Supporting Mental Health in Older Veterans

DC Public Health Case Challenge **2015**

INSTITUTE OF MEDICINE

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

NATIONAL ACADEMY OF MEDICINE
Leadership • Innovation • Impact | *for a healthier future*

Contents

Acknowledgements 5

Disclaimer 5

Instructions 7

Case 9

Funding Announcement: Supporting Mental Health in Older Veterans, 9
*Introductio*n, 9
The Challenge, 10
Scenarios, 10
Scenario 1: Vietnam Veteran with Undiagnosed PTSD, 10
Scenario 2: Veterans Affairs Physician, 11
Scenario 3: Substance Abuse and Social Support, 11
Scenario 4: Pre-Existing Mental Illness, 12
Scenario 5: Veterans and Socioeconomic Status, 12

Demographics at a Glance 13

National Demographics, 13
DC Demographics, 14
Collecting Population Statistics on Veterans, 14
National Veterans Demographics, 16
DC Veterans Demographics, 17

Overview on Veterans 18

Government Services for Veterans in DC, 19
Health Services for Veterans in DC, 20

Older Adults 22

Medical Coverage for Older Adults: Medicare and Medicaid, 23
Veterans and Medicare and Medicaid, 24
Medicare and Medicaid: Mental Health Coverage, 24
Importance of End-of-Life, Hospice, Palliative, and Respite Care, 25
Older Adult Abuse and Prevention, 26

Transportation, 28
Socioeconomic Status, 29
Supplemental Social Security, 30
Homelessness and Poverty, 30
Educational Attainment, 32
Employment, 33
Older Adults Who Are LGBT, 34
Technology and Aging, 35

Veterans and Mental Health **38**

Overview, 38
Substance Abuse, 40
Mental Health Services, 40
Barriers to Mental Health Care, 41
Mental Health and Sleep, 43
Mental Health and TBI, 44
Improving the Accessibility of Mental Health Services for Veterans, 44
Family Members of Veterans, 46
Mental Health in Veterans from Vietnam, Gulf, and Iraq and Afghanistan Wars, 46

Health and Older Adults **47**

Overview, 47
Exercise and Nutrition, 48
Musculoskeletal Injuries and Pain, 50
Medication Management, 50
Neurological Disorders, Cognitive Impairment, and Dementia, 51
Sexual Health, 52

APPENDIXES

Acronymns List 53
Resource List 54
References 56
Judging Rubric 71
Meet the Team 72
Guide for Student Teams and Faculty Advisors 74
Student Team Guidelines and Rules 77
Presentation Day Agenda 81

Acknowledgements

The authors would like express their appreciation to Kristine Yaffe, Roy and Marie Scola Endowed Chair, Vice Chair for Clinical & Translational Research Professor, Department of Psychiatry, Neurology, and Epidemiology and Biostatistics University of California, San Francisco; John M. Thompson, Director, Aging and Youth Services Department, Fulton County Government (Georgia) and former Executive Director, DC Office on Aging; and Rick Erdtman, Director, Board on the Health of Select Populations, Institute of Medicine (IOM) for reviewing the case and providing valuable feedback. The authors also thank the IOM Case Challenge staff for their guidance during case development, Amy Geller, Bridget Kelly, Alina Baciu, as well as additional feedback from Abigail Mitchell, Sarah Domintz, and Tracy Lustig. Finally, the authors thank Laura DeStefano of the NAM and Tina Ritter of the IOM for preparing and editing this manuscript.

Disclaimer

All characters, organizations, and illustrative vignettes described in the case are fictional and do not reflect the views of actual organizations (e.g., Veterans Affairs) or specific individuals . The case scenario is complex and does not necessarily have a single correct or perfect solution, thus encouraging teams to develop a judicious balance of creative, interdisciplinary, and evidence-based approaches. The authors of this case study have provided facts and figures within the case as well as appendices with resources and references to help teams create their solutions. The data provided are derived from independent sources, may have been adapted for use in this case, and are clearly cited such that teams can verify or contest the findings within their recommendations whenever pertinent. Teams are responsible for justifying the accuracy and validity of all data and calculations that are used in their presentations, as well as defending their assertions in front of a panel of subject matter experts who will be serving as judges representing different stakeholders.

Instructions

Task: Develop a feasible and creative proposal that will support mental health in older veterans, aged ≥65 years, living in the DC area. Present your proposed solution(s) to address the challenge at the case challenge competition to be held on October 16, 2015.

Scope: The proposal is limited to a budget of 1.2 million USD to be used during a five-year span. Your proposal and presentation should specify which sector(s), groups of people, or organizations your intervention(s) will engage and provide a justification for these selections. Staff salaries for the intervention should be covered within the allowed budget.

Case Information: The case includes some initial background statistics and information relevant to the case topic. However, in your presentation, you do not need to address all the information presented in the case. Rather you can use the provided materials as a reference to help guide your response.

Outside Resources: Teams should also consider outside resources for a deeper understanding of the problem and a stronger proposal. However, registered team members must generate the case solution independently. Faculty advisors and other individuals who are used as a resource should not generate ideas for the case solutions, but can provide relevant information, guide students to resources, provide feedback on ideas and proposals for case solutions and recommendations generated by the students, and provide feedback on draft slides/practice presentations.

Judging: Refer to the judging rubric (see Appendix D) to see the criteria on which you will be assessed. Judges will represent organizations working with older adults and veterans.

If you have questions about the case, please email Laura Allison Woods at lwoods@masonlive.gmu.edu prior to October 15, 2015 at 9am EDT. She will forward your question and her answer to all of the participating teams.

On the day of the presentation, please remember the following:

- Arrive at the National Academy of Sciences building (2101 Constitution Avenue, NW, Washington, DC) between 8-8:30am on October 16, 2015. The security guard will direct you to the Lecture Room.

- Bring a copy of your presentation in Power Point format on a flash drive and give it to the Case Challenge Organizers by 8:30am.
- Your presentation should be no longer than 15 minutes and will be followed by 10 minutes of Q&A.
- Dress professionally, as you are representing your school in front of an audience. However, please do not wear anything that would identify your school.

For more information on the case challenge guidelines and logistics, refer to the attached guide for student teams and faculty advisors.

If you have questions about the event, please email Amy Geller (ageller@nas.edu).

We are really looking forward to hearing your ideas for contributing to a thriving DC community. Thanks for participating, and have fun!

Case

Funding Announcement: Supporting Mental Health in Older Veterans

Introduction

The S.L.D. Hope Foundation of the District of Columbia (DC) is pleased to announce a grant funding opportunity for any non-profit organizations working with the local DC community on topics relevant to improving the well-being of DC's veterans' communities.[1,2] Specifically, the goal of this solicitation is to develop strategies designed to enhance the quality of life of older veterans' (aged ≥65 years) by improving their mental health and well-being.[3]

The S.L.D. Hope Foundation is committed to supporting our veterans in both the transition back to civilian life, as well as promoting the well-being of veterans throughout the course of their lives. Many of the existing veterans programs' do not focus specifically on veteran's mental health in older adults, with especially limited options in DC. It is the Foundation's hope that this grant opportunity will not only provide immediate support for older veterans, but will also provide long-term solutions and gains in veterans' mental health and well-being.[4]

The S.L.D. Hope Foundation will award one five-year grant in the amount of $1.2 million to the non-profit organization that develops the most comprehensive, interdisciplinary, innovative, and evidence-based solution(s) targeted at improving the mental health and quality of life for older veterans in the DC area. The successful solution will provide feasible interventions that the applicant organization can readily implement in partnership with relevant DC government or community agencies. Proposed plans should prioritize

1 A fictional entity for the purposes of this case scenario, the S.L.D. Hope Foundation is a private, non-profit funding organization located in Washington, DC whose goal over the past 60 years has been improving veteran's welfare. The S.L.D. Hope Foundation has been committed to funding innovative strategies using community resources and interventions for DC based veterans in order to mitigate adverse outcomes that commonly occur following discharge from service.

2 The S.L.D. Hope Foundation defines a veteran as any individual who has spent time as a member of any branch of service within the United States Armed Forces, including the Army, Navy, Marine Corps, Air Force, and Coast Guard.

3 The S.L.D. Hope Foundation regards mental health as a holistic state of emotional and social well-being, and not just the presence or absence of mental illness.

4 The U.S. Centers for Disease Control and Prevention (CDC) defines well-being as "generally [including] global judgments of life satisfaction and feelings ranging from depression to joy."

the issues, justify the choice of intervention(s), specify the implementation and evaluation strategy, and provide budget estimates for the use of funds within the time frame specified.

This grant solicits submissions through an open, competitive process to eligible non-profit organizations working on issues relevant to improving the health and well-being of older veterans' populations in DC.[5] Teams will present their proposals to the S.L.D. Hope Foundation's board of advisors on October 16, 2015. For more detailed judging criteria, please see Appendix D.

The Challenge

You work for a small, non-profit organization headquartered in DC that specializes in issues of aging, mental health, and/or services for veterans. The director of your organization has tasked your team to apply for this funding opportunity. Therefore, your goal as a team is to develop and propose an interdisciplinary, innovative, equitable, justifiable, and financially-sound plan that will be supported by: the DC government, veterans' organizations, your target population of older veterans (aged ≥65 years), and the broader population of DC residents. When writing your proposal, your director has approved your team to hire more skilled personnel to help you implement your proposed solution(s) and meet this challenge. The salaries of any additional personnel must be within the total funding allotted above and must be accounted for in your budget estimates. Good luck!

I. Scenarios

The following five scenarios, adapted from real-life situations, portray the diverse range of issues faced by older veterans. You are not limited to directing your solution(s) to the specific older veterans' populations or issues presented in these examples. Rather, these examples are intended to provide your team with different ideas of older veteran populations and issues, for which you may choose to design your intervention(s).

Scenario 1: Vietnam Veteran with Undiagnosed PTSD

Paul Stone was born in 1948, and was 22 years of age at the time of his service in the Air Force during the Vietnam War. Paul was very close with his family, and had a steady, supportive social support network prior to enlisting. His 18-month tour of duty revealed the drastic differences between his former small-town Ohio life and the dark realities of war. Paul handled difficult tasks such as preparing fallen or seriously injured soldiers for transport back to the US for burial or medical treatment. Following his honorable discharge from service, Paul found transition to his former life as a civilian nearly impossible. Paul experienced trouble sleeping and difficulty connecting with his friends and family. These problems did not lessen over the years. Although he was urged by family members to seek health services, Paul regarded his difficulties as not being 'worthy' of

5 The S.L.D. Hope Foundation defines older as being a minimum of 65 years in age.

treatment by a professional and felt he was solely responsible for developing strategies for dealing with his symptoms. Over the years, Paul's symptoms worsened, and he was finally convinced to seek the assistance of a trained medical professional. It was only after he sought treatment, that Paul was eventually diagnosed with post-traumatic stress disorder (PTSD). Although therapy and medication have proven beneficial, Paul has struggled with continuing his treatment due to feelings of shame.

Scenario 2: Veterans Affairs Physician

Dr. Marie Brown is a primary care physician at the Veterans Affairs (VA) Medical Center in DC, where she provides medical care to veterans on an outpatient basis for chronic and acute conditions. In this role, Dr. Brown regularly comes into contact with older veterans who are experiencing feelings of being 'down in the dumps,' are lethargic, and have become withdrawn. Many have also reported difficulty sleeping, due to intense nightmares and/or insomnia. When Dr. Brown suggests referral for therapy or psychiatric care, her patients are very reluctant to seek care for mental health services; many of her patients in the past have refused to seek mental health specialty care altogether. Although Dr. Brown, as a primary care physician, is qualified to treat minor to moderate psychiatric conditions, she would feel more comfortable if her patients sought additional help from mental health professionals, especially in cases where physical and psychological symptoms are not easily separable and are difficult to diagnose and treat. Dr. Brown attributes the pattern of reluctance from her patients to stigma associated with mental illness and lack of education on modern mental health treatments.

Scenario 3: Substance Abuse and Social Support

Suzie Martin's grandfather was a member of the US Army serving during the latter years of World War II. While in service, Ms. Martin's grandfather experienced a major injury that led to the amputation of his lower left leg and his medical discharge from service. After being treated without complications, Suzie's grandfather was prescribed narcotics and muscle relaxants for pain and phantom limb syndrome. From what Suzie has heard, her grandfather's personality had drastically changed once he had returned from service. His happy marriage prior to the draft ended within a couple years of his return, which resulted in her grandfather's move to a secluded mountainous region of Virginia. There, he used only his disability services, his wages from World War II, and his later military pension to cover his living expenses. Unfortunately, concerned family members eventually discovered that Mr. Martin was abusing prescription medications and alcohol, but he was resistant to any intervention. It became increasingly difficult for he and his adult children to get along, and he eventually isolated himself to the point of avoiding medical and dental care, with extreme reluctance to travel or leave his home. As Suzie grew up and got more involved, she advocated for him to move into a long-term care home with other older adults to help him socialize and encourage better care of himself, but after years of struggling with how to interact with him, his children felt exhausted with the situation and decided to let him live out his years as is. Although Mr. Martin's substance abuse addiction is a major existing concern, he and his family feel as though there are no resources available to meet his specific needs.

Scenario 4: Pre-Existing Mental Illness

Fayven Jackson always struggled with her mental well-being, even prior to her enlisting in the Army during the Korean War as an administrative secretary.[6] Fayven, who was raised in foster care, did not develop a strong social support network, and experienced untreated major depression that was never addressed by a health provider. Fayven had no stable source of income, and was constantly relocating due to difficulties finding a comfortable and affordable living situation. Part of the reason she had decided to enlist in the US Army at the time of the Korean War was to provide her with a job that could give her steady housing, and the Army was one of few options for women with no external training. Her inadequately managed major depression directly affected her ability to complete tasks assigned by her supervisors, as she was often unenergetic, had difficulty working steadily with others, and constantly forgot to do tasks. For this reason, Fayven only served for a short time in the Army. After returning to civilian life, her depression worsened and cost her the ability to find work and a place to live. At different times she thought about trying to access VA services, but she was not sure if she was even eligible and struggled to get to VA facilities from her neighborhood, which had limited public transportation. Unfortunately, she eventually could not cope with the realities of homelessness and depression, and ended up taking her own life.

Scenario 5: Veterans and Socioeconomic Status

John Kim is a second-generation American veteran who joined the US Marines during the Vietnam War directly after graduating from high school. He was an extraordinary serviceman and leader, and his superiors believed he showed excellent prospects to become an officer. Because being an officer requires a college degree, his superiors worked to connect him to financial assistance to attend college full-time after his tour of duty. Although this could have meant promise for steady income for his family eventually, the Kims had no way to afford John's absence while he attended school or while he completed his officer training on a full-time basis. As a result, he left the Marines and instead stayed at home to help support his younger siblings and extended family. While John felt close to his family, he experienced heavy anxiety and stress over his monetary situation, as well as his inability to separate family and work life. John's health status steadily declined over the years as he was diagnosed with heart disease and diabetes. John ultimately ended up with a series of lower-wage jobs and never had the opportunity for further education or career advancement.

6 Women in the US Military: 1950s. (n.d.). Retrieved from http://chnm.gmu.edu/courses/rr/s01/cw/students/leeann/history-andcollections/history/lrnmre1950s.html

II. Demographics At a Glance

National Demographics:

The 2010 US Census reported 40.3 million people who were aged ≥65 years, which is roughly 14.1% or every 1 in 7 individuals in the entire population.[7]

- The population aged 65 to 74 years represented 53.9% of the older adult population
- The population aged 75 to 84 years represented 32.4% of the older adult population
- The population aged 85 to 94 years represented 12.6% of the older adult population
- The population aged ≥95 years represented 1.1% of the older adult population[8]

National life expectancy is approximately

- 75.4 years for men
- 80.4 years for women[9]

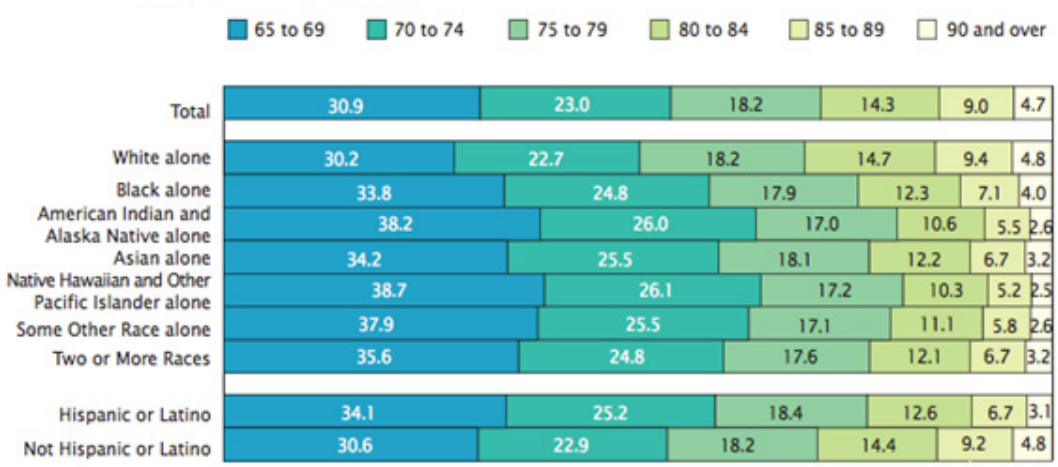


FIGURE 1 U.S. Census data for older adults by ethnicity.

SOURCE: West, Loraine A., Samantha Cole, Daniel Goodkind, and Wan He. (2014). 65 in the United States. Retrieved from: https://www.census.gov/content/dam/Census/library/publications/2014/demo/p23-212.pdf.

7 Administration on Aging (AoA). (2014). Retrieved from: http://www.aoa.acl.gov/Aging_Statistics/index.aspx.

8 The Older Population: 2011. (2011, November). 2010 Census Briefs. https://www.census.gov/prod/cen2010/briefs/c2010br-09.pdf.

9 Institute for Health Metrics and Evaluation (IHME). (2015). *US County Profile: District of Columbia*, District of Columbia. Seattle, WA: IHME.

DC Demographics

According to the 2014 US Census population estimates:

- 11.3% of DC's 658, 893 residents are aged ≥65 years
- 59% of those aged ≥65 years are female and 41% are male[10]

Life expectancy in DC is estimated at roughly:

- 81.2 years for men
- 76.5 years for women[11]

DC Older Adult Population by Age and Gender, 2014			
	Male	Female	Total
65 to 69 years	11,086	14,146	25,232
70 to 74 years	7,362	9,844	17,206
75 to 79 years	5,008	7,118	12,126
80 to 84 years	3,334	5,653	8,987
85 years and over	3,488	7,715	11,203
Total	30,278	44,476	74,754

TABLE 1 Older adult population by age and gender.

SOURCE: The Older Population: 2011. (2011, November). 2010 Census Briefs. https://www.census.gov/prod/cen2010/briefs/c2010br-09.pdf.

Collecting Population Statistics on Veterans

The Census Bureau, which operates through the US Department of Commerce, uses four major surveys to collect data on veterans:

1. The American Community Survey (ACS)
2. The Current Population Survey (CPS)
3. The National Survey of Veterans (NSOV) through the Veterans Affairs Office (VA)
4. The Survey of Income and Program Participation (SIPP).

10 U.S. Census Bureau (2014). American FactFinder [Fact Sheet]: Retrieved from http://factfinder.census.gov.

11 Institute for Health Metrics and Evaluation (IHME). (2015). *US County Profile: District of Columbia*, District of Columbia. Seattle, WA: IHME.

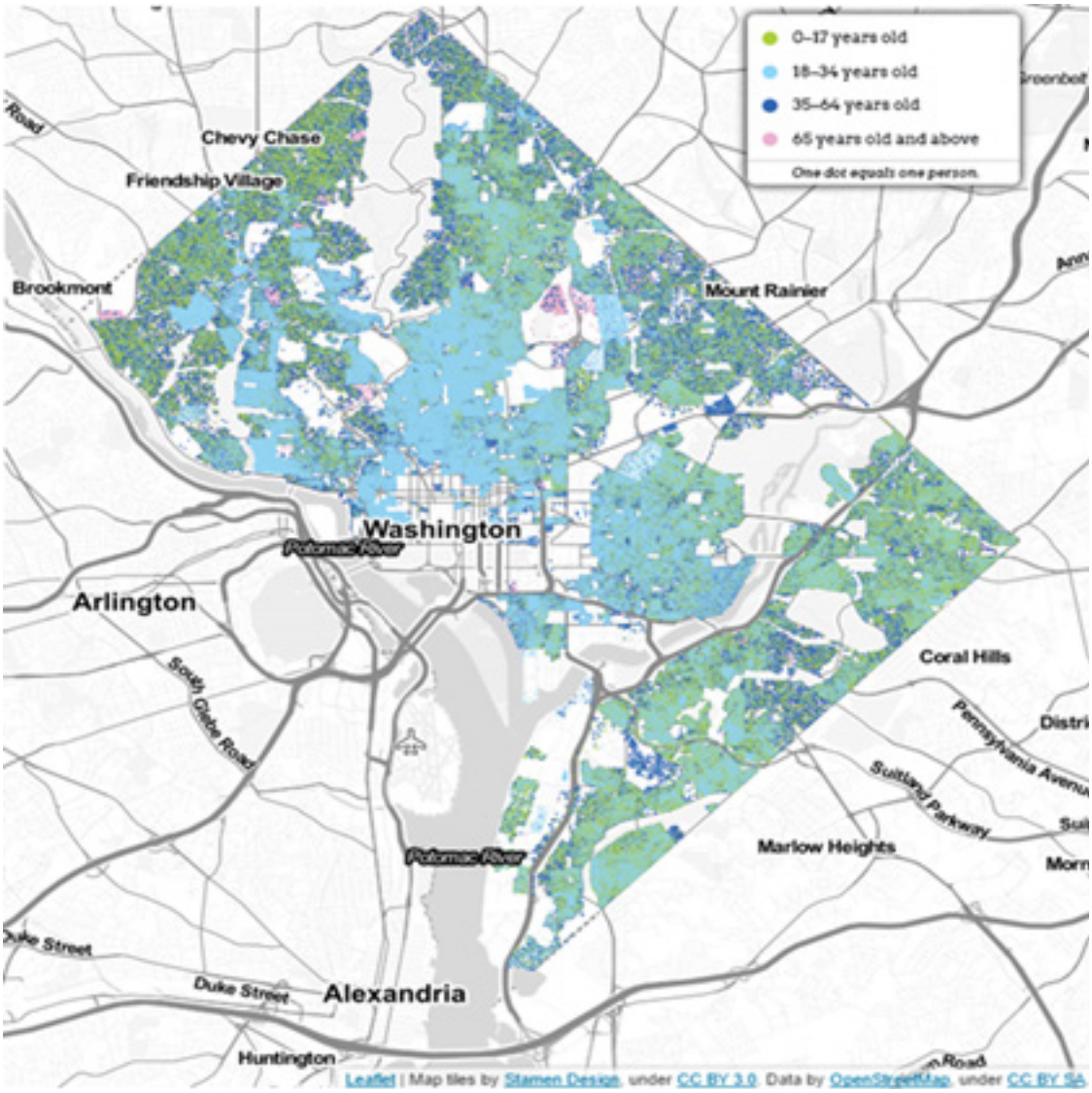


FIGURE 2 NeighborhoodInfo DC shows population prevalence stratified by age throughout DC.

