted-living providers to request support or help from state or regional network.
   iii. Develop redundant communication plans including local ham radios or satellite phones.
   iv. Have the ability to communicate and to access resources that may be needed (fuel, food, water, medications, police support to keep building secure and avoid evacuation, or staff to maintain residents’ health and well-being).
d. Assess the state’s capacity to maintain communication and receive real-time data on facility’s occupancy, ability to maintain operation, and changing acuity of residents.
   i. For example, small assisted-living facilities are likely not on the list of utilities for quick restoring of power or services.
   ii. Remember likely needs during recovery are for diesel fuel for generators or electricity and water restored (work with provider groups or state licensing authority). May need to have suppliers provide medication, oxygen, and food; linens may need to be replenished; and staffing may need to be supplemented.

V. Identify risk reduction measures and assets that can be mobilized to assist skilled nursing facilities or residential care facilities to shelter in place. Sheltering in place is the preferred option. If emergency requires partial evacuation to other facilities (transfer of specific residents such as dialysis patients) or total evacuation, state and local assets (transportation or shelter beds) are needed to mitigate adverse health outcomes for residents.18-20
   a. Communicate with facilities, assess risk of event, and determine assets available within area. If need is to transfer residents before disaster, assess the ability of other facilities to accept new residents (receiving facilities for surge).
   b. Ensure appropriate emergency management support for efforts of nursing homes and assisted living to implement disaster plans for continuity of operations as approved and filed; recognize that the assets expected by nursing homes and assisted living may not be available.
      i. Ensure facility staff have identification passes and permission to be out during curfews and to get gas for vehicles as well as to drive to work during curfew. Be certain police recognize and honor passes.
      ii. Communicate with facility to determine if food and water are adequate.
      iii. Establish facility as a priority health care–related entity to enable facility to access or purchase fuel if needed to keep generator operating.
      iv. Identify if facility qualifies for help under Stafford Act or must pay for emergency support (fuel).
      v. Coordinate with police/security to ensure facility has adequate protection during recovery period because nursing homes are open and operating during disaster but do not have police onsite.
   c. If evacuation is needed, discuss facility decision-making and review how to help with evacuation.
      i. Review facility needs for transportation (e.g., contracts for ambulances or buses) or if facility owns vehicles to use for evacuation.
ii. Assist facility with support as appropriate.

d. Encourage regional simulations of disasters and include all long-term care providers to help develop local resiliency networks and knowledge of potentially vulnerable populations who may require assistance during disasters.

Suggested Learner Activities for Use in and Beyond the Classroom

1. Ask learners to review 2 actual disaster preparedness plans of skilled nursing facilities and 2 assisted-living facilities (try to obtain one plan from a large facility [> 50 beds] and one from a small facility [< 25 beds]). Ask learners to compare and contrast nursing home plans with assisted-living plans. Compare large assisted-living with small assisted-living plans. Discuss the adequacy and detail for the skilled nursing home plan and contrast with the large and small assisted-living disaster plans. Evaluate the plan differences by skilled nursing homes versus assisted-living facility. Are regulatory standards met? Determine each plan’s adherence to the CMS Best Practice Emergency Preparedness Checklist (link found below).

The US Department of Health and Human Services and CMS have prepared a survey and certification checklist as a tool for health care facilities to use in their all-emergency planning. [http://tinyurl.com/oz7qqpj](http://tinyurl.com/oz7qqpj).

Have learners review the case study of actual experiences of long-term care providers in the link below. Discuss the provider’s ability to implement the emergency plan. How does the table below help both long-term care providers and local emergency management offices to prepare to help long-term care providers during preparation, event, and recovery from disasters or emergencies?

**CASE STUDY:** Mother’s Day Flood 2006, Mary Immaculate Health/Care Services - [https://www.chausa.org/publications/health-progress/article/november-december-2013/for-long-term-care-readiness-gaps-abound](https://www.chausa.org/publications/health-progress/article/november-december-2013/for-long-term-care-readiness-gaps-abound) (please read the case study that follows the article, just below the “NOTES”).

<table>
<thead>
<tr>
<th>Table 1: Long-Term Care Facility Disaster Vulnerability and Emergency Management System Opportunities for Support</th>
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<tbody>
<tr>
<td><strong>Evacuation Needs</strong></td>
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<tr>
<td><strong>Transportation</strong></td>
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<tr>
<td>1) Need to secure reliable transportation—preferably from a vendor outside the immediate area</td>
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<tr>
<td>2) Build specifically designed ramps to facilitate</td>
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### Staffing

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<tr>
<td>1)</td>
<td>Determine incentives to get staff to work during emergencies</td>
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<tr>
<td>2)</td>
<td>Allow staff to evacuate families with the facility</td>
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<tr>
<td>3)</td>
<td>Identify staffing agencies that might be approached at destination sites</td>
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### Sheltering

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<tbody>
<tr>
<td>1)</td>
<td>Identify suitable shelter destinations for frail elderly</td>
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</table>
| 2) | Devise a two-tiered approach to evacuation:  
(a) Find a more local destination that can be used for first 48 hours  
(b) Determine a facility where residents can go for more prolonged evacuation (should it be required) |

### Facility Needs

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<tr>
<td>1)</td>
<td>Work with local and state emergency management organizations to improve evacuation planning</td>
</tr>
<tr>
<td>2)</td>
<td>Work with local and state agencies to ensure rapid restitution of critical services (e.g., power, water, food delivery) to allow for early return</td>
</tr>
</tbody>
</table>

### Shelter in Place Needs

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1)</td>
<td>Work with state and local emergency management organizations to ensure priority status for rapid restitution of critical services (e.g., power, water, food and medication delivery)</td>
</tr>
<tr>
<td>2)</td>
<td>Improve generator load and ensure that adequate fuel reserves are stored</td>
</tr>
<tr>
<td>3)</td>
<td>Ensure that at least a 7 days’ supply of water, food, and medications are on hand</td>
</tr>
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<td>4)</td>
<td>Target particularly frail residents for evacuation (e.g., dialysis patients, high oxygen utilizers)</td>
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### Staffing Needs

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1)</td>
<td>Provide shelter for immediate family of critical staff</td>
</tr>
<tr>
<td>2)</td>
<td>Identify incentives to ensure that staff stay during emergency situations</td>
</tr>
</tbody>
</table>

### Readings and Resources for the Learner

http://ncdmph.usuhs.edu
Required Resources

  


- Planning resources by setting. Centers for Disease Control and Prevention website.
  


- **Emergency Preparedness Tool Kit.** Assisted Living Federation of America.
  

Supplemental Resources

Learner Assessment Strategies

1. Have learners list 3 differences between nursing home regulation and assisted-living providers in their state.
   a. Nursing homes are responsible for patients/residents during disaster but assisted-living facilities may call families and tell them to pick up residents.
   b. Nursing homes that are certified are required to have disaster plans filed with local emergency management.
   c. Nursing home disaster plan is required part of reviews in annual nursing home inspection. Assisted-living disaster plans may not be required. Review could be part of state inspections if required.
   d. Assisted living or other residential care facility residents might be eligible for public shelters and for special needs shelters. (Nursing home residents would generally not be eligible for registration as a community resident in need of shelter during disaster.)

2. Using Table 1, the checklist for emergency preparedness, discuss how the skilled nursing facilities and residential care facilities in your community would be able to
request resources from the local or state emergency management offices. What do you think each facility should be able to do on its own without additional resources? Do you think local and state officials should expect to help skilled nursing facilities and assisted living facilities to evacuate? How does your discussion change if the disaster is a chemical spill versus flooding or a wildfire?

Readings and Resources for the Educators

• **Required Resources**
  
  o Planning resources by setting. Centers for Disease Control and Prevention website.
  
  
  o Caring for Vulnerable Elders During a Disaster: National Findings of the 2007 Nursing Home Hurricane Summit; May 21-22, 2007; St. Petersburg Beach, FL.
  
  o Active hazards: Geographic Information Systems (GIS). Pacific Disaster Center website.
  
  o "All Hazards" disaster planning. Mather Lifeways Institute on Aging website.
  
  o Emergency preparedness. Florida Health Care Association website.

• **Supplemental Resources**
  


Sources Cited in Preparing Outline and Activities Above


LESSON 5-5
OLDER ADULTS IN THE COMMUNITY OR AT HOME
Lesson: Older adults in the community or at home

Author: Melen McBride, PhD, RN, FGSA
Associate Director, Emerita
Stanford Geriatric Education Center
Stanford University, School of Medicine

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

Competencies
This lesson supports learning related to the following competencies, with regard to special considerations for older adults in the community or at home in disasters.


Core Competency 7.0 “Demonstrate knowledge of principles and practices for the clinical management of all ages and populations affected by disasters and public health emergencies, in accordance with professional scope of practice.”
Subcompetency 7.1 “Discuss common physical and mental health consequences for all ages and populations affected by a disaster or public health emergency.”

Core Competency 8.0 “Demonstrate knowledge of public health principles and practice for the management of all ages and populations affected by disasters and public health emergencies”
Subcompetency 8.1 “Identify all ages and populations with functional and access needs who may be more vulnerable to adverse health effects in a disaster or public health emergency.”

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

5-5.1 Describe at least 2 types of informal caregivers and identify up to 5 basic knowledge facts and skills they need to have to keep a homebound elder with chronic illness and early dementia safe in a disaster event. The learner may choose the type of event, e.g., a fire 100 miles from the older person’s residence.
5-5.2 Define multiple chronic conditions (MCCs) and explain how they increase the vulnerability of older adults who live in the community. The learner may choose one of the living arrangements discussed in the lesson.

5-5.3 Describe 2 models to deliver healthcare and social services to the homebound older person in the community and identify preparedness issues to address in the care plan.

5-5.4 Develop a 5-minute teaching tool about an aspect of personal preparedness for a disabled older person who lives alone.

5-5.5 State a difference in the focus of the emergency management plan between the above types of living arrangements for seniors.

5-5.6 Determine the applicability of at least one resource material for disaster preparedness for a new geriatric patient in the primary clinic.

Estimated Time to Complete This Lesson
90 minutes

Content Outline
Module 5: Setting: Special considerations for older adults
Lesson 5-5: Older adults in the community or at home

I. Background: In this lesson, the definition used for “at-risk individuals” is adapted from the 2015-2018 National Health Security and Implementation Plan developed by the US Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response (http://www.phe.gov/Preparedness/planning/authority/nhss/Documents/nhss-ip.pdf). It states, “Persons who, before, during, and after an incident... may have additional needs in one or more of the following functional areas: communication, medical care, maintaining independence, supervision, and transportation. Includes individuals specifically recognized as ‘at risk’ in the Pandemic and All-Hazards Preparedness Act section 2802 of the PHS Act (i.e., children, senior citizens, and pregnant women), individuals who may need additional response assistance [including] persons who have disabilities, live in institutionalized settings, are from diverse cultures, have limited English proficiency or are non-English speaking, are transportation disadvantaged, have chronic medical disorders, and have pharmacological dependency.”

II. Caregivers: There are 2 major types of caregivers, the formal caregiver and the informal caregiver. The formal caregiver is often employed in an institution or agency or by an independent contractor. Also included in this category is a relative or friend compensated through a Medicare/Medicaid home assistance program. The informal
Caregiver is usually a family member, partner, friend, or neighbor who has a personal relationship with an older adult or care recipient who needs ongoing assistance to perform daily tasks of living due to partial or full incapacity from illness, disability, or frailty from physical or mental disabilities. In the United States, 1 in 4 households are providing assistance to an older adult and about 44 million family caregivers are 18 years and older.¹ These caregivers contribute annually to the economy about $306 billion in uncompensated labor and services.² Most informal caregivers are 65 years or older³ and 30% to 40% of those who care for someone with dementia experience depression and emotional stress.⁴⁻⁶

a. Formal caregivers are health care and social service providers employed in health care institutions and for profit and nonprofit service agencies. The formal caregivers are expected to have training in geriatric disaster preparedness according to their assigned roles for all-hazards disaster management.⁷ Periodic exercises are held to maintain the level of knowledge and skills and to update the disaster management plan according to changes in federal, state, and local policies and adjustments of institutional leadership, roles, and responsibilities and protocols/protocols that are outcomes of the exercises. The health care providers are expected to have personal and family preparedness plans to enable them to focus on their roles and responsibilities in the workplace in the event of a disaster. Paid caregivers who are family members or friends may not have formal preparedness training. It is important during the interview process that the “employer” (e.g., family member) includes an assessment of the potential caregiver’s knowledge and skills in disaster management. The hired caregiver needs to know the care recipient’s personal preparedness plan and the family’s plan as well, especially how the family will communicate in a disaster. Family education about hiring a caregiver through an agency or an independent contractor needs to include the importance of assessing the caregiver’s basic knowledge and skills in disaster preparedness and response.

b. The informal family caregiver may provide a mix of tasks in several domains of care, i.e., personal care, nutritional care, transportation, household maintenance, recreation, communication, health care, legal and financial care, cultural and spiritual care, and other needs presented by geographic and environmental issues.⁸,⁹ While informal caregivers tend to be devoted and compassionate and apply every skill they know to their caregiving responsibilities, they do not receive sufficient training and are not formally recognized in the health care system as a member of the health team. However, this institutionalized attitude is gradually changing.⁸
i. Informal caregivers can be differentiated further according to the role(s) that they assume either by default, choice, or family negotiation. A primary caregiver is the person who has the overall responsibility for all aspects of daily care that require supervision or assistance; a care recipient or his or her family may designate the primary caregiver to be the executor of the durable power attorney for health or finance. In many cultures, this caregiver role is often relegated to a female (e.g., daughter, daughter-in-law, female relative or female friend or partner), although there are many male caregivers. The responsibility for finance or decision-making may be handled by a male family member (e.g., first-born son, brother of the older adult, or a trusted male family friend) in the absence of a male spouse. The primary caregiver may have other relatives who are secondary caregivers for the same care recipient. They provide specific assistance such as periodic respite care, transportation, grocery shopping, and home repairs. Secondary informal family caregivers such as those who live some distance from the care recipient may participate by contributing resources in monetary form, information, or emotional support. They depend on updates from the primary caregiver and other members of the family who may or may not be involved in caregiving activities. They may play a significant role in a major disaster when a voluntary or mandatory evacuation for the care recipient requires temporary housing. Depending on the family dynamics and culture-based expectations, a distance caregiver may feel equally stressed with the experience and this stress could intensify when lack of or gaps in information exist. It is also important to keep in mind that many of the informal caregivers are 65 years and older.

ii. A less known and understood group of family caregivers are the child caregivers. In the United States, up to about 1.4 million children aged 8 to 18 years are caregivers. A child caregiver is reported to be present in 3.2% (906,000) of the 28.4 million households that have a child aged 8 to 18 years. Seventy-six percent live in two-parent households and many live in low-income households. Seventy-two percent care for a parent or grandparent, and in this group 28% are parents and 31% grandparents; 64% live with the care recipient and the age ranges for the majority of care recipients are 40-59 years (32%) and 60-79 years (25%). Child caregivers assist with a variety of tasks, assisted or supervised in most cases by an adult, ranging from being a companion to more complex activities such as giving medication. However, 93% of minority child
Caregivers tend to provide care without assistance. The most common health conditions include: Alzheimer’s disease or other dementia (18%); heart, lung, and kidney problems (16%); arthritis (14%); and diabetes (14%). Caregiving as a positive experience for child caregivers can be an opportunity to strengthen bonds with family members, learn life skills, acquire respectful interpersonal communication skills, and feel valued as a contributor to meet the needs of the family. There is a fine line in the caregiving process when the child’s growth and development, especially those who live with the care recipient, may get stunted as they also develop emotional and psychological effects similar to those reported by adult caregivers such as anxiety and depression. A child caregiver may become withdrawn, show decline in school performance, and present other stress-related behaviors.

c. Disaster health preparedness: When developing a disaster preparedness plan with the older person and her or his network of caregivers, i.e., the primary caregiver and other family caregivers including child caregiver(s), a clear and reliable process of communication, agreed upon by the caregivers, is essential to ensure the health and safety of the care recipient as well as the caregiver and to enable first responders or rescue volunteers to act in the best interest of the older person and the individuals in the household. When some caregivers are not in the household, a telephone tree or electronic messaging can be adapted for information sharing. In post-disaster recovery, when families get separated, the need to know and to reunite with relatives and friends may add to the stress when pre-disaster plans for communication strategies are inadequate or nonexistent.

i. At the pre-event assessment process, determine possible difficulty in communication related to physical or neurological problems (e.g., laryngectomy, stroke-aphasia, spinal cord injury, upper extremity amputation, Alzheimer’s or dementia), sensory impairments (e.g., deaf, hard-of-hearing, low vision), less education, and limited English proficiency (among older adult immigrants). Based on the U.S. Census 2010 data, Table 1 provides information on education and English proficiency of older adults aged 65 or more by racial categories.

Table 1. Selected demographic characteristics of older Americans by ethnicity, aged 65 and over, US Census, 2010

<table>
<thead>
<tr>
<th>Populations</th>
<th>No. Aged ≥65 years</th>
<th>&lt;9 years of education*</th>
<th>Speak little or no</th>
<th>With disability#</th>
<th>Living alone</th>
</tr>
</thead>
</table>

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Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 5: Setting: Special considerations for older adults
Lesson 5-5: Older Adults in the Community or at Home

<table>
<thead>
<tr>
<th></th>
<th>English*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total older Americans</td>
<td>40,267,984</td>
</tr>
<tr>
<td>Non-Hispanic/Latino (living alone)</td>
<td></td>
</tr>
<tr>
<td>African American/Black</td>
<td>3,374,981</td>
</tr>
<tr>
<td>American Indian</td>
<td>179,819</td>
</tr>
<tr>
<td>Asian Americans</td>
<td>1,376,471</td>
</tr>
<tr>
<td>Native Hawaiian &amp; Other Pacific Islanders</td>
<td>29,568</td>
</tr>
<tr>
<td>White</td>
<td>32,209,431</td>
</tr>
<tr>
<td>Two or More Races</td>
<td>399,457</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>2,781,624</td>
</tr>
</tbody>
</table>

Source: US Census Bureau. Number of adults aged ≥65 years in each racial or ethnic category are from the 2010 decennial census.
*Percentage figures for educational level and speaking little or no English are from the American Survey 3-year or 5-year estimates through 2010. Retrieved from www.census.gov).
#Civilian noninstitutionalized population.