SOURCE: Neighborhood Data. (2015, May 9). Retrieved from: http://www.neighborhoodinfodc.org.

Data products from these surveys are further analyzed to produce population reports, demographic profiles and trends characteristic of the veteran population at National, State, County and Congressional District levels.[12]

The National Center for Veterans Analysis and Statistics (NCVAS) is also located in DC and is a branch of the US Department of Veterans Affairs (VA) that collects, validates, analyses and disseminates key statistics on the veteran population and VA programs in the US using the data collected from the major Census Bureau surveys.[13]

12 The United States Census Bureau (Census). (2015).*Veteran definitions and concepts*. Retrieved from: http://www.census.gov/hhes/veterans/about/definitions.html.

13 US Department of Veterans' Affairs [VA], (2015a).Eligible Wartime Periods. Retrieved from http://www.benefits.va.gov/pension/wartimeperiod.as.

National Veterans Demographics

Recent data from the NCVAS' VetPop2014 model[14] projected that by September 30, 2015 there will be approximately: 21.6 million veterans within the US, including:

- 19.6 million male veterans
- 2 million female veterans
- 16.7 million Caucasians
- 2.6 million Blacks or African-Americans
- 1.4 million Hispanics or Latinos
- 299,129 Asians
- 177,887 American Indians or Alaska Natives
- 3,032 Native Hawaiian and Other Pacific Islander veterans[15]

The VA estimates that of the living veterans in the US in 2015, roughly:

- 9.1 million are members of the Army branch
- 4.8 million are members of the Navy branch
- 4 million are members of the Air Force branch
- 2.3 million are members of the Marine Corps branch
- 256, 600 are members of the non-defense
- 990, 000 are members of the Reserves[16]

Approximately 16,298,731 wartime veterans (service was at a time of recognized wartime) and 5,381,803 peacetime veterans (service was during a time of peace) will be living in the US in 2015. Of those:

- 8,884 veterans served during the Pre-World War II era (prior to 1939)
- 847,419 served during World War II (1939-1946)
- 1,739,129 served during the Korean Conflict (1950 -1955)
- 7,102,850 served during the Vietnam War (1955-1975)
- 7,251,583 veterans served during the Gulf War (1990-1991)
- 794,947 have served during post-9/11 period (2001 and later)[17]

These numbers indicate that over 9.6 million veterans served in or before 1975. Therefore, these veterans will be represented as older adults (≥65 years) in 2015 as they continue to age.

---

14 NCVAS provides official estimates and projections of the Veteran population at national, state, county and Congressional District levels using an actuarial projection model known as the Veteran Population Model or "VetPop2014." This model was designed to track key demographic trends and characteristics among the veteran population from the 2014 fiscal year to 2043 fiscal year using data collected at the end of the 2013 fiscal year.

15 U.S. Department of Veteran Affairs: National Center for Veterans Analysis and Statistics (NCVAS). (2015e). Population Table 4L: Vetpop2011 living veterans by branch of service, gender, 2013-2040. Retrieved from http://www.va.gov/vetdata/Veteran_Population.asp.

16 National Center for Veterans Analysis and Statistics. (2010.) Retrieved from: http://www.va.gov/vetdata/Veteran_Population.asp.

17 U.S. Department of Veteran Affairs: National Center for Veterans Analysis and Statistics (NCVAS).(2015c). Population Table 3L:Vetpop2014 living veterans by race/ethnicity, gender, 2013-2043.Retrieved from http://www.va.gov/vetdata/Veteran_Population.asp.

Of the total veteran population, there are some veterans who served during multiple periods. In 2012, the US Census Bureau reported that approximately 1.3 million veterans served in such a capacity. Of the veterans who served two wars, approximately:

- 837,000 veterans served during both Gulf Wars
- 21,000 veterans served during both the Korean War and the Vietnam War
- 147,000 veterans served during both World War II and the Korean War

Of the veterans who served three wars, approximately:

- 49,500 veterans served during the Vietnam War and both Gulf Wars
- 54,000 veterans served during World War II, the Korean War and the Vietnam War

Of all the branches of service, the Army has produced the greatest number of veterans overall in previous years and is projected to produce the largest number of living veterans for both male and female groups in 2015.[18]

DC Veterans Demographics

As of September 2014, there are reportedly 29,825 total veterans living in DC, which includes:

- 21,638 Wartime veterans
- 10,447 Gulf War veterans
- 7,948 Vietnam War veterans
- 2,597 Korean Conflict veterans
- 1,258 World War II veterans
- 8,159 Peacetime veterans[19]

The gender distribution was reported as 25,915 males and 3,910 females.[20]

Data from NCVAS' VetPop2014 model, when analyzed by state and Congressional District projected that by September 30, 2015, DC's living veteran population will be 29,470 in total, with 25,595 male veterans and 3,876 female veterans.[21,22] When DC's projected population was analyzed by age, projections showed that there would be:

- 9 veterans less than 20 years of age
- 1,311 veterans between 20 and 29 years of age
- 3,484 veterans between 30 and 39 years of age
- 3,567 veterans between 40 and 49 years of age
- 5,720 veterans between 50 and 59 years age

18 Ibid.
19 Ibid.
20 US Department of Veterans' Affairs [VA], (2015a). Eligible Wartime Periods. Retrieved from http://www.benefits.va.gov/pension/wartimeperiod.asp.
21 Ibid.
22 US Department of Veterans' Affairs [VA], (2014). Federal Benefits for Veterans, Dependents and Survivors. Retrieved from http://www.va.gov/opa/publications/benefits_book/2014_Federal_Benefits_for_Veterans_English.pdf

- 6,386 veterans between 60 and 69 years of age
- 4,599 veterans between 70-79 years of age, and
- 4,395 veterans ≥80 years[23]

According to these projections, over 70% of DC's veterans will be ≥50 years of age and over 50% will be ≥60 years of age by September 30, 2015.[24] All of these veterans will be entitled to various benefits based on their service contributions and veteran status.[25]

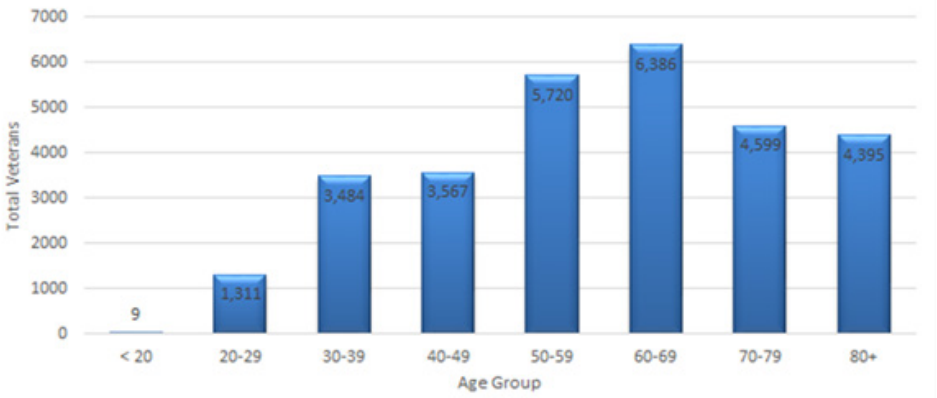


FIGURE 3 Living Veterans in DC by Age Group in 2015

SOURCE: U.S. Department of Veteran Affairs: National Center for Veterans Analysis and Statistics (NCVAS).(2015f). Population Table 6L:Vetpop2014 living veterans by state, age group, gender, 2013-2043.Retrieved from http://www.va.gov/vetdata/Veteran_Population.asp

III. Overview on Veterans

According to the US Census Bureau, veterans are defined as:

> Men and women 18 years old or older who have served (even for a short time), but are not currently serving, on active duty in the U.S. Army, Navy, Air Force, Marine Corps, or the Coast Guard, or who served in the U.S. Merchant Marine during World War II. People who served in the National Guard or Reserves are classified as veterans only if they were ever called or ordered to active duty, not counting the 4-6 months for initial training or yearly summer camps.[26]

23 National Center for Veterans Analysis and Statistics (2014). Veteran Population: Retrieved from http://www.va.gov/vetdata/Veteran_Population.asp.

24 U.S. Department of Veteran Affairs: National Center for Veterans Analysis and Statistics (NCVAS). (2015e). Population Table 4L: Vetpop2011 living veterans by branch of service, gender, 2013-2040. Retrieved from http://www.va.gov/vetdata/Veteran_Population.asp.

25 U.S. Department of Veteran Affairs: National Center for Veterans Analysis and Statistics (NCVAS).(2015f). Population Table 6L:Vetpop2014 living veterans by state, age group, gender, 2013-2043. Retrieved from http://www.va.gov/vetdata/Veteran_Population.asp.

26 The United States Census Bureau (Census). (2015). Veteran definitions and concepts. Retrieved from http://www.census.gov/hhes/veterans/about/definitions.html.

The U.S. Department of Veterans Affairs (VA) is a government entity, which functions to serve veterans and support veterans' affairs throughout the nation. The VA provides health care and various benefits (for example, disability compensation, educational and training benefits, and burial and memorial benefits) to eligible veterans. The VA's central office is located in DC with regional offices and medical facilities located throughout the country. Benefits that veterans receive through the VA are based on factors such as age, period of service, branch of service, ethnicity, gender, location, employment and housing status, disabilities and education.[27] Veterans seeking benefits through the VA are required to meet certain eligibility criteria. For more information about the eligibility criterion for health benefits through the VA, please visit www.va.gov/healthbenefits.[28]

Government Services for Veterans in DC

The Washington DC Mayor's Office of Veterans Affairs (OVA) was created in 2001 with a mission to advocate for, and serve DC's veterans and their families in various social, political and economic capacities. Specific goals of OVA include providing information and assistance to veterans and their families about obtaining federal and local benefits and services. OVA partners with organizations such as federal and local organizations and non-profit organizations in order to achieve these goals and advocate for services on behalf of veterans and their families.[29,30] The OVA lists the following major responsibilities:

- Serving as principal advisor to the Mayor on all issues regarding veterans' services and benefits
- Advocating on behalf of DC veterans and their families
- Promoting VA programs and services among DC veterans and their families
- Analyzing and evaluating veteran demographics, benefits, challenges and concerns
- Working with DC government, federal, state and private agencies to solicit veterans' benefits assistance
- Sponsoring and hosting events and meetings to recognize military service and leadership
- Participating in citywide events supporting veterans
- Disseminating and maintaining recent and accurate information for veterans and the public, and, being a resource for inquiries concerning veterans' affairs
- Respond to inquiries concerning veterans' benefits and services[31]

The OVA regulates its mission and goals through an advisory board of members represented across various branches of service, time in service, ages and genders. Eligible veterans residing within DC may qualify for a variety of benefits from the VA, and the OVA

27 Ibid.

28 For more information about the eligibility criterion for health benefits through the VA, please visit www.va.gov/healthbenefits.

29 District of Columbia Office of Veterans Affairs (OVA). (2015a). *About the Office of Veterans Affairs (OVA)*. Retrieved from: http://ova.dc.gov/page/about-ova.

30 District of Columbia Office of Veterans Affairs (OVA). (2015b). *Benefits Eligibility*. Retrieved from: http://ova.dc.gov/service/benefits-eligibility.

31 District of Columbia Office of Veterans Affairs (OVA). (2015a). *About the Office of Veterans Affairs (OVA)*. Retrieved from: http://ova.dc.gov/page/about-ova.

assists DC veterans and their families with applying for benefits. [32,33]

Furthermore, eligible veterans who served during the Vietnam War, are disabled, or are 30% or more disabled while on active duty receive preference for VA benefits and services.[34,35] The type of benefits available to eligible veterans are reported within the following categories:

- Financial assistance
- Health care
- Vocational rehabilitation and employment
- Education and training
- Home loans
- Life insurance
- Dependents and survivors benefits and burial[36]

Financial assistance can include a monthly stipend from the VA if the veteran is classified at least 10% disabled as a result of their military service. Additional allowances for family members are provided if the veteran is at least 30% disabled as a result of their service. These disabilities could be classified as a physical or mental impairment.[37] Health care benefits involve inpatient and outpatient care, counseling, substance abuse treatment, rehabilitation and community-based residential care. Health care benefits incorporate comprehensive and specialized health services and resources tied to the VA and its representative agencies in each state. Health care benefits within DC are provided through the Washington DC VA Medical Center, the only health care system that specifically provides care to veterans. Vocational rehabilitation and employment benefits assist veterans with disabilities to find and maintain suitable employment as well as continue vocational and rehabilitation training during their transition into civilian life.[38]

Health Services for Veterans in DC

The VHA has the largest integrated health system in the country that includes approximately 150 medical centers, 985 outpatient clinics (820 community-based, 150 hospital-based, 9 mobile, and 6 independent), 300 veteran centers, 70 mobile veteran centers, 104 domiciliary residential rehabilitation programs, and 135 community living centers (formerly known as nursing homes). The VHA's health care system has continued to be both an inpatient and outpatient-based health care system since its transition in the mid-1990s from primarily inpatient-based. Veterans gain access to care at any VHA

32 District of Columbia Office of Veterans Affairs (OVA). (2015b). *Benefits Eligibility*. Retrieved from: http://ova.dc.gov/service/benefits-eligibility.

33 According to section 703.1 of the regulations, an eligible veteran is one "whose service in the armed forces was for more than 180 consecutive days, beginning on or before October 14, 1976, or, if in time of war, beginning on or after October 15, 1976, and who was separated with an honorable or general discharge.

34 The United States Census Bureau (Census). (2015).Veteran definitions and concepts. Retrieved from http://www.census.gov/hhes/veterans/about/definitions.html.

35 District of Columbia Office of Veterans Affairs (OVA). (2015c).*Veteran Benefits*. Retrieved from: http://ova.dc.gov/service/veteran-benefits.

36 Ibid.

37 Ibid.

38 U.S. Department of Veteran Affairs: Washington DC VA Medical Center (DCVA). (2015). About the Washington DC VA Center. Retrived from http://www.washingtondc.va.gov/about/index.asp.

medical facility once enrolled in the VHA medical system. Currently, about 42% of the total veteran population is enrolled to receive VA health benefits.[39] Additionally, various health literacy and information tracking systems such as "My HealtheVet" (2008) have been designed by the federal government to assist the veteran population in taking charge of their own health and health education.[40] About 77% of veterans receiving VA medical care also have some form of public or private health insurance in addition to VA health benefits (VA, 2012).

Inpatient medical care for veterans in DC is offered through the Washington DC VA Medical Center. Outpatient care is offered through clinics such as the Community Clinic-Southeast, the Community Resource and Referral Center, and the Washington DC Vet Center. Additionally, the DC Community Clinic-Southeast offers resources and provides basic medical care, preventive care and health education to veterans. Another option is the Vet Center, located in Northwest DC, which offers individual and group counseling and referrals for post-traumatic stress disorder and other service-related mental illnesses to combat veterans and veterans who experienced military sexual trauma.[41]

Domiciliary, nursing home, community-based residential care and home care are provided by the VA to veterans. For example, the Armed Forces Retirement Home (AFRH) was established in DC in 1851 and serves as a retirement community complete with affordable facilities to serve a variety of conditions, including mental illness via a team of specialists and case workers who collaborate to develop a personal health care plan for each veteran in residence as they age. Veterans may also qualify for long-term care subsidies and benefits in other DC community and nursing home facilities. However, research has shown that the setting where care is given matters; persons who experience mental illness are frequently admitted to general nursing homes and given care that is sometimes of poorer quality than the AFRH.[42] Often times this is related to a series of resident and facility factors including untrained staff and limited number of mental health professionals.[43]

39 Bagalman, E. (2014.) The Number of Veterans That Use VA Health Care Services: A Factsheet. Congressional Research Service. Retrieved from: https://www.fas.org/sgp/crs/misc/R43579.pdf.

40 Executive Order No. 13625, 77 FR 54783 (2012), Improving access to mental health services for veterans, service members, and military families. Retrieved from: https://www.whitehouse.gov/the-press-office/2012/08/31/executive-order-improving-access-mental-health-services-veterans-service.

41 District of Columbia Office of Veterans Affairs (OVA).(2015d). *DC Veterans Medical Centers and Clinics*. Retrieved from: http://ova.dc.gov/page/dc-veterans-medical-centers-and-clinics.

42 Grabowski, D.C., Aschbrenner, K.A., Rome, V.F., & Bartels, S.J. (2010). Quality of mental health care for nursing home residents: A literature review. *Medical Care Research and Review, 67*(6), 627-656. doi: 10.1177/1077558710362538.

43 US Department of Veterans' Affairs [VA], (2015b). Geriatrics and Extended Care. Retrieved from http://www.va.gov/GERIATRICS/Guide/LongTermCare/Home_and_Community_Based_Services.asp.

IV. Older Adults

The population of older adults is growing; by 2056, the US population 65 years and older will be larger than the population under 18 years.[44,45] Older adults experience high rates of chronic diseases such as obesity, hypertension, diabetes, and hypercholesterolemia leading to continuously increasing health care costs and an increased need for health professionals.[46] Various research suggest that there is a clear need for prevention and intervention models for older individuals to reduce chronic disease management cost.[47,48]

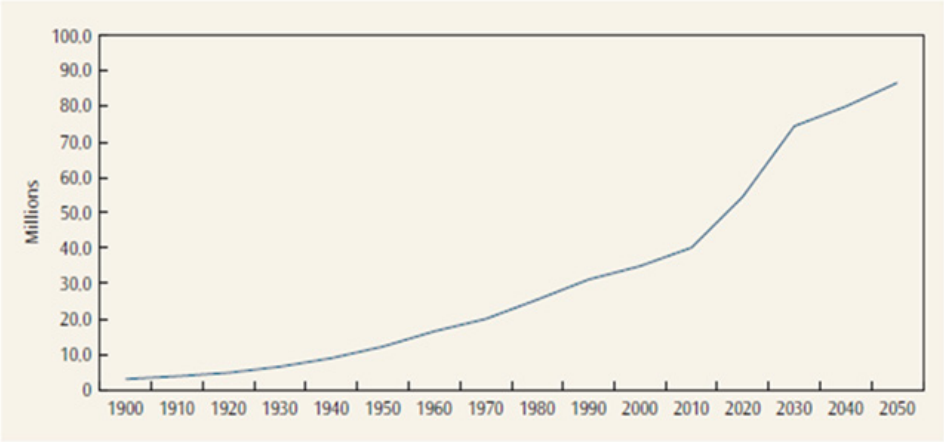


FIGURE 4 Past, Present and Future Population of Older Adults in the US.

SOURCE: Colby. S., Ortman, J. (2014, May). The Baby Boom Cohort in the United States: 2012-2060. US Census Bureau.

One fast-growing cohort of older Americans are the so-called baby boomers who, according to the National Institutes of Aging, are the largest population born post-World War II between 1946 and 1964.[49] The US Census recorded 78 million births during the baby boom. The baby boomers began turning 65 in 2011. By 2029, the entire cohort of baby boomers will be 65 years and over, and it is projected that they will account for more than 20% of the total US population. "Boomers" have a long life expectancy, in part due to significant medical advances.[50] Although this cohort is living longer than previous generations, most baby boomers have poor health status.

---

44 Demographics of Homelessness Series: The Rising Elderly Population. (2010). *National Alliance to End Homelessness*. Retrieved from: http://www.endhomelessness.org/library/entry/demographics-of-homelessness-series-the-rising-elderly-population.

45 Colby. S., Ortman, J. (2014, May). *The Baby Boom Cohort in the United States: 2012-206*0. US Census Bureau.

46 Thomas C. Ricketts, "The Health Care Workforce: Will It Be Ready as the Boomers Age? A Review of How We Can Know (or Not Know) the Answer," Annual Review of Public Health 32, no. 1 (April 21, 2011): 417–30, doi:10.1146/annurev-publhealth-031210-101227.

47 S. Jay Olshansky et al. (2009, December). "Aging in America in the Twenty-First Century: Demographic Forecasts from the MacArthur Foundation Research Network on an Aging Society: Aging in America in the Twenty-First Century," *Milbank Quarterly 87*(4), 842–862, doi:10.1111/j.1468-0009.2009.00581.x.

48 Rice, D., Fineman, N. (2004). Economic implications of increased longevity in the United States. *Annual Review Of Public Health, 25*, 457-473. doi:10.1146/annurev.publhealth.25.101802.123054.

49 Aging in the United States: Past, Present, and Future. (2000). U.S. Government Printing Office, Washington, D.C. Retrieved from: https://www.census.gov/population/international/files/97agewc.pdf.

50 Martin, L.G., et all (2009, May 1). "Health and Functioning Among Baby Boomers Approaching 60," *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences 64B*(3) 369–377, doi:10.1093/geronb/gbn040.

Medical Coverage for Older Adults: Medicare and Medicaid

According to the U.S. Centers for Medicare and Medicaid Services (CMS), Medicare is a multi-part health insurance system in the US that is offered to individuals aged ≥65 years.[51,52]

Medicaid is a joint federal and state program that helps with medical costs for some people with limited income and resources. Medicaid may also cover services not normally covered by Medicare, such as long-term supports and services and personal care services. According to CMS, federal law requires states to cover specific populations and provides flexibility to cover additional populations.[53]
Medicaid covers:

- Doctor visits
- Hospital stays
- Long-term services and supports
- Preventive care, including immunizations, mammograms, colonoscopies, and other needed care
- Prenatal and maternity care
- Mental health care
- Necessary medications

Qualifying for Medicaid leads to an automatic qualification for Medicare prescription drug coverage.

Each state has different rules about eligibility and applying for Medicaid. In general, in order to qualify for Medicaid an individual must be low-income, and either:

- Aged ≥65
- A child under 19
- Pregnant
- Living with a disability
- A parent or adult caring for a child
- An adult without dependent children (in certain states)
- An eligible immigrant[54]

Most states lack comprehensive dental care services as part of Medicaid. Older adults at all income levels who desire dental insurance plans are left to find their own source of coverage through the health care marketplace. DC, however, provides comprehensive dental benefits to adults under Medicaid.

---

51 People under age 65 with certain medical situations and anyone with an End-Stage Renal Disease can also receive Medicare coverage. For more information on Medicare see http://www.ssa.gov/medicare.

52 For more information, see http://www.ssa.gov/medicare.

53 Cubanski J, Lyons B, Neuman T, et al. (2015). Medicaid and Medicare at 50. *JAMA*; *314*(4): 384. doi:10.1001/jama.2015.8129.

54 Social Security Administration. (2006). Income of the population 55 or older, 2004 (SSA Publication No. 13-11871). Retrieved from: http://www.socialsecurity.gov/policy/docs/statcomps/income_pop55/2004ee/index.html.

Generally, if an individual is eligible for both Medicare and Medicaid, most of his or her health cost will be covered. However, Medicare and Medicaid do not cover all health care visits or medical requirements for individuals. As an example, vision and dental insurance are not provided via Medicare or Medicaid for older adults. Due to this gap, Medicare Supplemental Insurance, or Medigap is offered by private health insurance companies to cover the disparities in health care coverage for older adults.[55]

Veterans and Medicare and Medicaid

Veterans who receive care through the VA may also enroll in Medicare once they become eligible, with approximately 51% (about 4 million) doing so.[56,57] Dual use of VA benefits and Medicare is about 30% among outpatients and 54% among surgical patients.[58] Veterans must provide information on their health insurance coverage when seeking VA medical care, but the VA is legally prohibited from billing Medicare and Medicaid. Private insurance companies are only billed for non-service related medical care, and veterans are not responsible for paying any remaining balances not covered by their health insurance.[59]

Medicare and Medicaid: Mental Health Coverage

Millions of Americans aged ≥65 years who are experiencing mental health issues rely on Medicare to provide mental health care coverage. Every year, an estimated 26% of Medicare beneficiaries (more than 13 million Americans) experience mental illness; an estimated 37% of these individuals are faced with a severe mental illness. This is a particularly pervasive issue throughout the population of Medicare beneficiaries who meet the definition of eligibility for Medicare coverage but are determined ineligible to receive benefits due to their age.[60]

Coverage of mental health care through Medicare has progressed through the Medicare Improvements for Patients and Providers Act of 2008 and the Affordable Care Act (ACA). The ACA further helped to close the Medicare Part D coverage gap by increasing Medicare coverage for generic and other brand-name mental health drugs that resulted in $5.7 billion in prescription drug cost savings to beneficiaries. Since the ACA's passage, Medicare also fully covers annual screenings for depression.

Although Medicare coverage has become more comprehensive with the enactment of these two laws, transportation to and from mental health care services remains an expense that Medicare does not cover.

---

55 Medigap Medicare Supplement Health Insurance (n.d). Retrieved from: http://www.cms.gov/Medicare/Health-Plans/Medigap/index.html?redirect=/Medigap/.

56 Loftis, C. W., and E. Salinsky. (2006). Medicare and Mental Health: The Fundamentals. National Health Policy Forum. The George Washington University. Retrieved from: http://www.nhpf.org/library/background-papers/BP_McareMentalHlth_11-27-06.pdf.

57 VA. (2014a). VA Mental Health Care Fact Sheet. Retrieved from: http://www.hospitalcompare.va.gov/docs/March-2014-VA-Mental-Health-Care-Congressional-Fact-Sheet.pdf.

58 Hynes, D. M., K. Koelling, K. Stroupe, N. Arnold, K. Mallin, M. Sohn, F. M. Weaver, L. Manheim, and L. Kok. (2007). Veterans' Access to and Use of Medicare and Veterans Affairs Health Care. *Medical Care* 45(3): 214-223.

59 Frist, W., Marshall, J., Kussman, M., & Roy, A. (2015, February 12). Fixing Veterans Mental Health Care. Retrieved from: http://www.cnas.org/sites/default/files/CVA_TF_vetshealthcare.pdf.

60 Loftis, C. W., and E. Salinsky. (2006). Medicare and Mental Health: The Fundamentals. National Health Policy Forum. The George Washington University. Retrieved from: http://www.nhpf.org/library/background-papers/BP_McareMentalHlth_11-27-06.pdf.

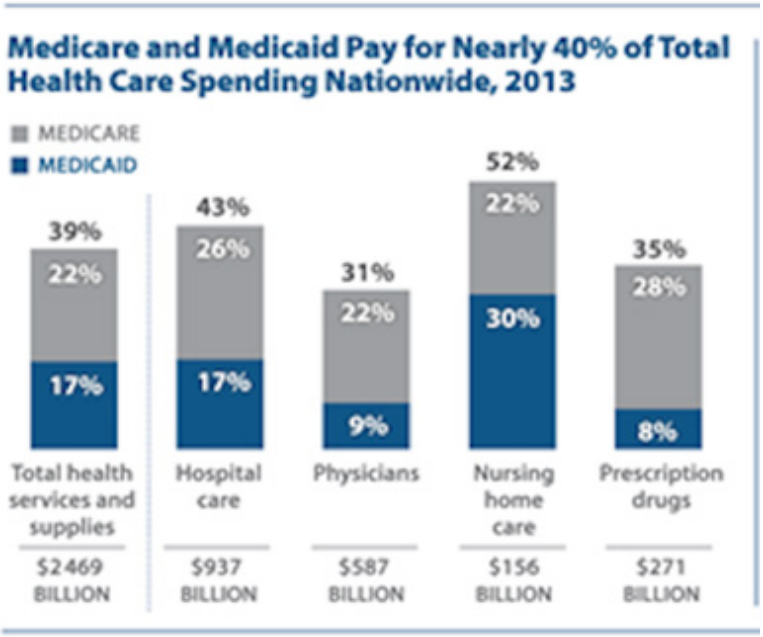


FIGURE 5 Medicare and Medicaid Spending in 2013.

SOURCE: Cubanski J, Lyons B, Neuman T, et al. (2015). Medicaid and Medicare at 50. JAMA; 314(4): 384. doi:10.1001/jama.2015.8129.

Importance of End-of-Life (EOL), Hospice, Palliative, and Respite Care

A 2010 estimate published in the Journal of the American Geriatrics Society estimated that 3.6 million of adults aged ≥65 are in need of home-based care.[61] One result of the increasing life expectancy and higher population of older adults is the consequent need for more available options in dealing with morbidity and mortality. Older adult care poses many additional challenges, some of which include: higher prevalence of co-morbid diseases in this age group requiring ongoing collaborative care among many specialists, ethical challenges in administrating end-of-life (EOL) care, and financial/economic insecurity in providing older adults quality albeit expensive home-based care as necessary.[62,63,64]

Good EOL and hospice care are critical components in effectively helping individuals and their families transition from one stage to the next.[65] A 2012 *Rhode Island Medical Journal* study found that 50% of older adults were cared for in hospice care for 22 days

61 Qiu, W. Q., Dean, M., Liu, T., George, L., Gann, M., Cohen, J. and Bruce, M. L. (2010), Physical and Mental Health of Homebound Older Adults: An Overlooked Population. Journal of the American Geriatrics Society, 58: 2423–2428. doi: 10.1111/j.1532-5415.2010.03161.x.

62 Section for Enhancing Geriatric Understanding and Expertise Among Surgical and Medical Specialists (SEGUE), American Geriatrics Society (2011), Retooling for an Aging America: Building the Healthcare Workforce. *Journal of the American Geriatrics Society, 59*(8) 1537–1539. doi: 10.1111/j.1532-5415.2011.03503.x.

63 Campbell, M. L. (2012). Case Studies in Nursing, Volume 4 : Case Studies in Palliative and End-of-Life Care. Somerset, NJ, USA: John Wiley & Sons. Retrieved from http://www.ebrary.com.

64 Institute of Medicine. (1997). *Approaching Death: Improving Care at the End of Life*. Washington, DC: The National Academies Press.

65 Cartwright, J., Miller,.,R, & Volpin, Miriam,R.N., B.S. (2009). Hospice in assisted living: Promoting good quality care at end of life. The Gerontologist,49(4), 508-516. doi: 10.1093/geront/gnp038.

on average.[66] For older adults and their families, the goals of hospice care present ethical challenges, especially if the individual is unconscious or mentally unable to participate in decision making.[67,68] Palliative and respite care, by comparison, are traditionally used for longer periods of time. The objective of comprehensive palliative care in older adults is to achieve higher quality of life by effectively managing numerous or complex health conditions and alleviating suffering.[69] Respite care intends to provide temporary relief for caregivers themselves, predominantly including family members as the source of caregiving, in order to allow emotional or physical relief for the caregiver while continuing to provide high-quality care to the individual patient.[70,71]

Estimates from A Public Health Perspective on End-of-Life Care project that as many as 60% of older adults could have benefited from either end-of-life care or palliative care in 2012.[72] However, recent political discussions regarding a 2008 rule enacted by CMS have indicated indecision regarding the value of funding EOL hospice care as a component of Medicare, known as the budget neutrality adjustment factor (BNAF).[73] Among the many barriers, technological advancements making home health care more accessible to non-health care providers are becoming especially prominent. Wireless home health devices, such as automatic sphygmomanometers for measuring blood pressure, are seen as a minor solution for more financially-sustainable health management, i.e., to avoid unessential health visits from practitioners and associated costs over time.[74]

Older Adult Abuse & Prevention

The Institute of Medicine released Elder Abuse and Its Prevention in 2014, highlighting that 1 out of every 10 older adults experiences "physical, psychological, or sexual abuse, neglect, or financial exploitation," albeit, the true prevalence is likely higher due to underreporting.[75] Consequences of older adult abuse include greater incidence of: physical injuries, early mortality, financial downfall, as well as increased overall rates of depression

66 Miller, S. C. (2015). Hospice and Palliative Care in Nursing Homes: Challenges and Opportunities for Enhanced Access. *Rhode Island Medical Journal*, *98*(4), 26-29.

67 Watts, T. (2012). Initiating end-of-life care pathways: a discussion paper. *Journal Of Advanced Nursing*, *68*(10), 2359-2370. doi:10.1111/j.1365-2648.2011.05924.x.

68 Smith, F., & Himmel, S. (2013). *Changing the Way We Die : Compassionate End of Life Care and the Hospice Movement*. Street Berkeley, California: Cleis Press.

69 Swetz, K., & Kamal, A. (2012). Palliative Care. *Annals of Internal Medicine,156*(3), ITC2. doi: http://dx.doi.org/10.7326/0003-4819-156-3-201202070-01002.

70 Petrovic, K. (2013). Respite and the Internet: Accessing care for older adults in the 21st Century. *Computers in Human Behavior, 29*(6), 2448-2452. doi: 10.1016/j.chb.2013.02.005.

71 Savundranayagam, M., & Montgomery, R. (2008). Do "Powerful Tools" translate into successful caregiving? Impact of a psychoeducational program on caregiver stress and rewards. *Gerontologist, 48*, 390. doi: 10.1080/03601270590962523.

72 Deliens, L., & Cohen, J. (2012). *A Public Health Perspective on End of Life Care*. Oxford: OUP Oxford.

73 National hospice and palliative care organization NHPCO; NHPCO: Congressional hospice champions send letter to President Obama urging action to stop funding cuts. (2009). *Politics & Government Week*, 7. Retrieved from http://search.proquest.com/docview/214602894?accountid=1454.

74 Coughlin, T. (2013). ICCE Tricorder Session Explores the Future of Home Health Care [Conference Review]. *Consumer Electronics Magazine, IEEE,2*(3), 49-51. doi: 10.1109/MCE.2013.2260612.

75 Institute of Medicine and National Research Council. (2014). *Elder Abuse and Its Prevention: Workshop Summary*. Washington, DC: The National Academies Press.

and emotional suffering, which already affect older adults more prevalently than other age groups.[76,77,78]

Risk factors for older adult abuse, such as cognitive impairment and social isolation, may make it less likely that older adults will receive treatment for abuse or neglect.[79] Additionally, older adults from low and middle-income regions, racial/ethnic minority groups, and/or those aged ≥85 years are at increased risk to experience older adult abuse.[80,81,82] Recent literature indicates a higher prevalence of older adult abuse in residential long-term care (LTC) communities compared to adults who resided in alternative locations (with exception to homeless or residentially-unstable older adults.)[83,84,85] However, LTC facilities are often utilized for older adults who are physically or cognitively disabled, living without family, or who have moderate-to-severe difficulty with independently preforming activities of daily living (ADLs) and instrumental activities of daily living (IADLs), as opposed to older adults not facing these additional challenges of aging.[86,87,88,89,90] Because LTC communities may care for especially vulnerable older adults, LTC-specific data regarding older adult abuse is not generalizable to representing the overall older adult population.

Legal implications of older adult abuse are essential for prevention, although barriers for enforcing judicial action exist at the primary (reporting) level. Among 5777 older adult study participants surveyed in a 2010 American Journal of Public Health study, only 7.9% of emotional abuse incidents, 31% of physical abuse incidents, and 16% of sexual abuse

---

76 Navarro , A. E., Wilber, K. H., Yonashiro, J.Y., & Homeier, DC (2010). Do we really need another meeting? Lessons from the Los Angeles County Elder Abuse Forensic Center. *The Gerontologis*t, *50*(5), 702–711. doi:10.1093/geront/gnq018.

77 Lachs, M., Williams, C., O'Brien, S., Pillemer, Karl A., Charison, M. (1998). The Mortality of Elder Mistreatment.(part 2). *JAMA, The Journal of the American Medical Association, 280*(5), 428B. doi:10.1001/jama.280.5.428.

78 Brandl., B., Bitondo, C., Heisler, C., Dyer, C., Otto, J., Stiegel, L., Thomas, R. (2007). *Elder abuse detection and intervention: A collaborative approach*. New York, NY: Springer Publishing Company, LLC. doi:10.1080/08946560802571953.

79 IOM and NRC. 2014. *Evidence for violence prevention across the lifespan and around the world*: Workshop summary. Washington, DC: The National Academies Press.

80 Beach, S., Schulz, R., Castle, N., & Rosen, J. (2010). Financial exploitation and psychological mistreatment among older adults: Differences between African Americans and non-African Americans in a population-based survey. *The Gerontologist*, *50*(6): 744–757. doi:10.1093/geront/gnq053.

81 Acierno, R., Hernandez, M. A., Amstadter, A. B., Resnick, H. S., Steve, K., Muzzy, W., & Kilpatrick, D. G. (2010). Prevalence and correlates of emotional, physical, sexual, and financial abuse and potential neglect in the United States: The national elder mistreatment study. American Journal of Public Health, 100(2), 292-297. doi: 10.2105/AJPH.2009.163089.

82 NRC (National Research Council). (2003). *Elder mistreatment: Abuse, neglect, and exploitation in an aging America*. Washington, DC: The National Academies Press.

83 Institute of Medicine and National Research Council. (2014). *Elder Abuse and Its Prevention: Workshop Summary*. Washington, DC: The National Academies Press.

84 Crane, M., & Joly, L. (2014). Older homeless people: Increasing numbers and changing needs. *Reviews in Clinical Gerontology, 24*(4), 255-268. doi: 10.1017/S095925981400015X.

85 Gonyea, J., Mills-Dick, K., & Bachman, S. (2010). The Complexities of Elder Homelessness, a Shifting Political Landscape and Emerging Community Responses. *Journal of Gerontological Social Work, 53*(7), 575-590. doi:10.1080/01634372.2010.510169.

86 Dong, X., Chen, R., & Simon, M. A. (2014). Elder abuse and dementia: A review of the research and health policy. *Health Affairs, 33*(4), 642-6499. doi: 10.1377/hlthaff.2013.1261.

87 Sheehan, P. (2011). Elder abuse: Zero tolerance. *Long-Term Living, 60*(6), 40-41. Retrieved from http://search.proquest.com/docview/884326210?accountid=14541.

88 Penhale, B. (2010). Responding and intervening in elder abuse and neglect. Ageing International, 35(3), 235-252. doi:http://dx.doi.org/10.1007/s12126-010-9065-0.

89 Allianz life study substantiates elder financial abuse under-reported and misunderstood. (2015, April 20). Professional Services Close-Up. Retrieved from: http://search.proquest.com/docview/1613898356?accountid=14541.

90 Lin, S., Beck, A. N., Finch, B. K., Hummer, R. A., & Master, R. K. (2012). Trends in US older adult disability: Exploring age, period, and cohort effects. *American Journal of Public Health, 102*(11), 2157-2163. doi: 0.2105/AJPH.2011.300602.

incidents were reported to police.[91] An older study published by *The Gerontologist* over a decade ago found that of the 2020 older adult participants in the Boston area, only 1 in 14 cases of older adult abuse was reported to police, indicating that the low reporting rates of older adult abuse have remained roughly the same, or even decreased, over time.[92] Underreporting these instances of older adult abuse to legal authorities ultimately impedes with the ability to screen for, detect, and address abuse early.[93,94,95,96]

Transportation

Transportation can pose a significant barrier to health care access, particularly for those at lower income levels, from poorer economic backgrounds, or who are under or uninsured. While transportation affects access to health care for all ages, transportation barriers faced by older patients are often compounded by factors more common among the older adult population, such as disability, illness severity, and need for greater frequency of clinician visits. Of older patients nationwide who reported experiencing barriers to health care access in 2013, 3% to 21% cite transportation as the cause.[97] A 2012 AARP report estimated that 41% of adults aged 65 to 79 in DC (about 308,000) would have poor access to transportation in 2015, despite the availability of some paratransit (e.g., Metro Access).[98] Lack of access to transportation may result in missed medical appointments, potentially leading to a lack of regular medical care, and decreased likelihood to seek and use health care services.[99]

Even for veterans, who may be eligible to receive federally funded financial assistance for transportation to health care services, transportation can still impose access barriers. Of the approximate 22 million veterans, 5.3 million live in geographically remote areas.[100] Of these rural veterans, about 3.2 million , are enrolled in the VA health care system and represent 36% of the total enrolled veteran population.[101] However, access to federally funded health care is more restricted in rural areas than in urban. Relative to their urban-dwelling counterparts, rural veterans seek significantly less primary and specialist care

91 Acierno, R., PhD., Hernandez, M. A., M.S., Amstadter, A. B., PhD., Resnick, H. S., PhD., Steve, K., M.S., Muzzy, W., B.S., & Kilpatrick, D. G., PhD. (2010). Prevalence and correlates of emotional, physical, sexual, and financial abuse and potential neglect in the United States: The national elder mistreatment study. American Journal of Public Health, 100(2), 292-297. doi: 10.2105/AJPH.2009.163089.

92 Pillemer, K., & Finkelhor, D. (1988). The prevalence of elder abuse: A random sample survey. *Gerontologist*, 28(1), 51–57.

93 Navarro, A., Gassoumis, Z., & Wilber, K. (2012). Holding Abusers Accountable: An Elder Abuse Forensic Center Increases Criminal Prosecution of Financial Exploitation. *The Gerontologist, 53*(2), 303-312. doi:10.1093/geront/gns075.

94 Beach, S. 2013. *Screening and detection.* Presented at Elder Abuse and Its Prevention: A Workshop. Institute of Medicine, Washington, DC, April 18.

95 Karlawish, J. (2013, April 17). *Elder abuse and Neglect: Ethical consideration in research and care*. Presented at Elder Abuse and Its Prevention: A Workshop. Institute of Medicine, Washington, DC.

96 Connolly , M. T.(2010, January). Where elder abuse and the justice system collide: Police power, parens patriae, and 12 recommendations . *Journal of Elder Abuse & Neglect*, *22*(1-2); 37–93. doi:10.1080/08946560903436338.

97 Syed, S. T., B. S. Gerber, L. K. Sharp. 2013. Traveling Towards Disease: Transportation Barriers to Health Care Access. *J Community Health* 38(5): 976–993. doi: 10.1007/s10900-013-9681-1.

98 AARP. (2012). *Waiting For a Ride: Transit Access and America's Aging Population*. Retrieved from: http://www.aarp.org/livable-communities/learn/transportation-mobility/info-12-2012/waiting-for-a-ride-transit-access-and-americas-aging-population.html.

99 Mattson, J. (2010). Transportation, Distance, and Health Care Utilization for Older Adults in Rural and Small Urban Areas. *Transportation Research Record: Journal of the Transportation Research Board 2265*,192-199. doi: 10.3141/2265-22.

100 VA. (2014b). Fact Sheet: Information about the VHA Office of Rural Health and Rural Veterans. Retrieved from: http://www.ruralhealth.va.gov/docs/factsheets/ORH_General_FactSheet_2014.pdf.