III. Homebound elders: About 3.6 million adults aged 65 and over are homebound or need care at home. Currently, there is no formal classification for this population beyond the broad description in terms of levels of disability and a multiple mix of physical, mental and social factors that keep the older person confined at home most of the time. Medicare considers a person homebound when substantial effort and assistance is necessary to leave the home and the activity occurs infrequently, usually for medical reasons. There is evidence that heart disease, circulatory problems, dementia, and depression are the predominant health issues that indicate the need for home-based care. Most homebound elderly require assistance with homecare from multiple debilitating health conditions. This section provides information on the characteristics of older persons who may need health care and social services delivered to their home and implications for disaster preparedness for all-hazards events specific to sheltering-in-place, voluntary or mandatory evacuation to a local shelter, or mandatory relocation out of the area.
a. Disability in older Americans

i. According to the Americans With Disabilities Act (ADA) of 1990 as amended by the ADA Amendments Act of 2008 (P.L. 110-325), “the term ‘disability’ with respect to an individual is (A) a physical or mental impairment that substantially limits one or more major life activities of such individual; (B) a record of such an impairment; or (C) being regarded as having such an impairment.”20, p7 It is common knowledge that disability is associated strongly with increasing age.21,22 The disability rate increases quickly among the oldest-old (aged ≥85 years) owing to susceptibility to disease and the aging process.23,24

ii. According to the American Community Survey from 2008–2012, the number of people aged 65 and older reached 40.7 million and represents 13.2% of the US population. At least 1 or 2 disabilities are reported for about 15.7 million (38.7%) older adults, and although the oldest-old (≥85 years) is the smallest subgroup among the population aged ≥65 years, 25.4% are living with a disability. Furthermore, there are more older women among the older population living with disability (59.0%) than in the whole population of older adults (56.8%).24 Disaster management at all levels for relevant functions and responsibilities needs to ask, “To what extent have existing plans covered the unique needs of older adults with one or more disabilities?” Table 2 shows types of disabilities and distribution of disability by age subgroup, gender, and functional level.24 This information can help to guide the periodic assessment and upgrading of existing disaster management plans in health care and social service settings as well as the development of management plans for new health care and service delivery systems.
Table 2. Population Aged 65 and Over With a Disability by Type of Disability, Functional Level, Age, and Sex: 2008-2012*

<table>
<thead>
<tr>
<th>Type of Disability#</th>
<th>Total No. and Percent</th>
<th>No. 65-74 years, Percent</th>
<th>No. 75-84 years, Percent</th>
<th>No. ≥85 years, Percent</th>
<th>No. Male, Percent</th>
<th>No. Female, Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision</td>
<td>3028 19.2%</td>
<td>959 16.5%</td>
<td>1075 18.2%</td>
<td>994 24.9%</td>
<td>1137 17.6%</td>
<td>1891 20.4%</td>
</tr>
<tr>
<td>Hearing</td>
<td>6354 40.4%</td>
<td>2030 34.9%</td>
<td>2400 40.6%</td>
<td>1924 48.1%</td>
<td>3352 52.0%</td>
<td>3001 32.3%</td>
</tr>
<tr>
<td>Cognitive</td>
<td>4529 28.8%</td>
<td>1311 22.6%</td>
<td>1655 28.0%</td>
<td>1562 39.1%</td>
<td>1668 25.9%</td>
<td>2861 30.8%</td>
</tr>
<tr>
<td>Functional Level</td>
<td>Total No. and Percent</td>
<td>No. 65-74 years, Percent</td>
<td>No. 75-84 years, Percent</td>
<td>No. ≥85 years, Percent</td>
<td>No. Male, Percent</td>
<td>No. Female, Percent</td>
</tr>
<tr>
<td>Ambulatory</td>
<td>10,467 66.5%</td>
<td>3696 20.2%</td>
<td>3861 65.2%</td>
<td>2911 72.8%</td>
<td>3681 57.1%</td>
<td>6786 73.1%</td>
</tr>
<tr>
<td>Self-Care</td>
<td>4468 28.4%</td>
<td>1177 20.2%</td>
<td>1595 26.9%</td>
<td>1697 42.4%</td>
<td>1502 23.3%</td>
<td>2966 31.9%</td>
</tr>
<tr>
<td>Independent Living</td>
<td>7523 47.8%</td>
<td>1978 34.0%</td>
<td>2796 47.2%</td>
<td>2749 68.9%</td>
<td>2381 37.0%</td>
<td>5142 55.4%</td>
</tr>
</tbody>
</table>


#Percentages for type of disability are the proportion of each type of disability among the total population aged 65 and over with a disability. A person may have one or more types of disability and, as such, the percentages add to more than 100.

IV. Multiple chronic conditions

a. The presence of MCCs, recently reconceptualized as multimorbidity patterns, increases with age and is associated with increased disability, decline in function, lower quality of life, and high mortality rates. The interactions of 2 or more chronic conditions put the older adult at risk of becoming homebound, narrowing social networks and increasing vulnerability, especially in all-hazards disaster events. Studies report varying clusters or patterns of MCCs. Results of a factor analysis of claims data for 86,176 women and 63,104 men show 3 multimorbidity patterns: cardiovascular/metabolic disorders.
[prevalence female: 30%; male: 39%], anxiety/depression/somatoform disorders and pain [34%; 22%], and neuropsychiatric disorders [6%; 0.8%]. Overall, 50% of women and 48% of men met the criteria for at least 1 of the 3 multimorbidity patterns. 

b. An exploratory study examined the prevalence of MCC dyads and triads in noninstitutionalized adult participants aged 18 and older (N=27,157) in the 2010 National Health Interview Survey. On the basis of reported chronic conditions, individuals were placed in 1 of 3 groups by the number of chronic conditions that they had from a list of 10 i.e., 0-1 condition, 2-3 conditions, and 4 or more conditions. The conditions included hypertension, coronary heart disease, stroke, diabetes, cancer, arthritis, hepatitis, weak or failing kidneys, chronic obstructive pulmonary disease, and current asthma. The arthritis/hypertension group (dyad) and the arthritis/diabetes/hypertension group (triad) were 2 of the most prevalent MCC combinations for this population. Twenty-six percent had MCCs; prevalence increased with age and rates were higher among females, non-Hispanic whites, and non-Hispanic blacks than in males and Hispanic adults. Although limitations exist, understanding trends in MCCs within subgroups would be useful as a guide for emergency management planners and health care responders for developing clinical guidelines specific to the treatment and management of clusters of chronic conditions for noninstitutionalized older adults for all phases of all-hazards disaster preparedness and enhancement of health resilience.

c. Brown and associates studied the most common medications for chronic conditions prescribed in 376 emergency rooms by use of the 2004 National Hospital Ambulatory Medical Care Survey (NHAMCS). The result was a first action toward an evidence-based strategy for preparing, reviewing, and revising stockpiles of prescription drugs for chronic care conditions for a public health emergency. The drug classes recorded for 2004 were (1) anti-anginal/vasodilators (heart disease), (2) narcotics and analgesics (cancer), (3) nonnarcotic analgesics (stroke), (4) anti-asthmatics/bronchodilators (chronic obstructive pulmonary disease and asthma), and (5) hypoglycemic agents (diabetes). The traditional pharmaceutical and medical supplies stored for all-hazards events are focused on acute care conditions. People with chronic conditions, especially older adults, are at high risk when their daily medications are interrupted, and disasters can rapidly change the health status of an older person with MCCs. Availability of commonly prescribed medications for chronic conditions in a disaster would be a critical resource for all phases of disaster, especially in the immediate and long-term recovery of older people, their family, and the community. Over time in the recovery process when
personal supplies of medications are depleted, finances are limited, or local drugstores remain closed, the older person’s and the caregiver’s situation could escalate their stress level.

i. Older persons with chronic illnesses are more likely to be hospitalized after a disaster. A post-Hurricane Katrina study found more older adults (29.2%) with chronic diseases needed hospital care compared with adults without chronic illness (10.9%). However, the pattern of recovery tended to be similar in older adults as in the general population. Eighteen months after Hurricane Katrina, chronic illness was not a significant risk factor for a decline in quality of life or mental health issues. Disruption of daily routine from prolonged displacement plus the effects of complex pre-event chronic health problems may increase the risk of developing post-traumatic stress disorder.

ii. Health care for the homebound: Access to and utilization of quality health care services and resources become a major deficit in maintaining biopsychosocial health for the homebound older person. Homebound persons who often have multiple complex needs tend to become “invisible” in traditional health care delivery models that provide services in a medical complex, community clinic, medical offices, and other health care facilities. Mobility issues create significant challenges to homebound older people. Public health has been the backbone of delivering health care to the community through home health care programs along with public health nurses and visiting nurses. Health care delivery models that incorporate interprofessional teams are evolving to mitigate barriers to health care for close to 4 million older adults.

iii. Care of homebound at home: The home-based chronic care model developed from the conceptual framework “chronic care model” enables home health care providers to adapt best practice interventions to manage chronic health problems. Practitioners are trained with a standardized curriculum, certification program, and guidelines for practice. The model allows for opportunities to standardize the delivery of best practice for chronic care among provider groups. A key element in the model is the teaching skills of practitioners to ensure that the care recipient understands and can perform the self-care behaviors necessary to meet the goal for the management plan. An elderly homebound person may require focused teaching about disaster preparedness to reduce the elder’s vulnerability in a disaster. For example, results of a nationwide survey in Japan of patients with rheumatoid arthritis who lived in areas where natural disasters occurred
between 2004 and 2006 found that participants aged ≥65 years performed better in general preparedness activities (emergency pack, family communication plan, and evacuation plan) than did the younger participants. However, all 3 preparedness activities were positively associated with the young-old (aged 65-74 years) subgroup, whereas having an evacuation plan was negatively associated with the old-old (aged >75 years) subgroup.34

iv. Primary care while living at home: According to the Patient-Centered Primary Care Collaborative, “The medical home is best described as a model or philosophy of primary care that is patient-centered, comprehensive, team-based, coordinated, accessible, and focused on quality and safety....It is a place where patients are treated with respect, dignity, and compassion, and enable strong and trusting relationships with providers and staff...a model for achieving primary care excellence so that care is received in the right place, at the right time, and in the manner that best suits a patient's need.”35 The model is a philosophy of health care delivery that supports the team of providers with the collective awareness to meet the patients or clients where they are in their need in the context of a continuum of simple to increasingly complex conditions that primary care management would address. While this medical care does not take place in the home, it is often available in the community to serve those older adults living at home. This may include referrals to focused services as needed such as rehabilitation therapy, nutrition counseling, disaster preparedness, hospice care, etc. The Agency for Healthcare Research and Quality defines a medical home “not simply as a place but as a model of the organization of primary care that delivers the core functions of primary health care.”36 It encompasses 5 functions and attributes: (1) comprehensive care, (2) patient-centered care, (3) coordinated care, (4) accessible services, and (5) quality and safety. Hence, the model is not a final destination but rather is a catalyst for the homebound elder’s progression to increased functional capacity and decreased vulnerability in all-hazards disaster preparedness, recovery, and resilience.