101 National Organization of States Offices of Rural Health. (2013). Addressing the Health Care Needs of Rural Veterans: A Guide for State Offices of Rural Health. Retrieved from: http://www.nosorh.org/wp-content/uploads/2013/07/NOSORH-Rural-Veterans-Health-Guidenhmedits-21.pdf.

provided by the VA or covered by Medicare.[102]

Relative to their urban counterparts, older adults in rural areas also experience greater difficulty traveling to pharmacies to obtain prescription drugs. A 2004 Journal of Medical Systems study conducted in Illinois found that 93.8% of pharmacies were located in urban areas and that the average distance to a community pharmacy was six times greater in rural areas than in urban, with more than 10% of older adults living in rural areas needing to travel over 11.8 miles to reach a community pharmacy.[103]

Socioeconomic Status

The American Psychological Association (APA) defines socioeconomic status (SES) as a combination of education, income, and occupation, which affects overall human functioning, including our physical and mental health,[104] and is a major indicator of health.[105,106] According to the 2013 US Census, 9.5% of older adults fall below the poverty line, compared with 14.5% of the general population.[107,108,109]

Older adults can attribute the majority of their wealth to pensions, housing, and other assets, which are generally absent amongst those with lower SES. However, 86% of older adults with income receive Social Security income, and 21% of those older adults receiving Social Security report this as their sole source of income.[110,111] There are racial/ethnic disparities when looking at SES as well. For example, older African Americans and Hispanics are primarily at risk for falling beneath the poverty line, with 23% of older African Americans and 19% of Hispanics living in poverty.[112,113,114,115] Studies have also shown

102 Weeks, W. B., D. M. Bott, R. P. Lamkin, S. M. Wright. (2005). Veterans Health Administration and Medicare Outpatient Health Care Utilization by Older Rural Urban New England Veterans. *The Journal of Rural Health 21*(2): 167-171. doi: 10.1111/j.1748-0361.2005.tb00077.x.

103 Lin, S. (2004). Access to Community Pharmacies by the Elderly in Illinois: A Geographic Information Systems Analysis. *Journal of Medical Systems 28*(3): 301-309. doi: 10.1023/B:JOMS.0000032846.20676.94.

104 Fact Sheet: Age and Socioeconomic Status. (n.d.). Retrieved from: http://www.apa.org/pi/ses/resources/publications/fact-sheet-age.pdf.

105 Huguet, N., Kaplan, M. S., & Feeny, D. (2008). Socioeconomic status and health-related quality of life among elderly people: Results from the Joint Canada/United States Survey of Healthstar. *Social Science & Medicine. 66*(4), 803-810. doi: 10.1016/j.socscimed.2007.11.011.

106 Huguet, N., Kaplan, M. S., & Feeny, D. (2008). Socioeconomic status and health-related quality of life among elderly people: Results from the Joint Canada/United States Survey of Healthstar. *Social Science & Medicine. 66*(4), 803-810. doi: 10.1016/j.socscimed.2007.11.011.

107 About Poverty: *2013 Highlights*. (2013). Retrieved from: https://www.census.gov/hhes/www/poverty/about/overview/.

108 Fleck, C. (2008, July 30). Older minorities are becoming America's poorest residents. *AARP Bulletin Today*, Retrieved from http://paydaystorefinder.com/article/aarp_older_minorities_are_becoming_americas_poorest_residents_cash_poor.html.

109 For more information regarding the 2015 Federal Poverty Level Guidelines, visit: http://www.medicaid.gov/medicaid-chip-program-information/by-topics/eligibility/downloads/2015-federal-poverty-level-charts.pdf.

110 Social Security Administration. (2006). Income of the population 55 or older, 2004 (SSA Publication No. 13-11871). Retrieved from: http://www.socialsecurity.gov/policy/docs/statcomps/income_pop55/2004ee/index.html.

111 Butrica, B. A., Toder, E. J., & Toohey, D. J. (2008). Boomers at the bottom: How will low-income boomers cope with retirement?Washington, DC: AARP Public Policy Institute.

112 American Psychological Association Task Force on Socioeconomic Status. (2006). *Report of the APA Task Force on Socioeconomic Status*. Retrieved from: from http://www.apa.org/pi/ses/resources/publications/social-class-curricula.pdf.

113 Bassuk, S. S., Berkman, L. F., & Amick, B. C. (2002). Socioeconomic status and mortality among the elderly: Findings from four U.S. communities. *American Journal of Epidemiology, 155*(6), 520-533. doi: 10.1093/aje/155.6.520.

114 Odubanjo, E., Bennett, K., & Feely, J. (2004). Influence of socioeconomic status on the quality of prescribing in the elderly—a population based study. *British Journal of Clinical Pharmacology*. *58*(5), 496–502. doi: 10.1111/j.1365-2125.2004.02179.x.

115 Merkin, S. S., Diez Roux, A.V., Coresha, J., Fried, L. F., Jackson, S. A., & Powe, N. R. (2007). Individual and neighborhood socioeconomic status and progressive chronic kidney disease in an elderly population: The Cardiovascular Health Study. *Social Science & Medicine, 65(4)*, 809–821. doi: 10.1016/j.socscimed.2007.04.011.

that older individuals of lower SES have increased mortality rates, higher stroke incidence, higher incidence of progressive chronic kidney disease, lower quality of life, smaller social networks, and lower quality of social relations.[116,117]

Suppplemental Social Security

Supplemental Security Income programs provide financial benefits based on need. According to the Office of Social Security, individuals are eligible for Supplemental Security Income if they are aged ≥65 years, blind, or disabled. Additionally, the beneficiaries must have a limited income, limited resources and be a US citizen or have special immigrant status.[118] In June 2014, the Office of Inspector General stated that Social Security backlog reached almost 1 million cases, with the number of backlogged cases continuously growing.[119] Because of this, a large portion of eligible beneficiaries experience delays in receiving claimed benefits.[120]

Homelessness & Poverty

Homelessness is estimated to increase by 33% from 2010 to 2020 and will more than double between 2010 and 2050 with projections showing homelessness to be an increasing issue for older adults. For example, US census reports indicate that for every 1 homeless older adult, there are more than 22 older adults struggling in deep poverty, in which the rate of deep poverty has staggered at 2% since 1975.[121]

With good health care and accessibility to services, older adults can have access to the resources necessary to achieve a good quality of life. However, older adults may face many consequences as a result of various risk factors to health such as homelessness. Homeless older adults may be more likely than non-homeless older adults to have a lower life expectancy, exhibit more cognitive impairments, and develop a chronic physical health concern, such as diabetes or heart disease.[122,123] It is also estimated that of the homeless older adult population, 56% have a diagnosable mental health disorder and 40% have a substance abuse concern.[124]

---

116 Huguet, N., Kaplan, M. S., & Feeny, D. (2008). Socioeconomic status and health-related quality of life among elderly people: Results from the Joint Canada/United States Survey of Healthstar. *Social Science & Medicine. 66*(4), 803-810. doi: 10.1016/j.socscimed.2007.11.011.

117 Avendano, M., Kawachi, I., Van Lenthe, F., Boshuizen, H. C., Mackenbach, J. P., Van den Bos, G. A. M., Berkman, L. F. (2006). Socioeconomic status and stroke incidence in the U.S. elderly: The role of risk factors in the EPESE study. *Stroke, 37*(6), 1368–1373.

118 SSI Eligibility Requirements. (n.d). Retrieved from: http://www.ssa.gov/ssi/text-eligibility-ussi.htm.

119 Reduce the Hearings Backlog and Prevent Its Recurrence (2015, July). Office of the Inspector General Retrieved from: http://oig.ssa.gov/audits-and-investigations/top-ssa-management-issues/social-security-disability-hearings-backlog.

120 Ibid.

121 Demographics of Homelessness Series: The Rising Elderly Population. (2010). *National Alliance to End Homelessness*. Retrieved from: http://www.endhomelessness.org/library/entry/demographics-of-homelessness-series-the-rising-elderly-population.

122 S. Jay Olshansky et al. (2009, December). "Aging in America in the Twenty-First Century: Demographic Forecasts from the MacArthur Foundation Research Network on an Aging Society: Aging in America in the Twenty-First Century," *Milbank Quarterly 87*(4), 842–862, doi:10.1111/j.1468-0009.2009.00581.x.

123 Demographics of Homelessness Series: The Rising Elderly Population. (2010). *National Alliance to End Homelessness*. Retrieved from: http://www.endhomelessness.org/library/entry/demographics-of-homelessness-series-the-rising-elderly-population.

124 Ending Homelessness among Older Adults and Elders through Permanent Supportive Housing. (2011, December 1). Retrieved from: http://www.csh.org/wpcontent/uploads/2012/01/Report_EndingHomelessnessAmongOlderAdultsandSeniorsThroughSupportiveHousing_112.pdf.

Of the total older adult homeless population, about 12% are veterans and the vast majority (92%) are male.[125] The US Department of Housing and Urban Development (HUD) estimates that 49,933 veterans are homeless on a given night.[126] Each year, the VA provides health care to over 150,000 homeless veterans.[127] An additional 1.4 million veterans are currently 'at risk' for homelessness due to factors such as poverty, overcrowding or dismal living conditions, lack of support systems, and mental illness.[128] Estimates from the total DC veteran and homeless population suggest that there are roughly 3,579 homeless veterans in DC.[129]

In order to combat homelessness in veterans, President Obama has more than tripled funding for homeless veterans programs, hitting near 1.5 billion dollars in the last year, with great successes nationwide. For example, the cities of New Orleans, LA and Los Angeles, CA have joined the program Zero: 2016, in which they hope to eliminate homelessness in residing veterans by the end of the following year.[130,131]

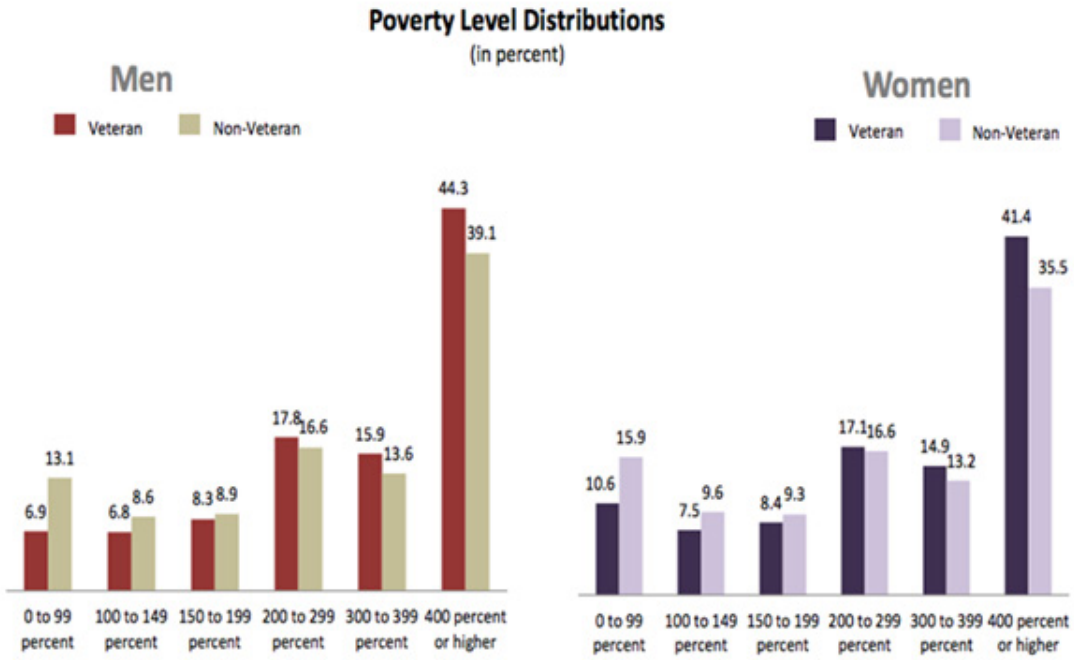


FIGURE 6 Poverty distinctions between veterans and non-veterans, stratified by gender, 2013.

SOURCE: Colby. S., Ortman, J. (2014, May). The Baby Boom Cohort in the United States: 2012-2060. US Census Bureau.

125 National Coalition for Homeless Veterans. (n.d.). National Coalition for Homeless Veterans. Retrieved from: http://nchv.org/index.php/news/media/background_and_statistics/.

126 Ending Homelessness among Older Adults and Elders through Permanent Supportive Housing. (2011, December 1). Retrieved from: http://www.csh.org/wpcontent/uploads/2012/01/Report_EndingHomelessnessAmongOlderAdultsandSeniorsThroughSupportiveHousing_112.pdf.

127 Ibid.

128 Ibid.

129 National Coalition for Homeless Veterans. (n.d.). National Coalition for Homeless Veterans. Retrieved from: http://nchv.org/index.php/news/media/background_and_statistics/.

130 Lawrence, Q. (2015, August 5). The U.S. Declared War On Veteran Homelessness — And It Actually Could Win. Retrieved from http://www.npr.org/2015/08/04/427419718/the-u-s-declared-war-on-veteran-homelessness-and-it-actually-could-win

131 Zero: 2016 Overview. (n.d.). Retrieved from http://cmtysolutions.org/zero2016.

Educational Attainment

Educational attainment is defined as the highest level of education a person has received.[132] Research has shown strong links between educational attainment and positive outcomes such as: better jobs, higher incomes, better access to healthcare, lower incidences of chronic illness, and increased life longevity. For example, an additional four years of education can lower the risk of diabetes by 1.3%, heart disease by 2.2%, being overweight or obese by 5%, and decrease the likelihood of smoking by 12%.[133] A 2003 article published by the *Psychological Bulletin*, and a 2007 article published by the journal of *Physiology & Behavior* found that older adults with less than a high school education have higher incidence of depression, Alzheimer's disease, and dementia.[134,135]

Although the VA does not provide direct statistics on educational attainment in older adult veterans, there are distinctions between male and female education attainment in the general population. As seen in Figure 7, rates of receiving High School/College degree have increased, especially in females.[136] In 2010, the US Census found 15.3% of older men had completed at least 4 years of high school compared with 78.9%.[137]

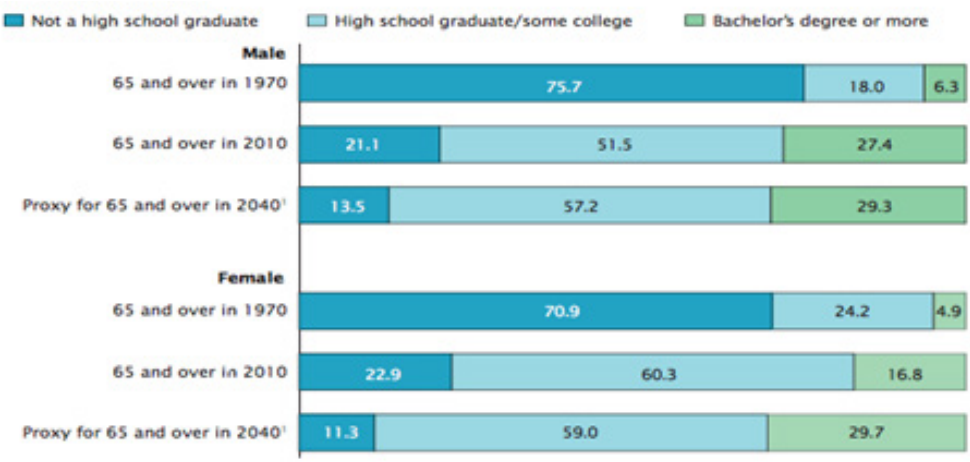


FIGURE 7 Educational Attainment Trends by sex for older adults.

SOURCE: U.S. Census Bureau, American Community Survey PUMS, 2013.

132 Fact Sheet: Age and Socioeconomic Status. (n.d.). Retrieved from: http://www.apa.org/pi/ses/resources/publications/fact-sheet-age.pdf.

133 "Why Education Matters to Health. (2013, March). RWJF. Retrieved from: http://www.rwjf.org/en/library/research/2012/12/why-does-education-matter-so-much-to-health-.html.

134 Fratiglioni, L., Winblad, B., & von Strauss, E. (2007). Prevention of Alzheimer's disease and dementia. Major findings from the Kungsholmen Project. *Physiology & behavior*, *92*(1), 98-104.

135 Gallo, L., Matthews, K., & Cooper, Harris. (2003). Understanding the Association Between Socioeconomic Status and Physical Health: Do Negative Emotions Play a Role? *Psychological Bulletin, 129*(1), 10-51.

136 Ibid.

137 West, Loraine A., Samantha Cole, Daniel Goodkind, and Wan He. (2014, June). *65 in the United States*. Retrieved from: https://www.census.gov/content/dam/Census/library/publications/2014/demo/p23-212.pdf.

Employment

A 2012 issue brief by the CDC on Older Adults and Employment suggests that the rising US life expectancy brings with it the willingness and the financial need for older adults to work beyond the traditional retirement age of 65 years.[138] Additionally, the qualifying age for Social Security has been incrementally increasing and is projected to reach 67 by 2020.[139] As a result, older workers are increasingly found in all sectors of the economy.[140] Previously, older adults tended to be employed part-time, but the US Bureau of Labor Statistics found in 2011 that 77% of workers aged ≥55 years held full-time employment.[141,142]

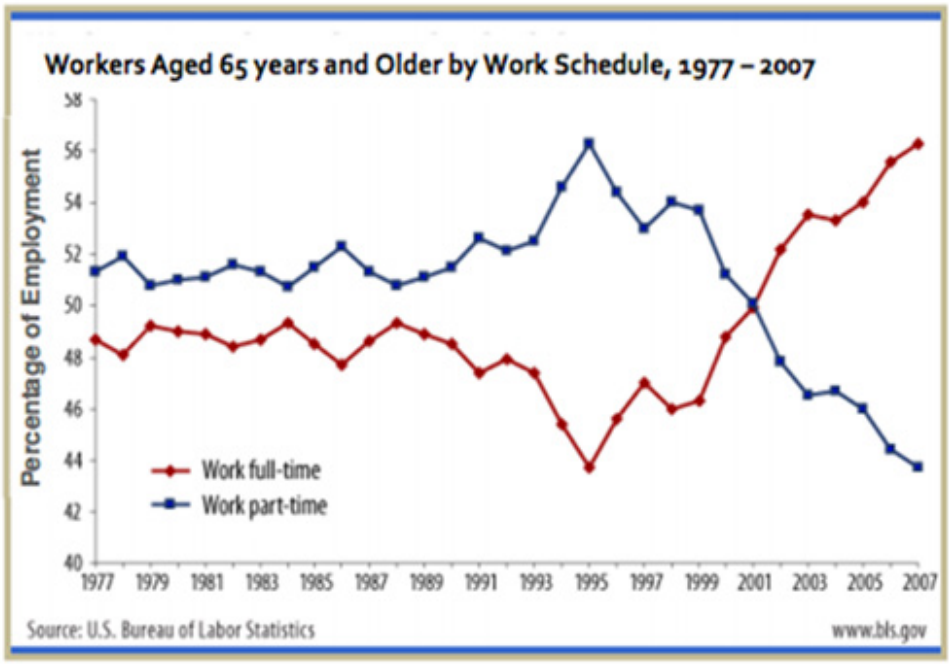


FIGURE 8 Shift in part-time v. full-time employment for workers aged ≥65.

SOURCE: Employed and Unemployed full- and part-time workers by Age, Sex, Race, and Hispanic or Latino ethnicity. (2015, February 12). Retrieved from: http://www.bls.gov/cps/cpsaat08.htm.

138 Older Employees in the Workplace. (2012, July 1). Retrieved from http://www.cdc.gov/nationalhealthyworksite/docs/issue_brief_no_1_older_employees_in_the_workplace_7-12-2012_final508.pdf.

139 West, Loraine A., Samantha Cole, Daniel Goodkind, and Wan He. (2014, June). *65 in the United States*. Retrieved from: https://www.census.gov/content/dam/Census/library/publications/2014/demo/p23-212.pdf.

140 Older Employees in the Workplace. (2012, July 1). Retrieved from http://www.cdc.gov/nationalhealthyworksite/docs/issue_brief_no_1_older_employees_in_the_workplace_7-12-2012_final508.pdf.

141 Employed and Unemployed full- and part-time workers by Age, Sex, Race, and Hispanic or Latino ethnicity. (2015, February 12). Retrieved from: http://www.bls.gov/cps/cpsaat08.htm.

142 Edington, D. (2001) Emerging Research: A View From One Research Center. *American Journal of Health Promotion: 15*(5);341-349. doi: http://dx.doi.org/10.4278/0890-1171-15.5.341.

Various studies suggest that older adults may face discrimination in the workforce. For example, a meta-analysis of age discrimination in the workforce conducted in 2005 and released in the *American Journal of Health Promotion* states that employers believe that "age reduces attractiveness and, to a lesser extent in our data, competence."[143] Additionally, the perception exists among employers that older workers are more costly than younger workers due to high rates of absenteeism, greater wages, higher pensions, and increased use of health care and other benefits. However, the same analysis does also suggest that "negative perceptions of older adults can be reduced when evaluators see older and younger people as behaving similarly, especially when that behavior is in a positive context."[144]

Regardless, most employers do not find these limitations sufficient to offset the appeal in hiring or keeping older workers in the job. The CDC reveals that employers report older workers have "greater knowledge of the job tasks they perform than their younger colleagues, willingly learn new tasks quickly, bring wisdom and resilience to work, and are able to keep up with the physical demands their jobs require."[145] Thus, while older adults face barriers and discrimination, they may be considered valuable in the workplaces.

A 2011 survey published by Psychiatric Services found that the majority of veterans who use VA services and benefits are unemployed, citing the main reasons for unemployment as fear over potentially losing benefits and/or concerns about entering workforce due to physical or mental disabilities.[146] A 2013 USA Today article uncovered that many veterans feared hidden discrimination over mental health in the hiring process, specifically in regards to PTSD.[147] However, the Uniformed Services Employment and Redeployment Rights Act (USERRA) of 1994 serves as a federal statute protecting veterans from employment discrimination.[148]

Older Adults who are Lesbian, Gay, Bisexual and Transgender (LGBT)

UCLA's William Institute on Sexual Orientation estimates that 4.1% of American adults identify themselves as lesbian, gay, bisexual or transgender (LGBT), therefore making up 1.5 million LGBT older adults.[149] Older LGBT adults face many social and institutional difficulties. For example, social stigma, exclusion and prejudice are everyday disruptions to the lives of LGBT Americans, leading to increased difficulties with self-esteem, mental image, social network systems and overall well-being. Additionally, LGBT older adults in committed same-sex relationships do not have equal opportunity for additional benefits

143 Edington, D. (2001) Emerging Research: A View From One Research Center. *American Journal of Health Promotion: 15*(5);341-349. doi: http://dx.doi.org/10.4278/0890-1171-15.5.341.