V. Aging in place. It is well known that people, especially older adults, often choose to stay in their homes even when safety and quality of life become issues for themselves, their caregivers, their family members, their health care providers, and others who care about their welfare. Independence and self-determination are important values to honor and respect in the aging community. Twenty-seven percent of older adults aged 65 and older live alone in the community (Table 1).16
arrangement, and having MCCs are risk factors that increase vulnerability in all-hazards events. “Aging in place” is an evolving concept in gerontology to “…describe a person living in the residence of their choice, for as long as they are able, as they age. This includes being able to have any services (or other support) they might need over time as their needs change.”37 Being prepared to adapt to changes in one’s life, health, finances, and environment to maintain or improve quality of life requires creating a sustainable plan as early as possible and maintaining the plan. An aspect of adaptation to change is readiness for threats to health and life from any type of disaster. A goal for geriatric disaster preparedness education for responders involving older adults who prefer to age in place, their caregivers, and family is to ensure the availability of a customized, reliable, and effective disaster preparedness plan to remove or reduce threats to health and life, maintain a safe environment, have access to resources, and recover from disaster effects in the shortest possible time. Health and service providers have a critical role in educating these groups (i.e., older adults who live alone in their homes, their caregivers, and their families) about disaster preparedness for all-hazards events, assisting these groups to create personal plan, and providing guidance and support to practice these plans before a disaster occurs. An important activity is a pre-event assessment of the older adults’ level of personal resilience involving physical and mental health; functional capacity, including the use of communication technology; financial resources; support systems; access to local resources (e.g., pharmacy, grocery store); and other capabilities. These key data are useful to identify major areas to strengthen personal resilience for every phase of a disaster and to maintain a high level of resilience in daily life. This framework of personal preparedness provides a foundation to build and enhance resilience skills for disaster preparedness. Connecting disaster preparedness and personal/community resilience to the aging in place movement is yet to be formally conceptualized and studied.

VI. Resources: Examples of tools for older persons who are homebound or living independently

a. General guides
i. There’s No Place Like Home - For Growing Old
   This tip sheet introduces the kinds of help to consider so the older person can continue to live on her or his own.
   
   ii. The Red Cross emergency preparedness checklist
iii. Disaster Preparedness for Seniors by Seniors

iv. Prepare for Emergencies Now: Information for People With Disabilities
This guide outlines commonsense measures individuals with disabilities and others with access and functional needs, and the people who assist and support them, can take to start preparing for emergencies before they happen.

v. Preparing for Disaster for People with Disabilities and other Special Needs Source

b. Food safety
i. Preparing for a weather emergency

ii. Keeping food safe in an emergency

c. Consumer Information
i. Emergency Communications. What happens in an emergency.

Suggested Learner Activities for Use in and Beyond the Classroom

• Interactive Interprofessional Learning: Assign learners to read the article by Landers SH, Suter P, Hennessy B. Bringing home the “medical home” for older adults. Cleve Clin J Med.2010;77(10);666-675.
http://www.ccjm.org/fileadmin/content_pdf/ccjm/content_3e04ac7_661.pdf

Mrs. Smith is a patient in your clinic or agency. You are going to make a home visit. One of your concerns is her safety at home because tornadoes are known to hit the area where she lives.

○ Learning Activity # 1:
  a. Consider Mrs. Smith’s current health problems and based on your discipline, list at least 3 disaster preparedness issues that you will
include in your assessment during the home visit. Give a rationale for each issue.
b. Join a small group of learners (3-5), preferably from other disciplines, and discuss the preparedness issues and the rationale for having identified those issues.

- **Learning Activity #2:**
  Using the same article above, divide the learners into 2 groups for a role-play; one group consists of physicians and advance practice nurses and the other group consists of administrators, social workers, and nurses. The purpose of the meeting is to explore a partnership to deliver home-based primary care to geriatric patients. The agenda is to discuss the emergency management plan of the agency specific to patients like Mrs. Smith. Both groups agree that the plan needs updating, especially in regards to teaching patients about preparing for disasters. Each group brings up an issue and explains the significance it has on health outcomes or the quality of the home-based primary care services.

- **Learning Activity #3**
  Use the same activity as above (Learning Activity #2) except that Mrs. Smith is now receiving help from a live-in family caregiver. Both groups agree that the emergency management plan of the agency specific to patients like Mrs. Smith needs updating, especially in regards to teaching patients and informal caregivers about preparing for disasters. Each group brings up an issue and explains the significance it has on health outcomes or the quality of the home-based primary care services.

- **Learning Activity #4:**
  Use the same activity as above (Learning Activity #2) except that Mrs. Smith moved to a local continuing care retirement community (CCRC) home 6 months ago and is very happy with her decision. Both groups agree that the emergency management plan for the home specific to Mrs. Smith’s personal preparedness kit needs upgrading to meet her current functional needs. The geographic location of her new residence is about 10 miles from a refinery. Each group brings up an issue associated with an emergency involving the refinery and explains the significance it has on Mrs. Smith’s health outcomes before an event and during immediate and long-term post-event recovery.
Learning Activity # 5:
This learning tool engages the learner to acquire a broader perspective of geriatric disaster preparedness for a highly diverse population that often is perceived as a monolithic entity. The learner enters at least one item in columns 2 to 4 for each type of living arrangement. Then the class forms small interprofessional groups and uses the information entered in the table to discuss differences and similarities in disaster preparedness planning for older adults who are in these types of living arrangements.

<table>
<thead>
<tr>
<th>Type of Living Arrangement</th>
<th>Unique Characteristics of Older Adults</th>
<th>Special Functional Needs of Older Adults</th>
<th>Major Emphasis on Older Adults’ Personal Preparedness Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live alone at home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living in assisted living</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living in a nursing home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living in a retirement community</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Evaluation:
For all learning activities, have learners write brief responses to the questions below:

a. Share an insight you gained from the learning activity.
b. How would you use this insight to enhance your professional skills as a member of the health care team?

Readings and Resources for the Learner

- Required Resources
Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 5: Setting: Special considerations for older adults
Lesson 5-5: Older Adults in the Community or at Home


- Supplemental Resources

Learner Assessment Strategies
1. Ask learners to prepare a 10-minute slide presentation that summarizes key points in the learning lesson. Have learners present to their peers and request feedback with the use of a short evaluation questionnaire developed by the learner.

2. Ask learners to write a script for a 5-minute role-play to teach Mrs. Smith (refer to Learning Activity # 1 and #2) about medication supply for her backpack and family communication plan. She is currently a participant in the home-based primary care program at your clinic and she lives in a local nursing home or a retirement community (learner picks one of these). You are scheduled to make a home visit in 2 weeks when a family caregiver will be present. Practice the role-play with the class.

Readings and Resources for the Educators
- Required Resources
Caring for Older Adults in Disasters: A Curriculum for Health Professionals
Module 5: Setting: Special considerations for older adults
Lesson 5-5: Older Adults in the Community or at Home


- Supplemental Resources
    - Kawasaki L. Disasters and the frail elderly. pages 53-63.
    - Schor K. Disaster health competencies and their applications: caring for seniors, pages 203-216.
    - Hall N. Older persons in disasters and emergencies: the overlapping mental and physical health issues. pages 31-45.
    - Tumosa N. Self-help tools for older persons and their caregivers, pages 141-156.
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LESSON 5-6

PHARMACY
Lesson: Pharmacy

Author: Angie T. Eaton, PharmD
Associate Professor of Pharmacy Practice
Texas Southern University
College of Pharmacy and Health Sciences

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

Competencies
This lesson supports learning related to the following competencies, with regard to special considerations for the geriatric population in disasters in the pharmacy setting:


Core Competency 11.0 “Demonstrate knowledge of short- and long-term considerations for recovery of all ages, populations, and communities affected by a disaster or public health emergency.”

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

5-6.1 Describe the effects a disaster can have on medications and medical devices commonly used by the elderly population.
5-6.2 Describe the role of the pharmacy staff in caring for the elderly population in a disaster.
5-6.3 Describe the role of health professionals in assisting the pharmacy staff in caring for the elderly population in a disaster.

Estimated Time to Complete This Lesson
30 minutes

Content Outline
Module 5: Setting: Special considerations for older adults
Lesson 5-6: Pharmacy

Objective 5-6.1
I. Describe the effects a disaster can have on medications and medical devices commonly used by the elderly population.
   a. The continuity of medication therapy is a major problem for elderly in disaster settings. In the event of a disaster, it is crucial for these patients who commonly have comorbid conditions to have an adequate medication supply.¹ In past disaster events it was observed that those evacuees who did bring some medication often did not have enough to last throughout the evacuation process.² Educating these patients on how to prepare their emergency packs properly will relieve some of the burden from healthcare volunteers and medical teams so they can focus on more emergency situations. The medical teams that volunteer during these emergency events found that medication refills were among the top health and health-related issue at evacuation centers. The term medications is not limited to the pill form but may also include¹:
      i. Routine medications
      ii. List of allergies
      iii. Medical records
      iv. Devices needed for specific care
      v. Devices needed for daily life
      vi. Emergency medications
      vii. Other health-related items
   b. During the 1995 Earthquake in Japan, most elderly patients had obstacles to eating because they lost their dentures because the disaster occurred early in the morning. As healthcare professionals, it is our role to educate these patients on how to develop a proper medication pack to have during an emergency situation as recommended by the American Red Cross.³ Some patients may think that the answer is to create their own stockpile of medication. However, they should be educated on proper storage and disposal of expired medication. A good practice would be to encourage these patients to carry the emergency pack as they would their wallet or purse. It is possible that electricity may be interrupted, which limits the use of the electronic medical record. Patients should have an updated, comprehensive list of all current medications to ensure the continuity of therapies. It is imperative that the patient understands that disruption of their medication therapy can lead to serious adverse events, hospitalization, and even death.⁴

Objective 5-6.2

II. Describe the role of the pharmacy staff in caring for the elderly population in a disaster.
a. Health professionals who work in a pharmacy should realize that older adults might have difficulty understanding the importance of the disaster. As a result, the geriatric population has a higher likelihood of being less prepared than the average adult to deal with an event. Also, diminished hearing and vision can increase risk and difficulty in patients. Communications with loved ones and caregivers may be limited in disaster situations. This could cause multiple problems for the elderly population, because they may not be completely aware of the type or types of treatment they normally receive. With many elderly patients using prescription and nonprescription medications to treat a variety of medical conditions, access to medication and care may be extremely limited. Elderly patients are more vulnerable to disaster-related repercussions such as dehydration, hypothermia, hyperthermia, and infectious disease. This can severely affect frail elderly patients with acute and chronic medical conditions.

i. Pharmacist - The pharmacist in charge or appointed pharmacist should prepare for limited medication availability and the possibly increased need for therapeutic substitution. Because supply may be limited in a disaster, therapeutic substitution of the available supply of medication should be made. The patients should be counseled on any expected adverse effects. Because of the increased risk of polypharmacy during a disaster, the pharmacist must conduct a drug utilization review of the patient’s medication to identify any potential duplicate or discontinued therapies.

ii. Pharmacy Technicians - The pharmacy technician provides the first line of communication in the process of receiving refills or ordering new medications during a disaster. The pharmacy technician is responsible for collecting all necessary information to identify the correct patient and the correct drug requested. In the event of limited refills, the technicians may offer to call the physician for refills.

b. Common issues pertaining to elderly populations and disasters that the pharmacy staff members should consider planning for include the following:

i. There may be an inability to store certain medications properly. Medications such as insulin products are commonly used in the elderly population.

ii. The water supply may be inadequate for mixing solutions. Patients should be counseled on how to properly mix the medications if necessary.

iii. There may be an inability to sterilize medical devices. Maintaining a sterile environment may be difficult for patients requiring injections.
iv. Patients should be counseled on how to properly dispose of damaged or expired medications.

Objective 5-6.3

III. Describe the role of health professionals in assisting the pharmacy staff in caring for the elderly population in a disaster.
   a. When dealing with elderly patients, one of the main things to take into consideration is dementia, which is a group of behavioral, cognitive, and emotional disorders. Signs of patients suffering from dementia include memory loss, difficulty communicating, paranoia, agitation, hallucinations, and disorientation to time and place. Elderly patients require special care, but those with dementia require even more careful treatment. Because you cannot depend on infrastructure to be available during an emergency, certain steps need to be taken beforehand to help ease a disaster situation.
      i. It is very important to communicate to elderly patients or their caregivers that they need to keep a copy of their conditions and medications (as well as the actual drugs) so that they can receive proper care in an emergency situation. These patients can benefit from using medication reminder devices such as pill sorters that sort by days and even up to dosage regimens of three times a day.
      ii. Other important items for these patients and elderly in general are proof of insurance and personal identification. Patients with dementia may experience memory loss issues that can be worsened by the stress of a disaster.

Suggested Learner Activities for Use in and Beyond the Classroom

1. Develop a template for patients to list their current medication therapy and medical devices.
2. Develop a protocol addressing emergency refills and refill authorization requests.
3. Develop a flyer or brochure with common therapeutic substitutions and adverse effects.
4. Develop a protocol for therapeutic substitution for the most commonly prescribed medications among the elderly.

Readings and Resources for the Learner

- Required
  - [http://www.cdc.gov/phpr/stockpile/stockpile.htm](http://www.cdc.gov/phpr/stockpile/stockpile.htm)
Supplemental Resources

Learner Assessment Strategies
1. Students should work with a partner, with one partner being a health professional who works in a pharmacy and the other being a health professional who works outside the pharmacy. They should create a disaster plan about pharmacy and geriatric patients, highlighting services the pharmacy will offer and special precautions that should be taken.

Readings and Resources for the Educators
  • Required
    o None
  • Supplemental Resources
    o None

Sources Cited in Preparing Outline and Activities Above

LESSON 6-1
ETHICAL LEGAL
Lesson: Ethical legal

Authors: Lillian E. Ringel, JD, MS Bioethics
Associate Director, Bioethics
Columbia University
New York, NY

Judith C. Ahronheim, MD, MSJ
Faculty Member, Bioethics Institute
Clinical Professor of Medicine
New York Medical College
Valhalla, NY

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

Competencies
This lesson supports learning related to the following competencies, with regard to ethical-legal special considerations for the geriatric population in disasters.


Core Competency 9.0 “Demonstrate knowledge of ethical principles to protect the health and safety of all ages, populations, and communities affected by a disaster or public health emergency.”
   Subcompetency 9.1 “Discuss ethical issues likely to be encountered in disasters and public health emergencies.”
   Subcompetency 9.2 “Describe ethical issues and challenges associated with crisis standards of care in a disaster or public health emergency.”
   Subcompetency 9.3 “Describe ethical issues and challenges associated with allocation of scarce resources implemented in a disaster or public health emergency.”

Core Competency 10.0 “Demonstrate knowledge of legal principles to protect the health and safety of all ages, populations, and communities affected by a disaster or public health emergency.”
   Subcompetency 10.1 “Describe legal and regulatory issues likely to be
encountered in disasters and public health emergencies.”
Subcompetency 10.2 “Describe legal issues and challenges impacting patient care in a disaster or public health emergency.”
Subcompetency 10.3 “Describe legal issues and challenges associated with allocation of scarce resources implemented in a disaster or public health emergency.”
Subcompetency 10.4 “Describe legal statutes related to health care delivery that may be activated or modified under a state or federal declaration of disaster or public health emergency.”

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

6-1.1 Name 3 or more ways in which a disaster can heighten the vulnerability of elderly people.
6-1.2 Discuss 3 or more ways in which emergency preparedness can benefit vulnerable elderly when health care resources are scarce.
6-1.3 Discuss the potential limits of patient autonomy in a public health emergency or disaster for (a) adults with decisional capacity, and (b) adults who lack decisional capacity.
6-1.4 Discuss individual state resources that providers can consult regarding state-specific regulations covering the participation of unaffiliated providers and other volunteers in a disaster.

Estimated Time to Complete This Lesson
120 Minutes

Content Outline
Module 6: Ethical legal: Special considerations for older adults
Lesson 6-1: Ethical legal

I. Lesson - The extraordinary circumstances in a disaster
    a. Introduction
        i. The American experience with disasters demands answers to the difficult questions of how to handle a disaster’s extraordinary demands, particularly in this society, which is accustomed to reliance on a stable, albeit imperfect health care system. The search for answers has led to ongoing efforts to develop guidelines that would measure up to our expectations of what should be, in the context of scarce resources, overwhelmed hospitals, equipment shortages, and the many and varied
circumstances that could exist. In this context, appropriate care of the elderly creates special concerns. Among the many concerns, this module focuses on ethical and legal issues that should be familiar to all who would be involved with these efforts.

b. Crisis Standard of Care definition (Institute of Medicine): “a state of being that indicates a substantial change in health care operations and the level of care that can be delivered in a public health emergency, justified by specific circumstances. Medical care delivered during disasters shifts beyond focusing on individuals to promoting the thoughtful stewardship of limited resources intended to result in the best possible health outcomes for the population as a whole.”¹

i. Caveat: Crisis standard of care does not indicate “substandard care.” For example, the American College of Emergency Physicians (ACEP) guidelines note: “…crisis care is what a reasonable practitioner would do (and want for himself and his loved ones), given the limited resources at hand.”²

ii. The multiple considerations of this complex topic are beyond the scope of the present lesson. For detailed information on Crisis Standards of Care, consult Supplemental Readings for Learners and Required Resources for Educators: Hanfling D, Hick J, Stroud C. Committee on Crisis Standards of Care: A Toolkit for Indicators and Triggers, National Academies Press, 2013.

c. Duty to plan

i. Assess adequacy of health care resources and supplies.

ii. Identify individuals who are likely to have special needs during an emergency. Of note, some of these individuals may not self-identify, particularly if they are homebound or cognitively impaired.

iii. Identify or develop methods of providing health care to those with special needs, such as special needs shelters, in-place sheltering, and volunteer and staff training, among others.

iv. Identify obstacles related to liability concerns. For example, some health care institutions may restrict or prohibit family and other nonprofessional volunteers from assisting in functions such as feeding and toileting, despite the potential value of this source of care. In a disaster, the need for such volunteers is greatly augmented.