144 Kite, M., et al., (2005, June). Attitudes Toward Younger and Older Adults: An Updated Meta-Analytic Review. *Journal of Social Issues 61*(2) 241–66, doi:10.1111/j.1540-4560.2005.00404.x.

145 Munnell, Sass & Soto (2006). *Employer Attitudes Toward Older Workers: Survey Results*. Center for Retirement Research at Boston College.

146 Zivin, K., Bohnert, A., Mezuk, B., Ilgen, M., Welsh, D., Ratliff, S.,Kilbourne, A. (2011). Employment status of patients in the VA health system: Implications for mental health services. *Psychiatric Services (Washington, D.C.), 62*(1), 35-8. doi: 10.1176/appi.ps.62.1.35.

147 Zoroya, G. (2013, April 9). Recent War Vets Face Hiring Obstacle: PTSD bias. USA Today. Retrieved from: http://www.usatoday.com/story/news/nation/2013/04/06/recent-war-vets-face-hiring-obstacle-ptsd-bias/2057857/.

148 Barnes, L. (2014). Government: Chapter 691: Protecting Military Members and Veterans from Employment Discrimination. *McGeorge Law Review, 45*, 495-835.

149 Improving the Lives of LGBT Older Adults. (2010, March 1). Sage Publishing. Retrieved from: http://www.lgbtmap.org/file/improving-the-lives-of-lgbt-older-adults.pdf.

from programs such as Tax-Qualified Retirement Plans, Medicare, Medicaid, and Social Security than those in committed heterosexual relationships.[150]

In 2011, the Institute of Medicine released *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*, which outlines some major difficulties facing older adult populations. One of the main findings of the report indicates that older adults may experience negativity towards sexuality that falls outside the "heteronormative" perspective.[151] This should not come as a total surprise given that in 1952 homosexuality was listed as a diagnosis of sociopathic personality disturbance. This diagnostic definition was not revoked from the *Diagnostic and Statistical Manual of Mental Disorders* until the 7th printing of the DSM-II edition in 1973. Therefore, LGBT older adults may face an especially difficult time in social interaction with other non-LGBT older adults, leading to adverse health outcomes.[152,153]

It is estimated that over 1 million total veterans identify as being LGBT. Although LGBT individuals are not excluded from joining the ranks, they may continue to endure harassment from fellow servicemen or servicewomen. Recent data from the Department of Defense estimates that over 80% of individuals heard derogatory comments or slang about LGBT individuals while in service. The "don't ask, don't tell" policy that was originally issued in the 1990s and later repealed by President Obama on September 20, 2011, is emblematic of a view of how LGBT veterans may have faced different treatment than heterosexual veterans for the same service.[154,155,156]

Technology and Aging

Older adults in the US are viewed as late adopters of new and emerging technology (see Figures 9 and 10). Overall, older adults are becoming more familiar with technology, but there are disparities in use. Research suggests that highly educated and affluent older adults have more technology assets than those who are less educated and less affluent. Older, less affluent adults with significant health or disability challenges are even more disconnected from the digital age.[157]

Additionally, many older adults may face a number of physical and mental hurdles when adopting new technologies. For example, older adults may have physical health conditions that make it difficult to use new technologies. Also, some older adults may hold skeptical

150 Improving the Lives of LGBT Older Adults. (2010, March 1). Sage Publishing. Retrieved from: http://www.lgbtmap.org/file/improving-the-lives-of-lgbt-older-adults.pdf.

151 National Research Council. (2011). *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*. Washington, DC: The National Academies Press.

152 Bayer, R.(1987). Homosexuality and American Psychiatry: The Politics of Diagnosis. Revised. Princeton, NJ: Princeton University Press.

153 National Research Council. (2011). *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*. Washington, DC: The National Academies Press.

154 Stalsburg, B. (2011, September). *After Repeal: LGBT Service Members and Veterans*. Service Women's Action Network. Retrieved from: http://servicewomen.org/wp-content/uploads/2011/10/LGBT-Fact-Sheet-091411.pdf.

155 Department of Defense, Office of the Inspector General (2010.) *Military Environment with Respect to the Homosexual Conduct Policy*. Report No. D-2000-101.

156 Repeal of "Don't Ask, Don't Tell" (n.d.). Retrieved from http://www.hrc.org/resources/entry/the-repeal-of-dont-ask-dont-tell.

157 S. J. Czaja et al. (2008, September). "Older Adults and Technology Adoption," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* 52(2) 139–143, doi:10.1177/154193120805200201.

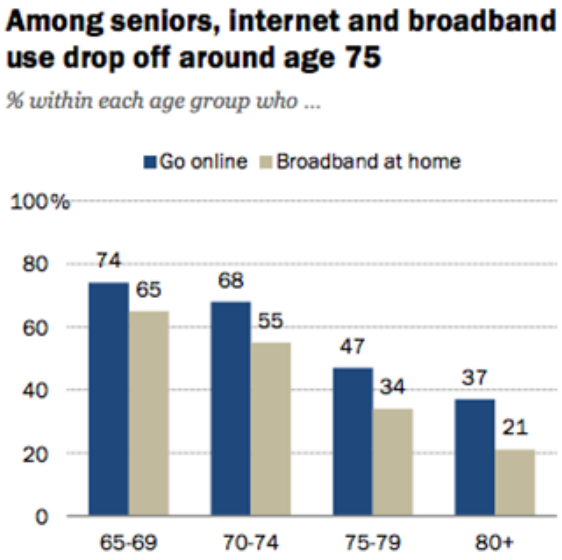


FIGURE 9 Older adults and technology use.

SOURCE: Older Adult Technology Use. (April 2014). Pew Research Center. Retrieved from: http://www.pewinternet.org/files/2014/04/PIP_Seniors-and-Tech-Use_040314.pdf.

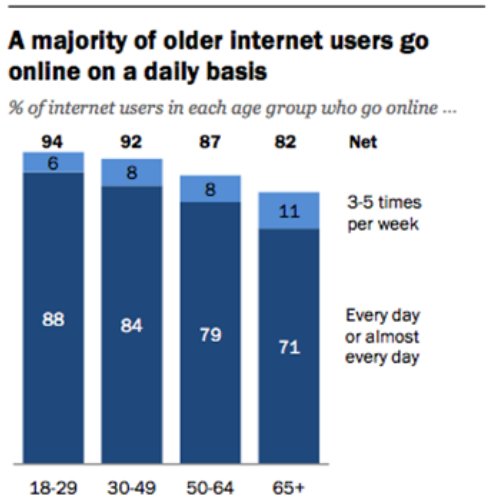


FIGURE 10 Older adults and technology use.

attitudes about the benefits of technology or may face difficulties understanding new technologies designed for younger populations. A significant majority of older adults say they need assistance when it comes to using new digital devices, and there are few programs that are available to fill this technological age gap. Despite these and other challenges, digital technology can help play a vital and positive role in the lives of older adults if utilized. Recent literature has found that older adult technology users have consistently reported lower rates of depression and loneliness, as well as higher social

connectedness, psychological well-being and life satisfaction rates.[158,159,160,161,162,163,164,165]

As pointed out in the 2013 Institute of Medicine report *Fostering Independence, Participation, and Healthy Aging Through Technology*, technological advancements beneficial to older adults are not limited to being digital. Wheelchairs, for example, increase independence via mobility for older adults daily; 4 million Americans are wheelchair-bound. Modern wheelchairs, although expensive and not always covered by insurance, may have robotic components that increase an older adults' ability to preform ADLs (activities of daily living) and IADLs (instrumental activities of daily living). In addition, robotic components have shown to reduce risk of carpal tunnel syndrome and rotator cuff injuries, which are particularly pervasive health concerns amongst wheelchair users.[166]

The independence program of the Wounded Warrior Project is one of many initiatives encouraging military communities to adopt more wheelchair-friendly home designs as well, such as lower counters, easy-to-use showers, keyless entry, and ramps.[167,168] These accommodations allow disabled veterans to retain autonomy in ways that may have been previously underestimated.

Other technologies that can increase connectedness and independence in older adults include various hearing, visual, and cognitive aids such as: electronic magnifiers, reading enlargers, in-ear hearing devices, and electronic reminder systems.[169] Another modern healthcare advancement via technological advancement, telemedicine, also has the potential to increase care for older adults in a way that is both convenient and feasible, if utilized appropriately. For example, researchers of a 2013 study published by the *Journal of the American Geriatric Society* found that older adults noted many benefits and positive

158 Older Adult Technology Use. (April 2014). Pew Research Center. Retrieved from: http://www.pewinternet.org/files/2014/04/PIP_Seniors-and-Tech-Use_040314.pdf.

159 Karavidas M., Lim N., Katsikas S .(2005). The effects of computers on older adult users. Computers in Human Behavior, 21, 697–711. doi:10.1016/j.chb.2004.03.012.

160 Erickson J., Johnson G. M (2011). Internet use and psychological wellness during late adulthood. Canadian Journal on Aging, 30, 197–209. doi:10.1017/S0714980811000109.

161 Shapira N., Barak A., Gal I. (2007). Promoting older adults' well-being through Internet training and use. Aging & Mental Health, 11, 477–484. doi:10.1080/13607860601086546.

162 Cotten S. R., Ford G., Ford S., Hale T. M. (2012). Internet use and depression among older adults. Computers in Human Behavior, 28, 496–499. doi:10.1016/j.chb.2011.10.021.

163 Choi M., Kong S., Jung D. (2012). Computer and Internet interventions for loneliness and depression in older adults: A meta-analysis. Healthcare Informatics Research, 18, 191–198. doi:10.4258/hir.2012.18.3.191.

164 Chen Y., Persson A. (2002). Internet use among young and older adults: Relation to psychological well-being. Educational Gerontology, 28, 731–744. doi:10.1080/03601270290099921.

165 Elliot, A., Mooney, C., Douthit, K., & Lynch, M. (2014). Predictors of Older Adults' Technology Use and Its Relationship to Depressive Symptoms and Well-being. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 69*(5), 667-677. doi: 10.1093/geronb/gbt109.

166 Institute of Medicine. (2013). *Fostering Independence, Participation, and Healthy Aging Through Technology.* Washington, DC: National Academies Press.

167 Institute of Medicine. (2013). *Fostering Independence, Participation, and Healthy Aging Through Technology.* Washington, DC: National Academies Press.

168 Independence Program. (2015). Retrieved from https://www.woundedwarriorproject.org/programs/independence-program.aspx.

169 Institute of Medicine. (2013). *Fostering Independence, Participation, and Healthy Aging Through Technology.* Washington, DC: National Academies Press.

aspects of telemedicine, such as in convenience, speed, and completeness.[170,171,172] For follow-up visits and wellness counsels, telemedicine can play an important role improving accessibility.

V. Veterans and Mental Health

Overview

The World Health Organization (WHO) defines mental health as a "state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community."[173] Mental illness is recognized by the CDC as "referring to disorders generally characterized by dysregulation of mood, thought, and/or behavior, as recognized by the *Diagnostic and Statistical Manual*, 5th edition, of the APA (DSM-IV)."[174] In regards to mental illness, practicing psychologists, psychiatrists, primary care physicians, and other providers of mental health care often refer to the four "D's" for making a diagnosis:

- dysfunction in one's daily life
- deviation from normal social behaviors
- chronic distress that affect oneself or others
- danger to oneself or another.

Although all four characteristics do not have to be present in order to make a diagnosis, they can serve as a guideline to distinguish normal personality variations from mental illness.[175]

It is estimated that as many as 1 in 5 individuals will develop a mental illness over the course of his or her life.[176] 9.9% of adults aged ≥65 years in DC have been diagnosed with depression and 6.9% with anxiety during their lifetime. A smaller percentage of elderly individuals, 4.2%, report currently suffering from depression.[177] The National Alliance on Mental Illness (NAMI) reports that the US health system only provides support to 42% of those in need of mental health services. Over 60% of adults diagnosed with depression

170 Shah, M., Gillespie, S., Wood, N., Wasserman, E., Nelson, D., Dozier, A., & McConnochie, K. (2013). High-Intensity Telemedicine-Enhanced Acute Care for Older Adults: An Innovative Healthcare Delivery Model. *Journal of the American Geriatrics Society, 61*(11), 2000-2007. doi: 10.1111/jgs.12523.

171 Shah, M., Wasserman, E., Gillespie, S., Nelson, D., Wood, N., Doyle, M., Mcconnochie, K. (2013). Performance of an Urgent Care Telemedicine Program for Older Adults. *Journal Of The American Geriatrics Society, 61*, S84. doi: 10.1111/jgs.12157.

172 Levine, M., & Reid, M. (2012). Primary care providers' perspectives on telemedicine in the pharmacologic management of older adults with chronic pain (CP). *Journal Of The American Geriatrics Society, 60*, S202. doi: 10.1111/j.1532-5415.2011.03821.x.

173 Mental Health and Older Adults. (2013, September). WHO. Retrieved from: http://www.who.int/mediacentre/factsheets/fs381/en/.

174 Mental Illness. (2012, October 4). Retrieved from: http://www.cdc.gov/mentalhealth/basics/mental-illness.htm.

175 T Davis. (2009). Conceptualizing Psychiatric Disorders Using "Four D's" of Diagnoses. *The Internet Journal of Psychiatry*, *1*(1).

176 Mental Illness. (2012, October 4). Retrieved from: http://www.cdc.gov/mentalhealth/basics/mental-illness.htm.

177 Healthy Aging Data Portfolio. (2013). Centers for the Disease Control and Prevention. Retrieved from: http://nccd.cdc.gov/DPH_Aging/Location/LocationSummary.aspx?state=222.

who are enrolled in Medicaid managed care have unmet need for mental health services.[178]

Rates of mental illness in the veteran population are even higher. NAMI reports that between 2002 and 2010, 27.9% of returning service members from Iraq and Afghanistan were diagnosed with PTSD, depression, or another type of mental illness. It is also estimated that this number is lower than expected due to stigma associated with reporting symptoms. [179] A 2011 research survey conducted by the VA estimated that roughly 1 in 3 veterans have at least one diagnosable mental health disorder.[180,181,182] Of the surveyed veterans, about 31% satisfied the requirements for diagnosis for depression, 12% for substance abuse, and 20% for diagnosis for PTSD.[183] In addition, the 2010 VA medical system reported treating 438,091 veterans for PTSD; a 2011 study released by the Archives of General Psychiatry estimated that those who screened positive for PTSD were 2.52 times more likely to be diagnosed with at least one other mental disorder.[184,185] Veterans with an undiagnosed mental health disorder were less likely to be married or retired, and were more likely to be disabled.[186]

Roughly 950 veterans attempt suicide each month.[187]Additionally, in general the rate of suicide is highest amongst the older adult community as compared to any other age group.[188,189,190,191] The American Association for Marriage and Family Therapy (AAMFT) reports that the annual suicide rate for older adults aged ≥65 years is roughly 15 per 100,000 individuals, increasing to 17 per 100,000 for those aged 75 to 84, and is even higher in older adults aged ≥85. "Double suicides involving spouses or partners occur most frequently among the aged."[192] Further, suicide among older adults may be under-reported by 40% or more due to uncounted "silent suicides," including preventable deaths from

178 U.S. Department of Veteran Affairs: National Center for Veterans Analysis and Statistics (NCVAS).(2015f). *About the Data: DoD Worldwide Numbers for TBI*. Retrieved from http://www.va.gov/vetdata/Veteran_Population.asp.

179 Mental Illnesses and Veterans. (n.d). NAMI: National Alliance on Mental Illness. http://www2.nami.org/template.cfm?section=mental_illnesses1.

180 VA. (2014a). VA Mental Health Care Fact Sheet. Retrieved from: http://www.hospitalcompare.va.gov/docs/March-2014-VA-Mental-Health-Care-Congressional-Fact-Sheet.pdf.

181 Potera, C., & Pfeifer, G. (2013). Veterans' mental health. *American Journal Of Nursing, 113*(1), 16.

182 United States. Government Accountability Office. (2011). *VA Mental Health Number of Veterans Receiving Care, Barriers Faced, and Efforts To Increase Access*. S.l]: [s.n.].

183 VA. (2014a). VA Mental Health Care Fact Sheet. Retrieved from: http://www.hospitalcompare.va.gov/docs/March-2014-VA-Mental-Health-Care-Congressional-Fact-Sheet.pdf.

184 Sandweiss, D. A., D. J. Slymen, C.A., Leardmann, B., Smith, M.R., White, E.J., Boyko, T.I., Hooper, G.D., Gackstetter, P. J., Amoroso, and T. C. Smith. (2011). Preinjury psychiatric status, injury severity, and postdeployment posttraumatic stress disorder. *Archives of General Psychiatry 68*(5):496-504 doi: 10.1001/archgenpsychiatry.2011.44.

185 National Research Council. (2012). *Treatment for Posttraumatic Stress Disorder in Military and Veteran Populations: Initial Assessment*. Washington, DC: The National Academies Press.

186 Hankin, C., Spiro, A., Miller, D., & Kazis, L. (1999). Mental disorders and mental health treatment among U.S. Department of Veterans Affairs outpatients: The Veterans Health Study. *American Journal of Psychiatry.156*(12), 1924-1930.

187 The Mental Health and Substance Use Workforce for Older Adults. (2012). Committee on the Mental Health Workforce for Geriatric Populations, Board on Health Care Services, Institute of Medicine.

188 Ngamini.,Ngui.,Vasiliadis,& Préville. (2015). Individual and area-level factors correlated with death by suicide in older adults. *Preventive Medicine, 75*, 44-48. doi: 10.1016/j.ypmed.2015.03.015.

189 Screening for Suicide Risk in Adolescents, Adults, and Older Adults in Primary Care: Recommendation Statement. (2015). *American Family Physician, 91*(3), 190F,190G,190H,190I.

190 Heisel, M., Neufeld, E., & Flett, G. (2015). Reasons for living, meaning in life, and suicide ideation: Investigating the roles of key positive psychological factors in reducing suicide risk in community-residing older adults. *Aging & Mental Heal*th, 1-13. doi: 10.1080/13607863.2015.1078279.

191 Stanley, I., Hom, M., Rogers, M., Hagan, C., & Joiner, T. (2015). Understanding suicide among older adults: A review of psychological and sociological theories of suicide. *Aging & Mental Health,* 1-10. doi: 10.1080/13607863.2015.1012045.

192 Suicide in the Elderly - AAMFT Therapy Topic. (n.d). Suicide in the Elderly. Retrieved from: http://www.aamft.org/imis15/AAMFT/content/consumer_updates/suicide_in_the_elderly.aspx.

overdoses, self-starvation, and dehydration.[193]

Substance Abuse

Research has found an indisputable correlation between military service and development of mental illnesses and substance-use disorders. The Center for Substance Abuse Treatment reports that substance abuse (particularly referring to alcohol and prescription drugs) often goes undetected due to societal reasons, such as shame about drinking or drug problems.[194] A 2014 report published by the American Journal of Psychiatry estimated that nearly 12% of older adults identified as having substance abuse problems.[195] The federal Substance Abuse and Mental Health Service Administration (SAMHSA) estimates that 4.8 million adults aged ≥50, which is the equivalent of 5.2% of all adults in the ≥65 age group, have used an illicit drug in the past year.[196] The signs of substance abuse among older adults consist of anxiety, memory loss, disorientation, headaches, and incontinence—all symptoms that can mimic either physical or mental health conditions that affect older adults. Therefore, in this age group, providers often misattribute signs of substance abuse.[197]

Mental Health Services

Primary care plays an important role in screening elderly adults for mental health issues. Depression is one of the most common health conditions treated in primary care, with up to 80% of depressed elderly patients receiving care for depression through primary care. However, depression often goes undiagnosed and untreated despite its pervasiveness among the elderly population. Primary care providers are estimated to detect depression in only 40 to 50% of depressed older adults, and only one in five depressed older adults is estimated to receive treatment.[198]

The VA provides general and specialty mental health care services at VA medical centers and community-based outpatient clinics. Inpatient and outpatient mental health care services are available at primary care clinics, specialty clinics, nursing homes, and residential facilities. Counseling services are also available to veterans and their family members at veteran centers. General mental health care services are incorporated into primary care via Patient Aligned Care Teams (PACTs) and are also accessible at VA nursing homes and residential care facilities.

More than 1.4 million veterans received specialized mental health treatment from the VA in 2013, a significant increase from the more than 900,000 who received mental health

193 Ibid.

194 Rockville (MD): Substance Abuse and Mental Health Services Administration (US) (1998.) Report No.: (SMA) 98-3179. SAMHSA/CSAT Treatment Improvement Protocols.

195 Hankin, C., Spiro, A., Miller, D., & Kazis, L. (2014.). Mental Disorders and Mental Health Treatment Among U.S. Department of Veterans Affairs Outpatients: The Veterans Health Study. The American Journal of Psychiatry, 156(12), 1924-1930. Retrieved from http://ajp.psychiatryonline.org/doi/10.1176/ajp.156.12.1924.

196 Substance Abuse and Mental Health Services Administration. (2011). The NSUDUH report: illicit drug use among older adults. Retrieved from http://oas.samhsa.gov/2k11/013/WEB_SR_013_HTML.pdf.

197 Blow, F. C., Oslin, D. W., & Barry, K. L. (2002). Use and abuse of alcohol, illicit drugs and psychoactive medication among older people. *Generations*, 25(1), 50-54.