v. Become familiar with “disaster law” and ways in which its provisions can be activated or modified in a declared disaster or public health emergency.
d. Applying “disaster law” in geriatric care
   i. Emergency declaration: When a designated person (e.g., governor of a state, Secretary of Health and Human Services) declares an emergency, this can trigger a framework for various allowances (e.g., who can volunteer) and restrictions (e.g., quarantine) during an emergency.
   ii. Emergency licensing and credentialing
      1. Across state lines
         a. Health care providers who live outside a state or community affected by an emergency may be willing and able to provide necessary assistance, but delays in obtaining authorization, such as licensure in the host state, or credentialing, can prevent such health care workers from providing useful help.³
         b. Certain states allow their governments, during a declared emergency, to give reciprocity to providers licensed in other states who volunteer so they can provide services without having to go through the host state’s formal licensing process.⁴,⁵
      2. Unaffiliated clinical volunteers from the community.
         a. Certain organizations and accrediting bodies, such as the Joint Commission,⁶ address emergency credentialing of categories of persons who might volunteer during an emergency. These include “volunteer licensed independent practitioners” (those who are permitted by a state’s law to provide care without direction or supervision) and volunteer practitioners who are not “independent,” but are still required by law or regulation to be certified in some way.⁷ Individual institutions are responsible for developing an Emergency Operations Plan to address specific details on how this will be accomplished.
      3. Become familiar with your institution’s specific policy regarding verification of a volunteer’s professional credentials (see, for example, the model volunteer protocol of the New York City Department of Health and Mental Hygiene).⁸
      4. Become familiar with your institution’s policy regarding informal caregivers, such as families, friends, or attendants employed by the patient’s family, who could provide basic care, such as feeding, bathing, or toileting. Institutions often restrict such input
because of liability concerns. Emergency preparedness committees should address these issues and may wish to formally address this potentially valuable input in the Emergency Operations Plan. (See Required Resources for Educators, Ahronheim JC, et al., 2009:30-38.)

iii. Liability protections for volunteers.9

1. Rationale: Unaffiliated providers or other volunteers are needed to augment care in a disaster or public health emergency. Laws at the federal and state level have been crafted to protect institutions, their employees, and unaffiliated volunteers from liability under these circumstances and to reassure persons who might otherwise be reluctant to volunteer because of legal risk concerns. Although state and federal law offers some protection for volunteers in ordinary circumstances (e.g., Volunteer Protection Act of 1997),10 additional protections may be available to employees during a declared emergency.

2. Legal protections take the form of indemnity or immunity.
   a. Indemnity11 is protection (such as a source of payment) for someone (or an entity) being sued, to be used for defense of the lawsuit and/or for any settlement or judgment that the person or entity must pay, i.e., insurance coverage for a provider who is sued for negligence (an unintentional error that might have harmed a patient).
   b. Immunity12 is an official protection or exemption from legal proceedings, i.e., if a provider is immune under law, a plaintiff cannot bring a lawsuit against that provider for an unintentional error that might have harmed a patient.
   c. Laws in force during a declared emergency aim to protect individuals who act in good faith and may not immunize an act of “gross negligence,”13 namely, one that exhibits reckless disregard for the safety and/or lives of others.
   d. Liability protections in a disaster versus “Good Samaritan” laws: “Good Samaritan” laws are not specific to a disaster situation. All 50 states and the District of Columbia have Good Samaritan laws, which, though differing from each other in certain ways, generally provide liability protections for those who assist persons who are injured or in danger but who have come upon such persons by chance. This situation differs from a provider (including a
volunteer) who has a preexisting duty to care for a patient and who is generally in a venue where optimal or adequate care is feasible.

iv. The US Department of Health and Human Services has programs designed to promote effective volunteerism during emergencies. These include:
   1. The Medical Reserve Corps (MRC): community-based volunteer units that screen, train, and prepare volunteers to support local agencies in health care delivery, particularly during emergencies.4
   2. The Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP): a network of state-based programs that effectively facilitate the use of health professional volunteers in local, state, and federal emergency responses.4
   3. Disaster Medical Assistance Teams (DMATs): trained health professionals who can be mobilized in a declared emergency (although civilians, these workers become temporary, salaried employees when deployed).6

e. The HIPAA Privacy Rule and its application in a disaster or public health emergency
   i. The Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule17 forbids disclosure of protected health information without the patient’s permission under most circumstances and continues to apply during a disaster. However, specific exceptions exist during the time of a declared emergency, when extraordinary obstacles exist:
   ii. In a declared emergency, failure to comply with certain of the HIPAA Privacy Rule provisions may not result in sanctions or penalties, for example, failing to obtain a patient’s permission to speak with interested parties such as family members. For further reading about the Privacy Rule and its application in a disaster, see Required Resources for Learners and Educators; Snyder 2012 and Supplemental Resources for Learners and Educators; Stevens GM, 2006; USDHHS 2014.
   iii. Regardless of whether a disaster has been declared (that is, even in a nondeclared disaster situation), the HIPAA Privacy Rule permits disclosures for treatment purposes, to carry out public health operations, and to make certain disclosures to disaster relief organizations.18 Furthermore, as a general rule, HIPAA permits disclosure for the public’s health and for certain law enforcement functions, including locating a missing person, which could be especially relevant for vulnerable elderly during a disaster if cognitive impairment is present and others must make health care decisions for them.
iv. Analogous state privacy laws exist in certain jurisdictions, prohibiting the disclosure of health-related information or permitting such disclosures in an emergency or in other special circumstances.

f. Anticipating bioethical dilemmas

i. Distribution of limited resources and “ageism”

1. According to the fundamental ethical principle of justice, health care resources should be distributed equitably.19 Strict adherence to this principle would not permit restrictions based on certain characteristics, such as advanced age alone. Some argue that advanced age should limit access to certain life-saving interventions if they are scarce, as in a disaster or public health emergency. In this argument, such interventions should be provided preferentially to younger patients.

2. For example, according to the “Fair Innings” argument,20 everyone is entitled to “some ‘normal’ span of health,”21 and the argument endeavors to level the playing field by giving all patients the opportunity to reach a normal life expectancy. Thus, a person who has not reached this “normal” span has not gotten a fair share, but anyone who has lived past his or her “normal” span is “living on borrowed time.”22

3. Others contend that age alone should not be a factor in resource allocation.23 Various arguments have been offered to support this opposing view, including quality of life considerations, comorbidities, specific prognosis, and considerations of biological versus chronological age (see Module 4-8). For further reading, see Required Resources for Learners and Required Resources for Educators (Ladin K, et al, 2011) and Supplemental Resources for Learners and Required Resources for Educators (Williams, 1997). Efforts to resolve this question in disaster preparation have been made, for example, through the application of clinical standards to the choice of who gets a ventilator (see Required Resources for Learners and Educators, NYS Workgroup on Ventilator Allocation, 2007).

ii. Disaster triage versus medical futility determinations

1. Triage: In emergency situations such as a disaster, patients might be subject to the practice of triage, in which providers assign treatment priority, in a hierarchy, to patients most likely to survive. In effect, triage withholds treatment from those deemed unlikely to survive when resources are so limited that treatment
could not be provided as a practical matter. Although triage decisions are not necessarily protected from a liability standpoint, organizations have developed consensus guidelines for triage and standards of medical care in these situations.

2. Medical futility determinations: In a non-disaster situation, providers often apply the term “medical futility” when a patient is so sick or close to death that further treatment would be medically inappropriate. Providers do not feel it is ethical to unilaterally withhold or withdraw treatment without the patient’s or surrogate’s consent. Furthermore, with few exceptions, state law does not allow such an action in the absence of the patient’s or surrogate’s request. The deliberation and process required for this very difficult determination on the part of providers would be seriously hampered in the situation of a disaster with mass casualties and limited resources. (See Required Resources for Learners and Required Resources for Educators, Fink S, 2009.)

II. Lesson -Understanding Basic Concepts in Bioethics: a foundation for the extraordinary situation of a disaster

a. Autonomy

i. Definition: a form of personal liberty where the individual determines his or her own course of action in accordance with a plan chosen by himself or herself. In the clinical setting, “patient autonomy” (also called patient “self-determination”) refers to the right of a person to make his or her own decisions about health care, usually whether to accept or reject a particular treatment.

ii. Maintaining autonomy in patients who have lost decisional capacity. Patients who lose capacity do not lose the right to make health care decisions, which can be made for them by an authorized surrogate decision-maker (see “Surrogate decision-making” below).

iii. Preserving the rights of adults who have never had capacity. People with moderate or severe intellectual and/or developmental disabilities who are now elderly may never have had the capacity to make health care decisions, and therefore, strictly speaking, have never had autonomy. However, they maintain important “liberty interests” such as well-being and freedom from unnecessary bodily invasion, among other patients’ rights; health care decisions are made for them by others, with careful consideration to preserving these rights.

iv. The challenge of maintaining patient autonomy in a disaster.
1. In a non-disaster situation, decision-making includes a deliberative process that involves careful consideration of prognosis, identifying an appropriate surrogate decision-maker when needed, and gathering loved ones to consider decisions together. In a disaster, the urgency of the situation, the overriding need for rapid triage decisions, the unavailability of surrogates, and the presence of providers who are unfamiliar with local protocols or regulations create new challenges. Furthermore, the public’s health may take primacy over individual liberties in extraordinary situations.

2. All providers, including professionals who intend to volunteer in a disaster, should become familiar with triage standards and their rationale and the need to provide appropriate care, even if life-sustaining treatment is not available or desirable.

b. Informed consent and decisional capacity
   i. Informed consent. When offering a treatment, a physician must provide enough information to the patient, in a way he or she can understand, for the patient to make a reasoned decision. The patient’s decision, whether consent or refusal, must be voluntary. When someone else is authorized to make decisions on behalf of the patient, the informed consent process takes place between the physician and the person authorized to make the decision.

   1. Emergency exception to informed consent. In an emergency, when an immediate decision must be made to preserve the life or well-being of a patient who lacks capacity, the patient’s consent is presumed unless there is clear evidence to the contrary, such as an available do-not-resuscitate (DNR) order (see below) and the clinician is not obliged to obtain consent before rendering treatment. This exception to the requirement for informed consent is particularly relevant in a disaster situation, for example, where mass casualties have occurred, time and information are limited, and triage is operative.

   ii. Decisional capacity can be defined as the ability of a person to make his or her own health care decisions. The person should be able to understand the risks, benefits, and outcomes of a proposed treatment (or of its refusal) and the alternatives and should be able to communicate a stable decision. (See Required Resources for Learners and Required Resources for Educators, Snyder, 2012:77; Supplemental...
Determining decisional capacity

a. Capacity assessment is a clinical determination that should be made by an experienced physician. (See Supplemental Resources for Learners and Required Resources for Educators, Ahronheim JC, et al, 2009:111.)

b. Capacity versus “competency.” Whereas capacity is a clinical determination, competence is a legal determination. A person is presumed to be legally “competent” unless determined otherwise in a court of law.

c. Making health care decisions for others.

i. “Surrogate decision-making” as a general concept refers to a situation in which someone other than the patient makes a decision on behalf of the patient. This occurs when an adult lacks the ability to make health care decisions (either temporarily or permanently) and another adult, who has been provided information in an informed consent process, makes the decision for the patient. Traditionally, one or more adult family members (spouse or other close relative) or close friends are called upon to do this. A wide range of provisions exist in state laws governing who is legally authorized to make decisions for others, how the authorization is determined, the types of decisions that can be made by surrogates, and how a person’s previous wishes can be documented. It is important to become familiar with the law in your state regarding decision-making for other adults.

ii. Advance directives - directions given by an adult with capacity to be followed in the event that the person loses capacity in the future.

   1. Proxy appointment (also known as medical power of attorney, durable power of attorney for health care, and others) - An adult with capacity formally designates a person to make health care decisions in the event that the person loses capacity in the future. (See Supplemental Resources for Learners and Educators, American Bar Association, 2014).

   2. Living will (also called health care declaration) - A document in which a person with capacity provides instructions regarding what his or her wishes would be about medical treatments in the event of future loss of capacity. Typically, instructions are to avoid certain life-sustaining treatments in the event of incurable or life-
threatening illness; however, living wills also provide the opportunity to express a wish to receive such treatments.

3. Informal advance directives. A person’s wishes can be conveyed informally, for example in a conversation or a letter to a close family member or friend or with a health care provider directly, any of which could, ideally, be documented in the medical record. Although informal advance directives could raise challenges among relatives who disagree with a proposed course of action or contest the content of these conversations, disagreements are often resolved when providers consult closely with family members. In a disaster, when time is limited or formal advance directives inaccessible, informal advance directives might nonetheless play a valuable role.

iii. A DNR authorization is not an advance directive per se, but reflects a person’s specific wish to avoid restoration of heartbeat and breathing that has stopped. This wish is often declared in an advance directive; however, an actual order not to resuscitate is generally made after a clinician has deemed the person’s prognosis to be limited, at which time a DNR order would be most relevant. (For further information, see Required Resources for Learners and Educators, Snyder L, 2012:84.)

iv. Standards of decision-making. When decisions are made for others, the following standards are used:
   1. A person’s wishes if known;
   2. Substituted judgment - the surrogate decision-maker determines, based on his or her knowledge of the patient, what the patient’s wishes regarding treatment would have been under the given circumstances;
   3. Best interests - if a surrogate is unable or does not feel able to judge what a patient would have wanted, the decision-maker determines what would have been in the “best interests” of the patient. The best interests standard is also applied for a patient who has never had the capacity to express wishes about treatments. In determining a patient’s best interests, decision-makers generally evaluate whether the burdens of a proposed treatment would outweigh the benefits. Because “best interests” could be highly individual, the determination should be patient-centered. Examples from state law provide guidance.31

III. Lesson -Serving elderly groups with differing needs
a. Specific groups and their vulnerabilities in a disaster
   
i. Adults with cognitive impairments
      1. Loss of previous decisional capacity
         a. Chronic (e.g., persons with moderate to severe dementia)
         b. Potentially reversible (e.g., delirium, coma)
      2. Life-long absent or impaired decisional capacity (e.g., persons with moderate to severe intellectual or developmental disabilities who are now elderly).
   
ii. Frail elderly with multiple chronic illnesses and/or disabilities such as gait impairment and sensory deficits who may also require medical equipment, such as wheelchairs, oxygen, or special equipment for medication administration.

iii. Residents of nursing homes, assisted-living facilities, or other institutions, who may require higher levels of nursing or medical care in case of evacuation

iv. Adults with limited English proficiency

v. Lesbian, gay, bisexual, or transgender (LGBT) older adults
   1. The main factor that impacts LGBT older adults is: providers’ and other caregivers’ personal biases that may affect these elderly adults’ care.

vi. Patients with advanced dementia, extreme frailty, or other life-threatening illness.
   1. Recognition of dementia as major cause of death (advanced dementia as a “terminal illness”).
   2. Planning for palliative care approach in a disaster
      a. Role for education of patients and families that palliative care is for physical and psychological symptoms (intention is not to hasten death).
      b. Withholding or withdrawing life-sustaining treatment is different from assisted suicide/euthanasia (“aid in dying”).
      c. Control of pain and suffering in a dying patient and the principle of “Double effect.”
         i. “Double effect” refers to an action intended to have a good effect (e.g., provision of strong medication to treat a bad symptom) but that could possibly have a second, unintended bad effect (e.g., hastening of death in someone already near death). In ethical reasoning, because the intended effect is considered
to be a moral outcome, any unintended outcome could not be considered immoral.\textsuperscript{32} ii. Caveat: It is important to note that any “hastening of death” is theoretical. When patients are near death, their condition might be so grave that symptom-controlling medications could further lower blood pressure or depress breathing. However, assuming the dose of medication was appropriate for the situation, it is not possible to know in these circumstances whether the medication or the dying process itself led to the moment of death.

b. Federal legal authorities providing a basic foundation for emergency preparedness with regard to vulnerable populations. For a comprehensive overview on relevant statutes and related resources, see Required Resources for Learners (Centers for Disease Control and Prevention, 2012). Some examples include:

i. The Pandemic and All-Hazards Preparedness Reauthorization Act of 2013 (PAHPRA) (42 USC § 201 et seq.) recognizes the particular needs of vulnerable individuals in the context of an emergency and therefore requires the Secretary of the Department of Health and Human Services to consider the public health and medical needs of at-risk individuals during a public health emergency.


ii. Older Americans Act (OAA)

1. The OAA requires that each individual State Unit on Aging (SUA) submit a plan detailing how the particular state will “coordinate activities and develop long-range emergency preparedness plans”\textsuperscript{33} with regard to the needs of older individuals.

iii. The Homeland Security Act of 2002, 6 USC 101 et seq. This statute provides for federal grants to be made to states to develop procedures for informing the public of evacuation plans before and during an evacuation (See 6 USC § 321a(A)). It includes guidance for the elderly and other people with special needs.

iv. Federal acts that do not specifically apply to the elderly but that are important to be aware of in the event of a public health emergency include the following:
   1. The Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, 42 USC § 5121-5207, which gives the federal government the legal authority to provide assistance to states during declared major disasters and emergencies.
   2. The Federal Emergency Management Agency’s (FEMA’s) National Response Framework (2008), which addresses the management of terrorist attacks and catastrophic natural disasters.

Suggested Learner Activities for Use in and Beyond the Classroom and Learner Assessment Strategies

- Discussion question: Allocation of scarce resources in a disaster.
  o Please take a look at one or more of the following resources regarding allocation methods. After browsing them, briefly summarize their allocation suggestions. Discuss the strengths and weaknesses of their approaches to resource allocation. How would their allocation methods specifically affect the elderly?

• Case vignettes: basic principles and applications in a disaster.
  o Please use these vignettes for class discussion. Students should be able to answer the question(s) posed and understand the rationale for these questions. Terms such as medical power of attorney, health care agent/proxy, and durable power of attorney for health care can be used interchangeably in this exercise. Guidelines for faculty, when provided, are in italics.

Case 1
Douglas is an 84-year-old retired mechanical engineer who has developed hip arthritis, which has become increasingly disabling. His daughter, Jennifer, has assisted him in care and accompanies him to his medical appointments. Douglas is otherwise in good health, but has become slightly forgetful and is hard of hearing. Jennifer has urged her father to get a hearing aid, but he refuses. She also urged him to execute an advance directive, and he decided to appoint Jennifer as his health care agent.

Jennifer thinks her father ought to have a hip replacement and takes him to see an orthopedic surgeon. She is worried, however, that this might be risky at his age. She has brought a copy of the advance directive to the office, which the physician reads over. Jennifer mentions her concerns, and also mentions quietly that her father has some memory loss. The physician nods, addressing Jennifer and not Douglas during the evaluation and explanation of the surgery. During the conversation, however, Douglas repeatedly tells the doctor to speak louder. “I may be deaf but I’m not stupid. If you want to fix my hip, I’d grateful to know in advance.”

1. What bioethical principles are relevant in the informed consent process in this office encounter?
   • Answer: The principle of autonomy is relevant. Before the physician can even speak to Jennifer, he needs the explicit permission of the patient. Jennifer’s authority to make decisions for her father exists only if he has insufficient capacity to make a specific decision himself, or unless he cedes his authority to Jennifer during this process. Memory loss does not mean a patient lacks the capacity to make a specific decision, as long as it is apparent that he understands the pertinent information and is able to communicate a stable decision. It is first important for the physician to determine if Douglas has capacity for this. He can begin by directly addressing the patient, enunciating, speaking in a volume the patient understands, talking directly into his ear, or even taking the time to write if necessary, and making sure he
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understands the elements of the conversation. Hearing impairment not only interferes with communication between patient and physician, but also can be mistaken for dementia. Jennifer can certainly be involved in the discussion or the decision-making if Douglas wants her to be.

2. Following recovery from successful surgery, Douglas sold his home and moved into a private apartment in an assisted-living facility where meals, exercise, and medical services are available on site. A year later, the city experiences a devastating flood, forcing evacuation of many people from their homes, including Douglas and other residents of his facility. Douglas is currently housed with others in a preestablished shelter in a nearby school, which is staffed by MRC personnel and a DMAT. Discuss problems that Douglas might face as an evacuee and delineate how good disaster planning could help him to cope until return to his place of residence.