198 Park, M. and J. Unützer. (2011). Geriatric Depression in Primary Care. *Psychiatric Clinics of North America* 34(2): 469-87.

treatment in 2006.[199] This rise in veterans receiving specialized mental health treatment may be linked to more proactive screening practices; the VA anticipates that the need to provide specialized mental health care will continue to grow.[200,201]

VA medical centers and clinics provide specialized treatment for a broad range of mental health conditions including and related to PTSD, substance abuse disorders, and military sexual trauma (MST). In 2014, more than 530,000 veterans received treatment for PTSD and over 500,000 received treatment for substance abuse disorders. In 2013, 24.3% of female veterans and 1.3% of male veterans screened at VA facilities reported suffering from MST. The VA's policy is to screen all veterans seen at VA facilities for MST.[202,203,204]

Barriers to Mental Health Care

According to the Association for Psychological Science (APS), mental illness has been found to directly influence factors such as education, employment, physical health, and relationships in affected individuals.[205] Although many effective mental health interventions are available, people often do not seek out the care they need. In fact, in 2011, only 59.6% of individuals with a mental illness—including such conditions as anxiety, depression, schizophrenia, and bipolar disorder—reported receiving treatment."[206] For example, cognitive behavioral therapy (CBT), cognitive processing therapy (CPT) and prolonged exposure therapy (PET) are all evidence-based methods of psychotherapy that are offered by the VA, but less than half of veterans needing mental health services receive any care, and veterans who are treated for PTSD and major depression only receive evidence-based methods of psychotherapy about 30% of the time.[207] NAMI also lists innovations in services such as psychiatric rehabilitation, peer supports, medication, and educations as tools to use in treating mental health conditions.[208]

Several social and institutional barriers exist for veterans seeking mental health care services. Social barriers include societally and self-imposed stigma associated with seeking treatment for mental health disorders. These can play a significant role in discouraging veterans from seeking mental health care due to fear of negative social consequences and perceived social discrimination. Stigma for mental illness, although always challenging, may pose an additional challenge for the predominantly male veteran community. In fact,

199 VA. (2014a). VA Mental Health Care Fact Sheet. Retrieved from: http://www.hospitalcompare.va.gov/docs/March-2014-VA-Mental-Health-Care-Congressional-Fact-Sheet.pdf.

200 Ibid.

201 VA. (2012). 2011 Survey of Veteran Enrollees' Health and Reliance Upon VA. Retrieved from: http://www.va.gov/healthpolicyplanning/soe2011/soe2011_report.pdf.

202 VA. (2014a). VA Mental Health Care Fact Sheet. Retrieved from: http://www.hospitalcompare.va.gov/docs/March-2014-VA-Mental-Health-Care-Congressional-Fact-Sheet.pdf.

203 Arndt, S., Clayton, R., & Schultz, S. K. (2011, August 19). Trends in substance abuse treatment 1998-2008: Increasing older adult first-time admissions for illicit drugs. *American Journal of Geriatric Psychiatry*, 19(8), 704-711. doi: 10.1097/JGP.0b013e31820d942b.

204 Crome, I., Sidhu, H., & Crome, P. (2009). No longer only a young man's disease: illicit drugs and older people. *The Journal of Nutrition, Health & Aging*, *13*(2) 141-143. DOI: 10.1007/s12603-009-0021-1.

205 C Corrigan, P., Druss, B., & Perlick, D. (2014, October). The Impact of Mental Illness Stigma on Seeking and Participating in Mental Health Care. *Psychological Science in the Public Interest/ 15*(2)37-70. doi: 10.1177/1529100614531398.

206 Corrigan, P., Druss, B., & Perlick, D. (2014, October). The Impact of Mental Illness Stigma on Seeking and Participating in Mental Health Care. *Psychological Science in the Public Interest/ 15*(2)37-70. doi: 10.1177/1529100614531398.

207 National Council for Behavioral Health [NCBH], (2012). Meeting the behavioral health needs of veterans operation enduring freedom and operation Iraqi freedom. Retrieved from: http://www.thenationalcouncil.org/wp-content/uploads/2013/02/Veterans-BH-Needs-Report.pdf.

208 Treatment & Services. (2014). Retrieved from: https://www.nami.org/Learn-More/Treatment.

studies have reported that veterans are less likely to seek mental health care than non-veterans.[209,210] According to a 2014 survey conducted by Iraq and Afghanistan Veterans of America (IAVA), a non-profit organization for veteran empowerment, 53% of its surveyed members suffer from a mental health injury.[211]

A 2013 *Journal of Posttraumatic Stress* study conducted in veterans gathered that the main reasons for not receiving mental health treatment included: lack of perceived need, being unaware of services or insurance coverage, skepticism about the effectiveness of treatment, low SES, and/or identifying as Asian or Pacific Islander. The most frequently reported reasons for not seeking care among the 27% of veteran respondents included: not wanting to be perceived differently by friends, family or peers; concern that seeking care could affect career; and many indicated a preference to speak with friends or family instead.[212] In addition, a 2014 report from the American Public Health Association (APHA) found that 40% of veterans suffering from mental health disorders use mental health care services, with as few as 50% seeking care after receiving clinical referrals.[213]

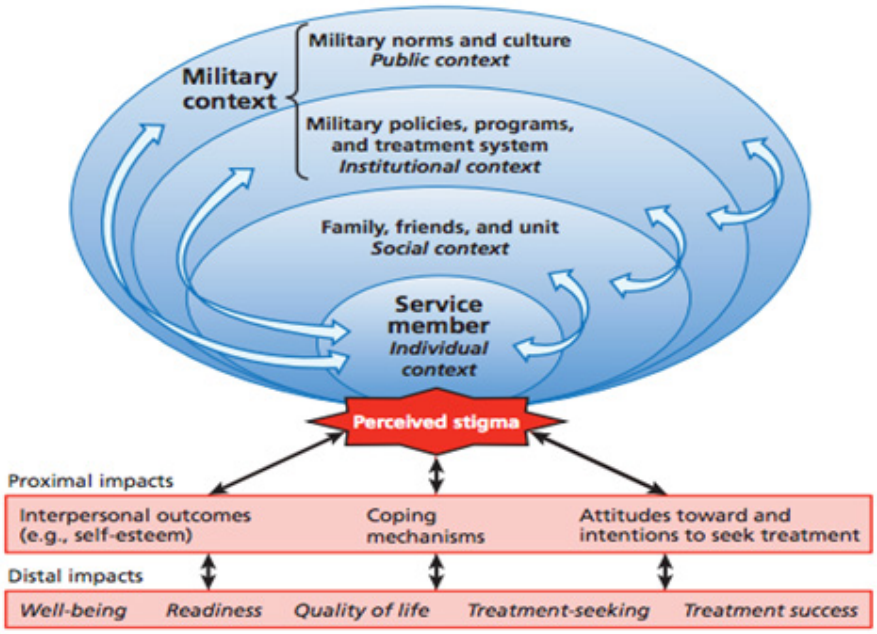


FIGURE 11 Model of mental health stigma reduction in the military.

SOURCE: RAND. (2015). Mental Health Stigma in the Military. http://www.rand.org/content/dam/rand/pubs/research_reports/RR400/RR426/RAND_RR426.pdf.

209 Blais, R.K., & Renshaw, K.D. (2013). Stigma and demographic correlates of helpseeking intentions in returning service members. *Journal of Traumatic Stress*, *26*(1), 77-85. doi: 10.1002/jts.21772.

210 Blais, R. K., Renshaw, K. D. and Jakupcak, M. (2014), Posttraumatic Stress and Stigma in Active-Duty Service Members Relate to Lower Likelihood of Seeking Support. *Journal of Traumatic Stress*, *27*(1):116–119. doi: 10.1002/jts.21888.

211 Maffucci, J. (2014.) Building a 21st Century VA: Challenges to Meeting the Mental Health Needs of the Newest Generation of Veterans. PowerPoint presentation at IOM meeting, Washington, DC.

212 Blais, R.K., & Renshaw, K.D. (2013). Stigma and demographic correlates of helpseeking intentions in returning service members. *Journal of Traumatic Stress*, *26*(1), 77-85. doi: 10.1002/jts.21772.

213 American Public Health Association. (2014, November 18.) Removing Barriers to Mental Health Services for Veterans. Retrieved from: http://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2015/01/28/14/51/removing-barriers-to-mental-health-services-for-veterans.

Institutional barriers and stigmas also play a significant role in hindering veteran access to mental health care services. Institutional stigmas are defined as those that "aris[e] from the policies of the private and governmental institutions [that either intentionally or unintentionally] restrict opportunities and hinder the options of people with mental illness."[214,215] See Figure 11 for a model of stigma reduction in the military.

Institutional barriers can play a significant role in hindering veteran use of health care services provided by the VA. Veterans must have actively served in the Army, Air Force, Navy, as a Reservist, or as a National Guard member for at least 24 continuous months or the full period for which they were called to active duty to be eligible for VA care. Veterans must also have received an honorable or general discharge to be eligible.[216] More significantly, health care provider shortages at VA facilities, inefficient scheduling practices, and problems arising from the transition to veteran care systems from active duty care systems have resulted in long wait times, which serve as a barrier to health care access for veterans. Of the more than 1.7 million veterans who have finished their service in Iraq and Afghanistan, only about 60% receive health care through the VA.[217,218] Additional factors that indicate whether a veteran will seek care include history of previous treatment, ability to recognize there is a problem, level of impairment, military branch, marital status, gender, and nature of the psychological issue.[219,220]

Mental Health and Sleep

Sleep disturbances commonly co-occur with mental health conditions. Insomnia was found to be the most common symptom of PTSD that was reported by US service members returning from military deployments.[221] Research has found that poorer sleep quality and shorter sleep duration may be important markers for psychiatric illnesses and symptoms of depression, PTSD, panic syndrome, and, anxiety disorders within the veteran population.[222] A 2014 research study on older veterans published in SLEEP found that those with PTSD had less rapid eye movement (REM) deep sleep, with more arousals from non-REM sleep and poorer perceived sleep quality than those without PTSD diagnosis.[223] Disturbed sleep

214 Acosta, Joie, Amariah Becker, Jennifer L. Cerully, Michael P. Fisher, Laurie T. Martin, Raffaele Vardavas, Mary Ellen Slaughter and Terry L. Schell,(2014). *Mental Health Stigma in the Military*, Santa Monica, Calif.: RAND Corporation, RR-426-OSD. Retrieved From: http://www.rand.org/pubs/research_reports/RR426.

215 Eisenberg, D., Golberstein, E., & Gollust, S. (2007). Help-Seeking and Access to Mental Health Care in a University Student Population. *Medical Care, 45*(7), 594-601. doi: 10.1097/MLR.0b013e31803bb4c1.

216 VA. (2014a). VA Mental Health Care Fact Sheet. Retrieved from: http://www.hospitalcompare.va.gov/docs/March-2014-VA-Mental-Health-Care-Congressional-Fact-Sheet.pdf.

217 Goldstein, J. (2014.) Evaluation of the Department of Veterans Affairs Mental Health Services. PowerPoint presentation at IOM meeting, Washington, DC.

218 Acosta, Joie, Amariah Becker, Jennifer L. Cerully, Michael P. Fisher, Laurie T. Martin, Raffaele Vardavas, Mary Ellen Slaughter and Terry L. Schell,. (2014). *Mental Health Stigma in the Military*, Santa Monica, Calif.: RAND Corporation, RR-426-OSD. Retrieved From: http://www.rand.org/pubs/research_reports/RR426.

219 Rosen, C.S., Greenbaum, M.A., Fitt, J.E., Laffaye, C., Norris, V.A., & Kimerling, R. (2011). Stigma, help-seeking attitudes, and use of psychotherapy in veterans with diagnoses of posttraumatic stress disorder. Journal of Nervous and Mental Disease, 199(11), 879-885. doi: 10.1097/NMD.0b013e3182349ea5.

220 Blais, R.K., & Renshaw, K.D. (2013). Stigma and demographic correlates of helpseeking intentions in returning service members. *Journal of Traumatic Stress*, *26*(1), 77-85. doi: 10.1002/jts.21772.

221 Mclay, R. N., Klam, W. P., & Volkert, S. L. (2010). Insomnia is the most commonly reported symptom and predicts other symptoms of post-traumatic stress disorder in U.S. service members returning from military deployments. *Military Medicine, 175*(10), 759-62.

222 Luxton, D.D., Greenburg, D., Ryan, J., Niven, A., Wheeler, G., & Mysliwiec, V. (2011). Prevalence and impact of short sleep duration in redeployed OIF soldiers. *SLEEP, 34*(9),1189-1195. doi: 10.5665/SLEEP.1236.

223 Chao, L.L., Mohlenhoff, B.S., Weiner, M.W., & Neylan, T.C. (2014, March 1). Associations between subjective sleep quality and brain volume in gulf war veterans. *SLEEP 37*(3), 445-452. doi: 10.5665/sleep.3472.

has been predictive of mental illness following exposure to trauma; conversely, treatment of sleep problems may help to alleviate mental illness.[224] The complexities for treating sleep disturbances therefore requires a multidisciplinary and multifaceted treatment plan that focuses on more than PTSD symptoms in order to effectively alleviate sleep problems after trauma.[225] The VA health system within DC offers treatment plans and established "healthy living" centers and programs in order to address sleep disturbances as well as its associated mental illnesses.

Mental Health and Traumatic Brain Injury

Traumatic Brain Injury (TBI), defined by the US Department of Defense (DoD) and the VA as "any traumatically-induced structural injury and/or physiological disruption of brain function as a result of an external force," is a leading cause of death in the US.[226] Clinical signs for TBI include a period of loss of consciousness, decreased level of consciousness, any loss of memory in events immediately before or after the injury, and/or an alteration in mental state at the time of injury.[227] Veterans are at higher risk than civilians to have experienced TBI in the course of their lifetime.[228]

TBI has been referred to as a "signature injury" of wartime experience; over 33% of patients with combat-related injuries and 60% of patients with blast-related injuries seen at Walter Reed Army Medical Center in 2014 have sustained a TBI.[229] In 2009, over 66,023 veterans were identified as possibly having a TBI through outpatient screening of patients presenting to the VA for healthcare.[230] There are also documented cases of comorbidities with TBI and other mental illnesses including PTSD, depression, anxiety, and somatoform disorders. It is estimated that the prevalence rate of PTSD in individuals diagnosed with TBI is from anywhere between 13-17%, although it remains controversial whether either the TBI or the PTSD occurred first. For those with mild TBI, recovery can take for up to 6 months to a year. However, for more serious cases, recovery and treatment can extend to 36 months.[231]

Improving the Accessibility of Mental Health Services for Veterans

VA policy requires that new patients seeking care for mental health issues receive a preliminary evaluation within 24 hours, helping to identify patients whose mental health care needs are urgent and may necessitate hospitalization or immediate outpatient care. Primary care providers may conduct the initial evaluation, which is then followed

224 Engdahl, B.E., Eberly,R.E., Hurwitz, T.D., Mahowald, M.W., & Blake, J. (2000). Sleep in a community sample of elderly war veterans with and without posttraumatic stress disorder. *Biological Psychiatry, 47*(6), 520-525. doi: 10.1016/S0006-3223(99)00201-2

225 Crowley, S.K., Wilkinson, L.L., Muraca, S. T., Wigfall, L.T., Louis-Nance, T., Reynolds, A.M., & Youngstedt, S.D. (2012). Mental health and sleep during basic combat training and beyond. *Sleep Science, 5*(1), 24-27.

226 Traumatic Brain Injury. (2010, April). Retrieved from: http://www.publichealth.va.gov/docs/vhi/traumatic-brain-injury-vhi.pdf.

227 Current Perspectives on Traumatic Brain Injury. (2009). Retrieved from: http://www.asha.org/aud/articles/CurrentTBI/.

228 Ibid.

229 Polytrauma And Blast-Related Injuries. (2015, July). Retrieved from: http://newyorkcity.ny.networkofcare.org/mh/library/article.aspx?id=2267.

230 Price, J.L. (2014). The National Center for PTSD: Findings from the National Vietnam Veterans' Readjustment Study. Retrieved from http://www.ptsd.va.gov/professional/research-bio/research/vietnam-vets-study.asp.

231 Traumatic Brain Injury. (2010, April). Retrieved from: http://www.publichealth.va.gov/docs/vhi/traumatic-brain-injury-vhi.pdf.

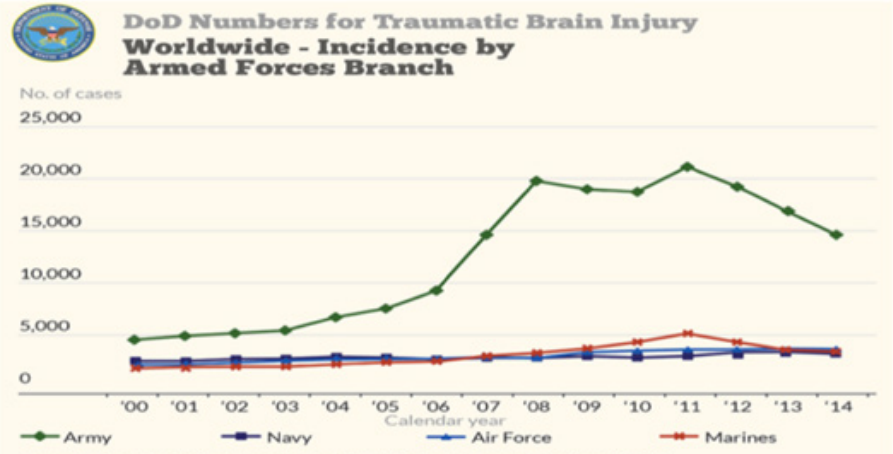


FIGURE 12 Modern-day incidence of TBI diagnoses by branch.

SOURCE: Defense and Veterans Brain Injury Center (2014). DOD Worldwide Numbers for TBI. http://dvbic.dcoe.mil/dod-worldwide-numbers-tbi.

within 14 days by a more comprehensive evaluation involving diagnostic and treatment assessment.[232]

In an effort to move beyond "usual care" and effectively meet the mental health needs of veterans and their families, in August 2012 President Obama issued the Executive Order (EO) entitled "Improving Access to Mental Health Services for Veterans, Service Members, and Military Families."[233] This EO aimed to "strengthen military families" by expanding the outreach and capacity of the VA system using practices geared towards health promotion and disease prevention throughout a veteran's lifespan. An increased number of peer counselors and mental health professionals were called for in this order to provide care for veterans. In addition, the EO supports pilot projects with community-based providers, equips communities with the resources they needed to support veterans, empowers veterans and their families to access resources to treat mental health challenges, and enhances veteran and military mental health services available across the country.[234] A Military and Veterans Mental Health Interagency Task Force was also formed from this EO in order to evaluate efforts to improve care quality, reduce mental illness stigma, and provide methods to improve prevention diagnosis and treatment within the veteran population.[235]

232 Bagalman, E. (2014.) The Number of Veterans That Use VA Health Care Services: A Factsheet. Congressional Research Service. Retrieved from: https://www.fas.org/sgp/crs/misc/R43579.pdf

233 Executive Order No. 13625, 77 FR 54783 (2012), Improving access to mental health services for veterans, service members, and military families. Retrieved from:

234 https://www.whitehouse.gov/the-press-office/2012/08/31/executive-order-improving-access-mental-health-services-veterans-service

235 Executive Order No. 13625, 77 FR 54783 (2012), Improving access to mental health services for veterans, service members, and military families. Retrieved from:
https://www.whitehouse.gov/the-press-office/2012/08/31/executive-order-improving-access-mental-health-services-veterans-service

Family Members of Veterans: Overview and Services Available

A veteran's mental illness can be difficult for family members who may experience a range of feelings such as sympathy, fear, worry, alienation and avoidance, discouragement, depression, anger, and guilt. Parents, siblings, and spouses of veterans also qualify for family counseling for military-related issues, readjustment counseling and bereavement counseling through Vet Centers. Families residing within DC are able to access these services through the DC Vet Center.[236] To supplement at-home care, options such as respite care and home health aide services are available for families caring for their aging or disabled veteran relatives.

Mental Health in Veterans from the Vietnam, Gulf, and Iraq & Afghanistan Wars

Findings from the National Vietnam Veterans' Readjustment Study found that Vietnam veterans struggle with a number of psychological disorders including PTSD, depression, anxiety, and alcohol problems.[237] Differences between current and lifetime mental illnesses were noted by gender, as visualized in Table 2.

	Most-Prevalent Current Disorders	Most-Prevalent Lifetime Disorders
Male	Alcohol Abuse Alcohol Dependence Generalized Anxiety Disorder	Alcohol Abuse Alcohol Dependence Generalized Anxiety Disorder Antisocial Personality Disorder
Female	Depression Generalized Anxiety Disorder	Generalized Anxiety Disorder Depression Alcohol Abuse Alcohol Dependence

TABLE 2 Current and Lifetime Disorders by Gender.

SOURCES: Mclay, R. N., Klam, W. P., & Volkert, S. L. (2010). Insomnia is the most commonly reported symptom and predicts other symptoms of post-traumatic stress disorder in U.S. service members returning from military deployments. Military Medicine, 175(10), 759-62.

Engdahl, B.E., Eberly,R.E., Hurwitz, T.D., Mahowald, M.W., & Blake, J. (2000). Sleep in a community sample of elderly war veterans with and without post-traumatic stress disorder. Biological Psychiatry, 47(6), 520-525. doi: 10.1016/S0006-3223(99)00201-2.

236 Behaviors of Veterans Readjustment Problems and the Impact to Family/Friends. (n.d.). Retrieved from: http://veteransfamiliesunited.org/wp-content/uploads/2011/06/behaviors_of_veteran_readjustment_problems.pdf.

237 Price, J.L. (2014). The National Center for PTSD: Findings from the National Vietnam Veterans' Readjustment Study. Retrieved from http://www.ptsd.va.gov/professional/research-bio/research/vietnam-vets-study.asp.