Case 2
Frances, a 68-year-old woman with metastatic cancer is rushed to the hospital after collapsing in the street. In the emergency room she is minimally responsive and brain imaging reveals she has a mass consistent with brain metastasis. Frances is given intravenous fluids while further information is sought. A medical chart reveals Frances had visited the emergency room a few weeks earlier where she received treatment for a sprained ankle. The record lists the phone number of an adult son who lives in Scotland. Frances is moved to a hospital floor for further treatment, but soon she continues to deteriorate and the nurse fears the patient is about to “arrest” and calls the physician. The physician has not yet had time to obtain authorization for a do-not-resuscitate (DNR) order, and tells the nurse she will be there right away. However, aware of Frances’ grave prognosis, the physician walks slowly to the patient’s bedside while responding to a call on her cell phone.

1. A patient with metastatic cancer, who is so sick that CPR becomes medically indicated, has a very low likelihood of surviving to discharge, despite CPR. Aside from the possibility that the phone call could be urgent, does the physician’s apparent intent to perform a “slow code” ethically justify her behavior in this circumstance? Why or why not?

• Answer: Although the prognosis is grim, the physician must make an effort to quickly evaluate the patient’s deteriorating condition and prepare to initiate CPR if indicated, unless there is an instruction to the contrary, such as a DNR authorization. Decisions like this should not be made unilaterally because they violate the patient’s right of autonomy. In this case, limited information is available on which to base a decision, and the physician must first err on the side of attempting to preserve the patient’s life. Upon arriving at the bedside and especially after initiating CPR it will
soon become apparent whether the patient will respond at all. CPR does not need to be carried out indefinitely. The physician has an obligation to use her clinical judgment as to whether to initiate CPR and when to cease efforts if they do not work. If CPR were attempted and resulted in restoration of heartbeat and breathing, there would then be time to consider withdrawal of life sustaining treatment if appropriate, and to use any measures needed to ensure the patient’s comfort.

2. Many patients' living wills contain a statement such as, “I do not want to undergo CPR if I have a serious, terminal, or irreversible condition,” which would easily describe Frances’ situation. We do not yet know whether Frances ever executed a formal advance, such as a living will or proxy appointment, or even made statements about her wishes. Comment on the difference between a DNR order and a formal advance directive as they might apply in this case.

• Answer: Even if Frances had such an advance directive and it were available, decisions to perform CPR must be made immediately, whereas an advance directive has not only been written remotely, but as might be in this case, is usually not immediately available to guide the decision or relevant to the emergency situation. If an advance directive were available, it might help to guide a decision to authorize a DNR order, but as a practical matter, when CPR is indicated there is virtually no time for deliberation.

Case 3.
Chris is a 74-year-old man who has suffered a head injury in a motor vehicle accident. He is unconscious but is considered to have a fairly good prognosis for recovery if surgery is performed. His domestic partner, Jacob, is authorized under the state’s surrogate decision-making law to make health care decisions for Chris. Chris, who was previously married, has a 50-year-old daughter, Marcia, but Chris and Jacob have lived together for the past 20 years. Marcia has always resented her father’s divorce and has not come to terms with the fact that her father is gay. She states that she has known her father “all his life,” and feels that she, as next of kin, should be the one to make these decisions.

1. What ethical principle underlies a law that would give Jacob authority over Chris’s adult daughter in this situation?

• Answer: The ethical principal of autonomy underlies surrogate decision-making laws, as it underlies laws governing formal advance directives. A spouse or domestic partner is more likely to be aware of an adult patient’s preferences in general than is a son, daughter, or other “next of kin,” whose knowledge of the person is not the same as in the past or even now. Laws governing advance directive laws, moreover,
often explicitly authorize nonspousal domestic partners to make decisions for adults who have lost capacity.

2. How might good disaster planning serve a patient such as Chris? Consider a hypothetical patient whose head injury occurred during a major earthquake. Consider multiple venues, such as a major metropolitan center, a small village with a community hospital, or a rural area.

Suggested sources:

C. Published cases to be used for in-class discussion or among students out of class:

Readings and Resources for the Learners
- Required Resources


### Supplemental Resources


o Health care decision making. American Bar Association Commission on Law and Aging website.

o Health information privacy. US Department of Health & Human Services website.


o Living wills, health care proxies, & advance health care directives. American Bar Association website.


o Volunteer protection acts and Good Samaritan laws. Association of State and Territorial Health Officials website.


**Readings and Resources for the Educators**

- **Required Resources**
  
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• Supplemental Resources


Volunteer protection acts and Good Samaritan laws. Association of State and Territorial Health Officials website.

Sources Cited in Preparing Outline and Activities Above

1. Crisis Standards of Care: A Toolkit for Indicators and Triggers. Institute of Medicine website.


7. See The Joint Commission. Emergency Management Standards. EM.02.02.13 and EM.02.02.15.


9. For further reading, see Hodge JG. Legal Issues Concerning Volunteer Health Professionals and the Hurricane-Related Emergencies in the Gulf Coast Region.
   Public Health Reports. 2006; 121(2): 205-207, 205.

11. “Reimbursement or compensation for loss, damage, or liability in tort; esp., the right of a party who is secondarily liable to recover from the party who is primarily liable for reimbursement of expenditures paid to a third party for injuries. Resulting from a violation of a common-law duty.” (Black’s Law Dictionary, 3d Pocket Ed., West Publishing Co. (2006):351).


14. Integration of the Medical Reserve Corps and the Emergency System for Advance Registration of Volunteer Health Professionals


15. U.S. DHHS, Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)


17. HIPAA Privacy Rule, 45 CFR Part 160 and 45 CFR Part 164, Subparts A and E.

18. See 45 CFR 164.510(b).


21. Id. at 119.

22. Id.


25. See Institute of Medicine of the National Academies. Crisis Standards of Care. Consensus reports. Available at http://iom.edu/About-IOM/Leadership-Staff/Boards/Board-on-Health-Sciences-Policy/CrisisStandardsReports.aspx. (accessed June 1, 2015); see also World Medical Association Statement on Medical
Ethics in the Event of Disasters, available at
http://www.wma.net/en/30publications/10policies/d7/ (accessed May 3, 2015);
Guidelines for crisis standards of care during disasters. American College of
Emergency Physicians Web site.
https://www.acep.org/uploadedFiles/ACEP/Practice_Resources/disaster_and_EMSS/
disaster_preparedness/Crisis%20Standards%20of%20Care%200613.pdf. Published

26. See Texas Advance Directives Act Texas Health & Safety Code, Ch. 166; see also
N.M. STAT. ANN. § 25-7A-7(F); see also VA. CODE ANN. § 54.1-2990(A) (2005).

27. See generally Beauchamp T, Childress J. Principles of Biomedical Ethics, 7th Ed.
(Oxford University Press 2013).

28. Cantor NL. The relation between autonomy based rights and profoundly mentally

29. Mariner WK, Annas GL, Glantz LH. Jacobson v Massachusetts: It’s Not Your Great-

30. Snyder, supra note 19, at 77.

31. See, e.g. Health care decisions for adult patients by surrogates. New York Public
Health - Article 29-CC - § 2994-d.4 (ii).


33. 42 U.S.C. Title I, § 307(a).

http://www.fema.gov/media-library-data/20130726-1914-25045-
LESSON 7-1
CAPSTONE ACTIVITY
Lesson: Capstone Activity

Authors: Brian A. Altman, PhD
Education Director, HJF
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)

Kelly Gulley
Project Coordinator, HJF
National Center for Disaster Medicine and Public Health (NCDMPH)
Uniformed Services University of the Health Sciences (USUHS)

Carlo Rossi MDCM MTM&H CCFP
Major, Canadian Armed Forces
Royal Canadian Medical Service (RCMS)
Uniformed Services University of the Health Sciences (USUHS)

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

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

7-1.1 State key issues in caring for older adults before, during, and after disasters that apply to your profession and occupational setting.

7-1.2 Describe planning and logistics considerations for caring for older adults in disasters.

Estimated Time to Complete This Lesson
120 minutes

Suggested Learner Activities for Use in and Beyond the Classroom

Part 1:
This activity can be conducted either with learners working individually or with learners working in small groups. If learners are working in small groups, each learner should consider the discussion questions below from his or her perspective and share those thoughts with the group members. At the end of the discussion, a member of each group can share key takeaways from the discussion with the other groups.
Reflection Questions
Ask learners to think about their occupation, work setting (or anticipated work setting if not working currently), and prior experiences when they answer this series of questions.

Module One: What are 3 new things you learned about the demographics of older adults in the United States and how would you apply these things in your profession or work setting?

Module Two: What are 3 new things you learned about day-to-day health issues in older adults that impact how older adults plan for and cope with a disaster?

Module Three: Given likely disasters in your geographic setting, what are 3 new things you learned about how those kinds of disasters affect older adults?

Module Four:
• What are 2 new things you learned about how to care for the older adult population related to the disaster preparedness phase and how would you apply these things in your profession or work setting?
• What are 2 new things you learned about how to care for the older adult population related to the disaster response phase and how would you apply these things in your profession or work setting?
• What are 2 new things you learned about how to care for the older adult population related to the disaster recovery phase and how would you apply these things in your profession or work setting?

Module Five: What are 3 new things you learned about caring for older adults in disasters in your work setting or anticipated work setting?

Module Six: What are 3 ethical or legal considerations you learned about in relation to caring for older adults in a disaster?

Part 2:
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. Small groups will identify the context or setting for this meeting. Examples include, but are not limited to fully integrated health systems, a health care coalition, a small critical access rural hospital, a for-profit tertiary care trauma center, a larch academic center, a skilled nursing facility, etc. 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?
  o 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, healthcare 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
    • 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:

http://ncdmph.usuhs.edu
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Lesson 1-1: Capstone Activity

- 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
  - What decisions would you want to make in this meeting?

Part 3:
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