As Vietnam veterans age, mental health status may influence aspects of daily functioning such as occupational instability, marital and other interpersonal conflicts, family problems, poor physical health, and an overall lower quality of life.[238] Furthermore, in 2006, mental health disorders were second only to injuries as a leading cause of medical encounters for US Armed Forces.[239] Longitudinal investigations on the physical health and mental status of a population-based sample of US 1991 Gulf War veterans found that while depression and anxiety declined over time; however after 10 years of investigation, deployed veterans reported more symptoms of chronic disease, depression, anxiety and perceived a lower quality of life compared to those veterans who were not deployed.[240,241] The more recent wars in Afghanistan and Iraq have also resulted in a high prevalence and associated burden of mental illness among veterans, with prevalence ranging between 20% and 40%. This indicates that the linkage between military service and mental illness incidence is secure and will affect future generations of older adult veterans.[242,243]

VI. Health and Older Adults

Overview

Among older adults in the US, chronic diseases are the leading causes of death. Almost half of all deaths in adults aged ≥65 in the US are attributable to heart disease or cancer (See Figures 13 and 14).[244] Aside from death, chronic diseases can decrease quality of life and independence. Functional ability, both physical and mental, is diminished as a result of chronic diseases. In these cases, older persons may experience difficulty with ADLs and IADLs, leading to a decreased perception of autonomy.[245,246,247] Furthermore, two-thirds of older Americans suffer from multiple chronic diseases simultaneously. Chronic diseases have an economic toll on an individual and societies as well accounting for 95% of health care costs for older adults in the US. Veterans in particular face a uniquely high proportion

238 Price, J.L. (2014). The National Center for PTSD: Findings from the National Vietnam Veterans' Readjustment Study. Retrieved from http://www.ptsd.va.gov/professional/research-bio/research/vietnam-vets-study.asp.

239 Crowley, S.K., Wilkinson, L.L., Muraca, S. T., Wigfall, L.T., Louis-Nance, T., Reynolds, A.M. & Youngstedt, S.D. (2012). Mental health and sleep during basic combat training and beyond. Sleep Science, 5(1), 24-27.

240 Li B., Mahan, C.M., Kang, H.K., Eisen, S. A., & Engel, C.C. (2011). Longitudinal health study of US 1991 gulf war veterans: Changes in health status at 10 –year follow up. *American Journal of Epidemiology*, *174*(7), 761–768. doi: 10.1093/aje/kwr499.

241 Toomey, R., Kang, H., Karlinsky, J., Baker, D., Vasterling, J., Alpern, R., Eisen, S. (2007). Mental health of US Gulf War veterans 10 years after the war. *British Journal of Psychiatry, 190*(5), 385-393.

242 Crowley, S.K., Wilkinson, L.L., Muraca, S. T., Wigfall, L.T., Louis-Nance, T., Reynolds, A.M., & Youngstedt, S.D. (2012). Mental health and sleep during basic combat training and beyond. Sleep Science, 5(1), 24-27.

243 Milliken, C.S., Auchterlonie, J.L., & Hoge,C.W. (2007). Longitudinal assessment of mental health problems among active and reserve component soldiers returning from the Iraq war. *The Journal of the American Medical Association, 298*(18), 2141-2148.

244 Centers for Disease Control and Prevention (CDC). (2013). *The state of aging and health in America 2013*. Atlanta, GA: Centers for Disease Control and Prevention, US Department of Health and Human Services.

245 Gretebeck, Rj, & Gretebeck, Ka. (2011). Physical Activity, Functional ability, and Chronic Disease in Older Adults. *Medicine And Science In Sports And Exercise, 43*(5), 827-828.

246 Weiss, C., Boyd, C., Yu, Q., Wolff, J., & Leff, B. (2007). Patterns of prevalent major chronic disease among older adults in the United States. *JAMA,298*(10), 1160-2. doi: 10.1001/jama.298.10.1160-b.

247 Yaffe, K. (2013). *Chronic medical disease and cognitive aging : Toward a healthy body and brain*. New York, Oxford University Press.

of disability.[248] Approximately 17% of veterans in DC have a service-connected disability.[249]

Chronic diseases, such as diabetes mellitus and heart conditions, can contribute to the decline in vision function and hearing loss, respectively, in older adults.[250,251] Beyond immediate losses of sensory functioning, older adults with hearing loss demonstrate poorer recall of spoken words or sentences despite full perception of the speech.[252] For individuals facing hearing or vision loss, services are often available through nonprofit organizations such as Columbia Lighthouse for the Blind in DC that focus on teaching independent living skills to the hearing and visually impaired.[253,254]

Exercise and Nutrition

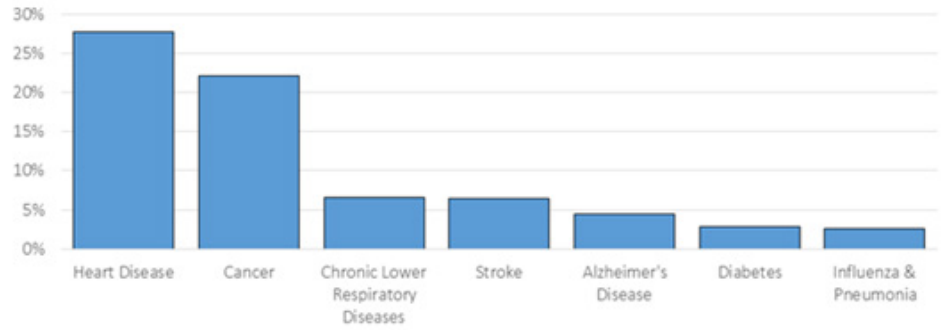


FIGURE 13 Prevalence of chronic conditions affecting older adults.

SOURCE: Centers for Disease Control and Prevention (CDC). (2013). The state of aging and health in America 2013. Atlanta, GA: Centers for Disease Control and Prevention, US Department of Health and Human Services.

The 2008 Physical Activity Guidelines for Americans recommend daily aerobic and muscular strengthening exercises.[255,256] However, of the randomly-selected adults who were surveyed by the 1998-2008 National Health Interview Survey, 26.4% of people aged ≥65 in DC reported having no leisure-time physical activity within the past month, which

248 Centers for Disease Control and Prevention (CDC). (2013). *The state of aging and health in America 2013*. Atlanta, GA: Centers for Disease Control and Prevention, US Department of Health and Human Services.

249 U. S. Census Bureau (2014). American FactFinder [Fact Sheet]: Retrieved from http://factfinder.census.gov.

250 Healthy Vision: Make It Last a Lifetime. (2015, May 11). Centers for Disease Control and Prevention. Retrieved from: http://www.cdc.gov/features/healthyvision/index.html.

251 Hearing Loss and Older Adults. (2013, November 1). Hearing Loss and Older Adults. Retrieved from: http://www.nidcd.nih.gov/health/hearing/pages/older.aspx.

252 Wingfield, A., Tun, P. A., & McCoy, S. L. (2005). Hearing loss in older adulthood what it is and how it interacts with cognitive performance. *Current directions in psychological science*, *14*(3), 144-148. doi: 10.1111/j.0963-7214.2005.00356.x.

253 DeafBlind Services. (n.d). DeafBlind Services. Retrieved from: http://www.clb.org/programs-services/deafblind-services/.

254 NIDCD - Directory of Organizations. (n.d). NIDCD - Directory of Organizations. Retrieved from: http://www.nidcd.nih.gov/directory/Bykeyword.aspx?key1=45&key2=.

255 Centers for Disease Control and Prevention. *2008 Physical Activity Guidelines for Americans*. Atlanta, GA. US Department of Health and Human Services.

256 Levitt, M. (2008). 2008 Physical Activity Guidelines for Americans. Retrieved from http://health.gov/paguidelines/pdf/paguide.pdf.

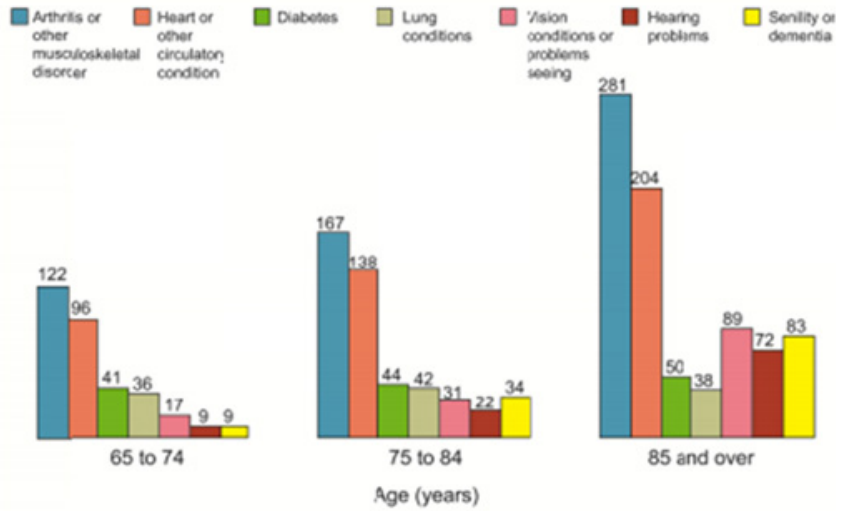


FIGURE 14 Chronic health conditions causing limitations in older adults (per 1,000 individuals).

SOURCES: West, Loraine A., Samantha Cole, Daniel Goodkind, and Wan He. (2014, June). 65 in the United States. Retrieved from: https://www.census.gov/content/dam/Census/library/publications/2014/demo/p23-212.pdf.

Institute of Medicine. (2015). Cognitive Aging: Progress in Understanding and Opportunities for Action. Washington, DC: The National Academies Press.

is lower than the national average of 31.4%.[257,258] The DC Office on Aging (DCOA) manages six wellness centers, as well as has a strong partnership with the YMCA, which operates over 30 fitness locations in DC available for older adults.[259,260]

51.3% of older adults in DC report eating at least two servings of fruit daily, while only 33.8% report eating at least 3 servings of vegetables each day.[261] Low-income (defined as falling below the federal poverty line) older adults aged ≥60 years in DC qualify for a monthly food package containing approximately 30-40 pounds of groceries through the Grocery Plus/Commodity Supplemental Food Program.[262] In addition to this food package, those low-income older adults are also eligible to receive $25 of fresh produce from farmer's markets via a voucher system known as the Senior Farmers' Market Nutrition Program. National programs, such as the Supplemental Nutritional Assistance Program (SNAP), provide nutritional assistance for households below 130% of the poverty level; 5% of these households have at least one veteran.[263] Additionally, funding from the

257 Sallis, J., & Saelens, B. (2000). Assessment of physical activity by self-report: Status, limitations, and future directions. *Research Quarterly for Exercise and Sport, 71*(2 Suppl), S1-14. doi:10.1186/1479-5868-8-1.

258 USDHHS. (2008). 2008 physical activity guidelines for Americans. USDHHS, Washington DC.

259 District of Columbia Office on Aging Senior Wellness Centers Fact Sheet. (n.d.). Retrieved from http://dcoa.dc.gov/sites/default/files/dc/sites/dcoa/service_content/attachments/Senior Wellness Center Fact Sheet_0.pdf.

260 Otero, B., & Thompson, J. (2014, January 20). Modernization of the District's Senior Wellness Centers. Retrieved from: http://dcoa.dc.gov/sites/default/files/dc/sites/dcoa/publication/attachments/Senior Wellness Center White Paper_FINAL_January 202014.pdf.

261 http://nccd.cdc.gov/DPH_Aging/Location/LocationSummary.aspx?state=222.

262 Grocery Plus/Commodity Supplemental Food Program (CSFP). (n.d.). Retrieved from: http://dcoa.dc.gov/service/commodity-supplemental-food-program.

263 National Center for Veterans Analysis and Statistics (2014). Veteran's Supplemental Nutritional Assistance Program (SNAP) Participants, 2013 American Community Survey: Retrieved from: http://www.va.gov/vetdata/docs/SpecialReports/SNAPVeterans2013.pdf.

Older Americans Act and the Senior Service Network has allowed DCOA to provide free congregate home-delivered meals to individuals aged ≥60 years in DC five days a week.[264]

Musculoskeletal Injuries and Pain

Musculoskeletal disorders are a leading cause of medical discharge from military service.[265] Though the US Social Security Administration does not classify musculoskeletal disorders as disabilities, musculoskeletal disorders can impose physical, psychosocial, and environmental barriers that could diminish an individual's ability to properly care for him or herself.[266,267] Chronic lingering pain affecting the backs, necks, knees and shoulders accounts for just over half of all veterans' post-deployment health visits. According to a 1998 study published in the Journal of Pain, about 100,000 veterans of the Gulf War report chronic muscle pain, and prevalence is projected to be even higher now.[268,269,270] Prevalence of musculoskeletal disorders increases for each year following discharge from service. The prevalence of musculoskeletal disorders also differs by gender; it was found that female veterans were more likely than male veterans to experience or report back problems, musculoskeletal disorders, and joint problems.[271]

Medication Management

Older adults are the largest users of prescription medication, as well as the most vulnerable population for adverse reactions.[272,273,274] A 2008 urban setting study published by the *Journal of the American Medical Associatio*n found that 81% of older adults used at least one prescription medication, 29% of older adults used five or more prescription medications, and 36% of older adults aged 75-86 used five or more prescription medications. Of the study participants, 46% of prescription users also took at least one

264 District of Columbia State Plan on Aging. (2015). Retrieved from: http://dcoa.dc.gov/sites/default/files/dc/sites/dcoa/publication/attachments/State Plan on Aging 2013- 2015 _ June 29 2012_ Final.pdf.

265 Gatchel, R., McGeary, D., Peterson, A., Moore, M., Leroy, K., Isler, W., Edell, T. (2009). Preliminary Findings of a Randomized Controlled Trial of an Interdisciplinary Military Pain Program. *Military Medicine, 174*(3), 270-277. doi: http://dx.doi.org/10.7205/MILMED-D-03-1607.

266 Musculoskeletal Disorders and Social Security Disability. (2014). Retrieved from: http://www.disability-benefits-help.org/disabling-conditions/musculoskeletal-system.

267 Loisel P. (2009, March 22). Developing a new paradigm: work disability prevention. Paper presented at: International Congress on Occupational Health;; Cape Town, South Africa.

268 Salmon, M. (2010, November 10). *After the Battle: 7 Health Problems Facing Veterans*. Retrieved from: http://www.livescience.com/8916-battle-7-health-problems-facing-veterans.html.

269 Fukuda, K., Nisenbaum, R., Stewart, G., Thompson, W., Robin, L., Washko, R. (1998). Chronic Multisymptom Illness Affecting Air Force Veterans of the Gulf War. *JAMA*, *280*(11), 981-988. doi:10.1001/jama.280.11.981.

270 Haskell, S., Ning, Y., Krebs, E., Goulet, J., Mattocks, K., Kerns, R., & Brandt, C. (2012). Prevalence of Painful Musculoskeletal Conditions in Female and Male Veterans in 7 Years After Return From Deployment in Operation Enduring Freedom/Operation Iraqi Freedom. *The Clinical Journal of Pain, 28*(2), 163-167. doi:10.1097.

271 Haskell, S., Ning, Y., Krebs, E., Goulet, J., Mattocks, K., Kerns, R., & Brandt, C. (2012). Prevalence of Painful Musculoskeletal Conditions in Female and Male Veterans in 7 Years After Return From Deployment in Operation Enduring Freedom/Operation Iraqi Freedom. *The Clinical Journal of Pain, 28*(2), 163-167. doi:10.1097.

272 Warner, L., Schüz, B., Aiken, L., Ziegelmann, J., Wurm, S., Tesch-Römer, C., & Schwarzer, R. (2013). Interactive effects of social support and social conflict on medication adherence in multimorbid older adults. *Social Science & Medicine, 87*, 23. doi: 10.1016/j.socscimed.2013.03.012.

273 Hanlon, J., Semla, T., & Schmader, K. (2014). Medication Misadventures in Older Adults: Literature from 2013. *Journal of the American Geriatrics Society,62*(10), 1950-1953. doi: 10.1111/jgs.13026.

274 Holt, E., Muntner, P., Joyce, C., Morisky, D., Webber, L., & Krousel-Wood, M. (2012). Life Events, Coping, and Antihypertensive Medication Adherence Among Older Adults. *American Journal of Epidemiology, 176*(Suppl7), S64-S71.

over-the-counter (OTC) medication regularly.[275] Older adults are more likely to be non-adherent towards medication management, largely due to associations with cost, side effects, poor health literacy/medication knowledge, and housing barriers, as adults who live alone were more likely to be prone to medication errors than adults who lived with family or in residential older adult community settings, such as LTCs.[276,277,278]

The greater the medication complexity, the less likely the older adult is to adhere to the medication regiment, resulting in adverse health consequences.[279] In the US, an estimated 3 million older adults are admitted to nursing homes due to prescription-related problems, resulting in an annual cost of around 14 billion dollars, and about 30% of hospital admissions of older adults are prescription-related. [280]

Neurological Disorders, Cognitive Impairment and Dementia

According to the World Health Organization (WHO), mental or neurological disorders such as Multiple Sclerosis, Parkinson's disease, Stroke, ALS, and Epilepsy afflict over 20% of adults aged ≥60, and are responsible for 6.6% of all disability-adjusted life years (DALYs) in this demographic.[281]

Cognitive aging is a lifelong and natural process affecting every individual throughout the course of his or her lifespan.[282] Although cognitive aging is an innate neurological process, cognitive impairment and dementia is an unnatural but common and potentially-severe issue facing older adults. The US Preventive Service Task Force places dementia at affecting nearly 2.4 to 5.5 million Americans with prevalence increasing as older adults age. Mild Cognitive Impairment (MCI) is less severe than dementia, but can still interfere with some IADLs. The prevalence rate of MCI has been estimated to be up to 42% in older adults.[283]

The National Institute of Aging cites cognitive impairment as an increasingly under-diagnosed condition.[284] Researchers of a 2004 Journal of the American Geriatrics Society study in Southern California indicated that physicians were 'unaware' of cognitive impairment in more than 40% of their cognitively impaired patients.[285] Additionally, if

275 Qato, D., Alexander, G., Conti, R., Johnson, M., Schumm, P., & Lindau, L. (2008). Use of Prescription and Over-the-counter Medications and Dietary Supplements Among Older Adults in the United States. *JAMA,300*(24), 2867-2867. doi: 10.1001/jama.2008.892.

276 Col N, Fanale JE, Kronholm P. (1990). The role of medication noncompliance and adverse drug reactions in hospitalizations of the elderly. *Arch Intern Med. 150*(4):841–845. doi:10.1001/archinte.1990.00390160093019.

277 Thomas, E., & Brennan, T. (2000). Incidence and Types of Preventable Adverse Events in Elderly Patients: Population Based Review of Medical Records. *BMJ: British Medical Journal, 320*(7237), 741-744.

278 Gray, S., Sager, L., Lestico, M., & Jalaluddin, A. (1997). Depression, Cognitive Impairment, and Understanding of Medication Directions in Hospitalized Elderly Patients. *Pharmaceutical Research, 14*(3), 316-319. doi: 10.1023/A:1012093904190.

279 Conn VS, Taylor SG, Kelley S. Medication regimen complexity and adherence among older adults. (2007, October 2). *Image J Nurs Sch. 23*(4):231–235. doi: 10.1111/j.1547-5069.1991.tb00677.x.

280 Lewis A. (2005). Non-compliance: a $100 billion problem. *The Remington Report*, *5*(4):14–15.

281 "Mental Health and Older Adults." WHO. September 1, 2013. http://www.who.int/mediacentre/factsheets/fs381/en/.

282 Cognitive Aging: An Action Guide for Communities. (2015). *Institute of Medicine*.

283 Final Recommendation Statement: Cognitive Impairment in Older Adults: Screening. U.S. Preventive Services Task Force. (2015, May). Retrieved from: http://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/cognitive-impairment-in-older-adults-screening.

284 Assessing Cognitive Impairment in Older Patients: A Quick Guide for Primary Care Physicians. (2015, June 1). Retrieved from: https://www.nia.nih.gov/alzheimers/publication/assessing-cognitive-impairment-older-patients#references.

285 Chodosh, J., Petitti, D. B., Elliott, M., Hays, R. D., Crooks, V. C., Reuben, D. B., Galen Buckwalter, J. and Wenger, N. (2004). Physician Recognition of Cognitive Impairment: Evaluating the Need for Improvement. *Journal of the American Geriatrics Society,*

screening is neglected and the condition worsens, cognitive impairment can become much more difficult for health care providers to address.[286,287] Pharmacological treatments for memory loss and cognitive symptoms are limited, and there remains no cure for cognitive impairment and dementia, leaving early screening the best method for ensuring older adults the best chance for minimizing symptoms and slowing the process of their impairment.[288,289]

Sexual Health

Although many older adults are sexually active, literature has suggested that health care providers have reduced time in educating older adults about safe sex methods and practices, leading to an increase in health concerns.[290,291,292,293] Approximately half of participants in a 2007 *New England Journal of Medicine* study reported having a troubling sexual health concern, with one-third of participants listing more than one. However, though sexual health concerns are high, a study on sexual health screening found that few men (38%) and women (22%) have discussed sex with a physician since age 50.[294,295]Among many sexual health concerns, sexually transmitted infections (STIs) are especially prominent amongst older adults, arguably due to decreased condom use.[296] Individuals aged ≥50 years are 16% less likely to use condoms, and 20% less likely to be tested for human immunodeficiency virus (HIV) and other STIs than individuals aged ≤50 years.[297] The CDC reported a chlamydia infection increase by 31% and syphilis increase by 52% in older adults between 2007 and 2011.[298] Roughly 20% of those living with HIV in the US are aged ≥55 years.[299] There are racial and ethnic disparities as well. For example, older

52(7):1051–1059. doi: 10.1111/j.1532-5415.2004.52301.x.

286 Galvin, J., & Sadowsky, C. (2012). Practical guidelines for the recognition and diagnosis of dementia. *Journal of the American Board of Family Medicine : JABFM, 25*(3), 367-82. doi: 10.3122/jabfm.2012.03.100181.

287 Mcpherson, S., & Schoephoerster, G. (2012). Screening for dementia in a primary care practice. *Minnesota Medicine, 95*(1), 36-40.

288 Boustani, M., Peterson, B., Hanson, L., Harris, R., Loyr, K. (2003). Screening for dementia in primary care: a summary of the evidence for the U.S. Preventive Services Task Force. *Ann Intern Med*, *138*(11):927-937. Retrieved from: www.ncbi.nlm.nih.gov/pubmed/12779304.

289 Bradford A., Kunik M., Schulz P., Williams, S., Singh, H. (2009). Missed and delayed diagnosis of dementia in primary care: prevalence and contributing factors. *Alzheimer Dis Assoc Disord*. *23*(4):306-313. doi: 10.1097/WAD.0b013e3181a6bebc.

290 Laumann, EO., Nicolosi, A., Glasser, DB., Paik, A., Gingell, C., Moreira, E., Wang, T. (2004). Sexual problems among women and men aged 40–80 y: Prevalence and correlates identified in the Global Study of Sexual Attitudes and Behaviors. *International Journal of Impotence Research, 17*(1), 39. doi: 0.1038/sj.ijir.3901250.

291 AARP. (1999). *Modern Maturity Sexuality Survey: Washington, DC*: *National Family Opinion (NFO) Research*. Retrieved from: http://assets.aarp.org/rgcenter/health/mmsexsurvey.pdf.

292 Bacon CG, Mittleman MA, Kawachi I, Giovannucci E, Glassser DB, Rimm EB. (2003). Sexual function in men older than 50 years of age: results from the Health Professionals Follow-up Study. *Ann Intern Med*, *139*(3),161-168. doi:10.7326/0003-4819-139-3-200308050-00005.

293 Feldman, HA., Goldstein, I., Hatzichristou, D., Krane, R., McKinlay, J. (1994). Impotence and its medical and psychosocial correlates: Results of the Massachusetts male aging study. *The Canadian Journal of Human Sexuality, 3*(1), 65-66.

294 Lindau, S., Schumm, P., Laumann, E., Levinson, W., O'Muircheartaigh, C., & Waite, L. (2007). Sexuality and Health among Older Adults in the United States. *New England Journal of Medicine N Engl J Med, 357*(8), 2732-2733. doi:10.1056/NEJMoa067423.

295 Laumann EO, Gagnon JH, Michael RT, Michaels S. The social organization of sexuality: sexual practices in the United States. *Choice Reviews Online, 32*(8) 32-4802. doi: http://dx.doi.org/10.5860/CHOICE.32-4802a.

296 Schick, V., Herbenick, D., Reece, M., Sanders, S., Dodge, B., Middlestadt, S., & Fortenberry, J. (2010). Sexual Behaviors, Condom Use, and Sexual Health of Americans Over 50: Implications for Sexual Health Promotion for Older Adults. *Journal of Sexual Medicine, 7*, 315-329. doi: 0.1111/j.1743-6109.2010.02013.x.

297 Levy, B., Ding, L., Lakra, D., Kosteas, J., & Niccolai, L. (2007). Older Persons Exclusion from Sexually Transmitted Disease Risk-Reduction Clinical Trials. *Sexually Transmitted Diseases, 34*(8), 541-544. doi:10.1016/j.amepre.2011.06.032.

298 Emanuel, E. (2014, January 18). Sex and the Single Senior. Retrieved from: http://www.nytimes.com/2014/01/19/opinion/sunday/emanuel-sex-and-the-single-senior.html?_r=0.

299 HIV, AIDS, and Older People. (2015, June 19). Retrieved from: https://www.nia.nih.gov/health/publication/hiv-aids-and-older-people.

African Americans are 12 times more likely than older whites to be diagnosed with HIV.[300] Therefore, health education must emphasize the importance of testing and screening for STIs, in order to combat the high statistics in sexual health issues affecting the older adult population.[301,302,303]

VII. Appendix A (Acronyms list)

AAMFT- The American Association for Marriage and Family Therapy
AARP- American Association of Retired Persons
ACA- Affordable Care Act
ACS- American Community Survey
ADL- Activities of Daily Living
AFRH- Armed Forces Retirement Home
APA- American Psychological Association
APA- American Psychiatric Association
APHA- American Public Health Association
APS- Association for Psychological Science
BNAF- Budget neutrality adjustment factor
CBT- Cognitive Behavioral Therapy
CDC- Centers for Disease Control and Prevention
CMA- Center for Medicare Advocacy
CMS- Center for Medicare and Medicaid Services
CPS- Current Population Survey
CPT- Cognitive Processing Therapy
DALY- Disability-adjusted life year
DC- District of Columbia
DCOA- District of Columbia Office on Aging
DCVA- Washington DC VA Medical Center
DoD- Department of Defense
DSM-V- Diagnostic and Statistical Manual of Mental Disorders
EBT- Evidence-based Treatments
EO- Executive Order
EOL- End of life
HIV- Human immunodeficiency virus
HUD- US Department of Housing and Urban Development
IADL- Independent Activities of Daily Living
IAVA- Iraq and Afghanistan Veterans of America

300 Linley, L., Prejean, J., An, Q., Chen, M., Hall, HI. (2012). Racial/ ethnic disparities in HIV diagnoses among persons aged 50 years and older in 37 US states, 2005–2008. *Am J Public Health; 102*(8):1527–1534. doi:10.2105/AJPH.2011.300431.

301 N, L Linsk. (2000). HIV among older adults: age-specific issues in prevention and treatment. *AIDS*, pp. 430–440

302 Neundorfer, Marcia M., Harris, Phyllis Braudy, Britton, Paula J., & Lynch, Delores A. (2005). HIV-Risk Factors for Midlife and Older Women. *Gerontologist, 45*(5), 617.

303 Orsulic-Jeras, Silvia, Shepherd, J. Brad, & Britton, Paula J. (2003). Counseling Older Adults with HIV/AIDS: A Strength-Based Model of Treatment. *Journal of Mental Health Counseling, 25*(3), 233-44.

IOM- Institute of Medicine
LGBT- Lesbian, gay, disexual and transgender
MCI- Mild cognitive impairment
MST- Military sexual trauma
NAMI- National Alliance on Mental Illness
NCVAS- National Center for Veterans Analysis and Statistics
NCVBH- National Council for Behavioral Health
NSOV- National Survey of Veterans
NOSORH- National Organization of States Office of Rural Health
NVVRS- National Vietnam Veterans Readjustment Study
OEF- Operation Enduring Freedom
OIF- Operation Iraqi Freedom
OND- Operation New Dawn
OTC- Over the counter
OVA- Office of Veterans Affairs
PET- Prolonged Exposure Therapy
PTSD- Post-traumatic Stress Disorder
REM- Rapid eye movement
SAMHSA- Substance Abuse and Mental Health Services Administration
SES- Socioeconomic status
SNAP- Supplemental Nutrition Assistance Program
SSA- Social Security Administration
STI- Sexually transmitted infection
STPP- Survey of Income + Program Participation
TBI- Traumatic brain injury
USERRA- The Uniformed Services Employment and Reemployment Rights Act
VA- US Department of Veterans Affairs
VAI- Veterans Health Initiative
VAORH- Veterans Health Administration Office of Rural Health
VHA- Veterans Health Administration
VSO- National Veteran Service Organizations
WHO- World Health Organization

VII. Appendix B: Resource List

National

American Psychiatric Association
American Psychological Association
American Women's Veterans
Centers for Disease Control and Prevention
Center for Medicare Advocacy
Center for Medicare and Medicaid Services
Disabled Veterans National Foundation

Dignity Memorial Homeless Veterans Burial Program
Institute of Medicine
Meals of Honor
National Alliance on Mental Illness
National Association of American Veterans
National Coalition for Homeless Veterans
National Council for Behavioral Health
National Center for Veterans Analysis and Statistics
National Guard Family Program
National Military Family Association
National Veterans Center
Office of Veterans Affairs
Outward Bound Services for Veterans and Service Members
Paralyzed Veterans of America
Supportive Services for Veterans Families-VA
The American Association for Marriage and Family Therapy
US Department of Veterans Affairs
US Department of Veterans Affairs Women's Veterans Program
United States Veterans Initiative
Veterans Assistance Foundation
Veterans Health Initiative
Veterans Health Administration
Veterans Legal Assistance Project
Veterans of Foreign Wars
Wounded Warrior Project

Local

American Legion Services Office
Disabled American Veterans Transition Office- Washington DC area
Easter Seals: Veterans Employment Program
Final Salute
Northern Virginia Veterans Association
Neighborhood Legal Services Center
Veterans Helping Veterans
Veterans on the Rise

DC

Armed Forces Retirement Home
Community Resource and Referral Center
District of Columbia Mental Health Services
District of Columbia Office on Aging
National Veteran Service Organizations: DC
Southeast Veterans Service Center
The VETS Group

Washington DC Vet Center
Washington DC VA Medical Center
We Hire Heroes
West Point Society for DC

VIII. Appendix C: References

AARP. (1999). Modern Maturity Sexuality Survey: Washington, DC: National Family Opinion (NFO) Research. Retrieved from: http://assets.aarp.org/rgcenter/health/mmsexsurvey.pdf.

AARP. (2012). Waiting For a Ride: Transit Access and America's Aging Population. Retrieved from: http://www.aarp.org/livable-communities/learn/transportation-mobility/info-12-2012/waiting-for-a-ride-transit-access-and-americas-aging-population.html.

About Poverty: 2013 Highlights. (2013). Retrieved from: https://www.census.gov/hhes/www/poverty/about/overview/.

Acierno, R., PhD., Hernandez, M. A., M.S., Amstadter, A. B., PhD., Resnick, H. S., PhD., Steve, K., M.S., Muzzy, W., B.S., & Kilpatrick, D. G., PhD. (2010). Prevalence and correlates of emotional, physical, sexual, and financial abuse and potential neglect in the United States: The national elder mistreatment study. American Journal of Public Health, 100(2), 292-297. doi: 10.2105/AJPH.2009.163089.

Acosta, Joie, Amariah Becker, Jennifer L. Cerully, Michael P. Fisher, Laurie T. Martin, Raffaele Vardavas, Mary Ellen Slaughter and Terry L. Schell,. (2014). Mental Health Stigma in the Military, Santa Monica, Calif.: RAND Corporation, RR-426-OSD. Retrieved From: http://www.rand.org/pubs/research_reports/RR426.

Administration on Aging (AoA). (2014). Retrieved from: http://www.aoa.acl.gov/Aging_Statistics/index.aspx.

Aging in the United States: Past, Present, and Future. (2000). U.S. Government Printing Office, Washington, D.C. Retrieved from: https://www.census.gov/population/international/files/97agewc.pdf.

Allianz life study substantiates elder financial abuse under-reported and misunderstood. (2015, April 20). Professional Services Close-Up. Retrieved from: http://search.proquest.com/docview/1613898356?accountid=14541.

American Public Health Association. (2014, November 18.) Removing Barriers to Mental Health Services for Veterans. Retrieved from: http://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2015/01/28/14/51/removing-barriers-to-mental-health-services-for-veterans.

American Psychological Association Task Force on Socioeconomic Status. (2006). Report of the APA Task Force on Socioeconomic Status. Retrieved from: from http://www.apa.org/pi/ses/resources/publications/social-class-curricula.pdf.

Arndt, S., Clayton, R., & Schultz, S. K. (2011, August 19). Trends in substance abuse treatment 1998-2008: Increasing older adult first-time admissions for illicit drugs. American Journal of Geriatric Psychiatry, 19(8), 704-711. doi: 10.1097/JGP.0b013e31820d942b.

Assessing Cognitive Impairment in Older Patients: A Quick Guide for Primary Care Physicians. (2015, June 1). Retrieved from: https://www.nia.nih.gov/alzheimers/publication/assessing-cognitive-impairment-older-patients#references.

Avendano, M., Kawachi, I., Van Lenthe, F., Boshuizen, H. C., Mackenbach, J. P., Van den Bos, G. A. M., Berkman, L. F. (2006). Socioeconomic status and stroke incidence in the U.S. elderly: The role of risk factors in the EPESE study. Stroke, 37(6), 1368–1373.

Bacon CG, Mittleman MA, Kawachi I, Giovannucci E, Glassser DB, Rimm EB. (2003). Sexual function in men older than 50 years of age: results from the Health Professionals Follow-up Study. Ann Intern Med, 139(3),161-168. doi:10.7326/0003-4819-139-3-200308050-00005.

Bagalman, E. (2014.) The Number of Veterans That Use VA Health Care Services: A Factsheet. Congressional Research Service. Retrieved from: https://www.fas.org/sgp/crs/misc/R43579.pdf.

Barnes, L. (2014). Government: Chapter 691: Protecting Military Members and Veterans from Employment Discrimination. McGeorge Law Review, 45, 495-835.

Bayer, R.(1987). Homosexuality and American Psychiatry: The Politics of Diagnosis. Revised. Princeton, NJ: Princeton University Press.

Beach, S. 2013. Screening and detection. Presented at Elder Abuse and Its Prevention: A Workshop. Institute of Medicine, Washington, DC, April 18.

Beach, S., Schulz, R., Castle, N., & Rosen, J. (2010). Financial exploitation and psychological mistreatment among older adults: Differences between African Americans and non-African Americans in a population-based survey. The Gerontologist, 50(6): 744–757. doi:10.1093/geront/gnq053.

Behaviors of Veterans Readjustment Problems and the Impact to Family/Friends. (n.d.). Retrieved from: http://veteransfamiliesunited.org/wp-content/uploads/2011/06/behaviors_of_veteran_readjustment_problems.pdf.

Bassuk, S. S., Berkman, L. F., & Amick, B. C. (2002). Socioeconomic status and mortality among the elderly: Findings from four U.S. communities. American Journal of Epidemiology, 155(6), 520-533. doi: 10.1093/aje/155.6.520.

Blais, R. K., Renshaw, K. D. and Jakupcak, M. (2014), Posttraumatic Stress and Stigma in Active-Duty Service Members Relate to Lower Likelihood of Seeking Support. Journal of Traumatic Stress, 27(1):116–119. doi: 10.1002/jts.21888.

Blais, R.K., & Renshaw, K.D. (2013). Stigma and demographic correlates of helpseeking intentions in returning service members. Journal of Traumatic Stress, 26(1), 77-85. doi: 10.1002/jts.21772.

Blow, F. C., Oslin, D. W., & Barry, K. L. (2002). Use and abuse of alcohol, illicit drugs and psychoactive medication among older people. Generations, 25(1), 50-54.

Boustani, M., Peterson, B., Hanson, L., Harris, R., Loyr, K. (2003). Screening for dementia in primary care: a summary of the evidence for the U.S. Preventive Services Task Force. Ann Intern Med, 138(11):927-937. Retrieved from: www.ncbi.nlm.nih.gov/pubmed/12779304.

Bradford A., Kunik M., Schulz P., Williams, S., Singh, H. (2009). Missed and delayed diagnosis of dementia in primary care: prevalence and contributing factors. Alzheimer Dis Assoc Disord. 23(4):306-313. doi: 10.1097/WAD.0b013e3181a6bebc.

Brandl., B., Bitondo, C., Heisler, C., Dyer, C., Otto, J., Stiegel, L., Thomas, R. (2007). Elder abuse detection and intervention: A collaborative approach. New York, NY: Springer Publishing Company, LLC. doi:10.1080/08946560802571953.

Campbell, M. L. (2012). Case Studies in Nursing, Volume 4 : Case Studies in Palliative and End-of-Life Care.

Somerset, NJ, USA: John Wiley & Sons. Retrieved from http://www.ebrary.com.

Carey, K., M. E. Montez-Rath, A. K. Rosen, C. L. Christiansen, S. Loveland, and S. L. Ettner. (2008, August). Use of VA and Medicare Services By Dually Eligible Veterans with Psychiatric Problems. HSR: Health Services Research 43(4) 1164-1183. doi: 10.1111/j.1475-6773.2008.00840.x.

Cartwright, J., Miller,.,R, & Volpin, Miriam,R.N., B.S. (2009). Hospice in assisted living: Promoting good quality care at end of life. The Gerontologist, 49(4), 508-516. doi: 10.1093/geront/gnp038.

Centers for Disease Control and Prevention. 2008 Physical Activity Guidelines for Americans. Atlanta, GA. US Department of Health and Human Services.

Centers for Disease Control and Prevention (CDC). (2013). The state of aging and health in America 2013. Atlanta, GA: Centers for Disease Control and Prevention, US Department of Health and Human Services.

Chao, L.L., Mohlenhoff, B.S., Weiner, M.W., & Neylan, T.C. (2014, March 1). Associations between subjective sleep quality and brain volume in gulf war veterans. SLEEP, 37(3), 445-452. doi: 10.5665/sleep.3472.

Chen Y., Persson A. (2002). Internet use among young and older adults: Relation to psychological well-being. Educational Gerontology, 28, 731–744. doi:10.1080/03601270290099921.

Chodosh, J., Petitti, D. B., Elliott, M., Hays, R. D., Crooks, V. C., Reuben, D. B., Galen Buckwalter, J. and Wenger, N. (2004). Physician Recognition of Cognitive Impairment: Evaluating the Need for Improvement. Journal of the American Geriatrics Society, 52(7):1051–1059. doi: 10.1111/j.1532-5415.2004.52301.x.

Choi M., Kong S., Jung D. (2012). Computer and Internet interventions for loneliness and depression in older adults: A meta-analysis. Healthcare Informatics Research, 18, 191–198. doi:10.4258/hir.2012.18.3.191
Cognitive Aging: An Action Guide for Communities. (2015). Institute of Medicine.

Col N, Fanale JE, Kronholm P. (1990). The role of medication noncompliance and adverse drug reactions in hospitalizations of the elderly. Arch Intern Med. 150(4):841–845. doi:10.1001/archinte.1990.00390160093019.

Colby. S., Ortman, J. (2014, May). The Baby Boom Cohort in the United States: 2012-2060. US Census Bureau.

Conn VS, Taylor SG, Kelley S. Medication regimen complexity and adherence among older adults. (2007, October 2). Image J Nurs Sch. 23(4):231–235. doi: 10.1111/j.1547-5069.1991.tb00677.x.

Connolly , M. T.(2010, January). Where elder abuse and the justice system collide: Police power, parens patriae, and 12 recommendations . Journal of Elder Abuse & Neglect, 22(1-2); 37–93. doi:10.1080/08946560903436338.

Corrigan, P., Druss, B., & Perlick, D. (2014, October). The Impact of Mental Illness Stigma on Seeking and Participating in Mental Health Care. Psychological Science in the Public Interest/ 15(2)37-70. doi: 10.1177/1529100614531398.

Cotten S. R., Ford G., Ford S., Hale T. M. (2012). Internet use and depression among older adults. Computers in Human Behavior, 28, 496–499. doi:10.1016/j.chb.2011.10.021.

Coughlin, T. (2013). ICCE Tricorder Session Explores the Future of Home Health Care [Conference Review]. Consumer Electronics Magazine, IEEE,2(3), 49-51. doi: 10.1109/MCE.2013.2260612.

Crane, M., & Joly, L. (2014). Older homeless people: Increasing numbers and changing needs. Reviews in Clinical Gerontology, 24(4), 255-268. doi: 10.1017/S095925981400015X.

Crome, I., Sidhu, H., & Crome, P. (2009). No longer only a young man's disease: illicit drugs and older people. The Journal of Nutrition, Health & Aging, 13(2) 141-143. DOI: 10.1007/s12603-009-0021-1.

Crowley, S.K., Wilkinson, L.L., Muraca, S. T., Wigfall, L.T., Louis-Nance, T., Reynolds, A.M.,& Youngstedt, S.D. (2012). Mental health and sleep during basic combat training and beyond. Sleep Science, 5(1), 24-27.

Cubanski J, Lyons B, Neuman T, et al. (2015). Medicaid and Medicare at 50. JAMA; 314(4): 384. doi:10.1001/jama.2015.8129.

Current Perspectives on Traumatic Brain Injury. (2009). Retrieved from: http://www.asha.org/aud/articles/CurrentTBI/.

DeafBlind Services. (n.d). DeafBlind Services. Retrieved from: http://www.clb.org/programs-services/deafblind-services/.

Defense and Veterans Brain Injury Center (2014). DOD Worldwide Numbers for TBI. http://dvbic.dcoe.mil/dod-worldwide-numbers-for-tbi.

Deliens, L., & Cohen, J. (2012). A Public Health Perspective on End of Life Care. Oxford: OUP Oxford.

Demographics of Homelessness Series: The Rising Elderly Population. (2010). National Alliance to End Homelessness. Retrieved from: http://www.endhomelessness.org/library/entry/demographics-of-homelessness-series-the-rising-elderly-population.

Department of Defense, Office of the Inspector General (2010.) Military Environment with Respect to the Homosexual Conduct Policy. Report No. D-2000-101.

District of Columbia Office of Veterans Affairs (OVA). (2015a). About the Office of Veterans Affairs (OVA). Retrieved from: http://ova.dc.gov/page/about-ova.

District of Columbia Office of Veterans Affairs (OVA). (2015b). Benefits Eligibility. Retrieved from: http://ova.dc.gov/service/benefits-eligibility.

District of Columbia Office of Veterans Affairs (OVA). (2015c).Veteran Benefits. Retrieved from: http://ova.dc.gov/service/veteran-benefits.

District of Columbia Office of Veterans Affairs (OVA).(2015d). DC Veterans Medical Centers and Clinics. Retrieved from: http://ova.dc.gov/page/dc-veterans-medical-centers-and-clinics.

District of Columbia Office on Aging Senior Wellness Centers Fact Sheet. (n.d.). Retrieved from http://dcoa.dc.gov/sites/default/files/dc/sites/dcoa/service_content/attachments/Senior Wellness Center Fact Sheet_0.pdf.

District of Columbia State Plan on Aging. (2015). Retrieved from: http://dcoa.dc.gov/sites/default/files/dc/sites/dcoa/publication/attachments/State Plan on Aging 2013- 2015 _ June 29 2012_ Final.pdf.

Dong, X., Chen, R., & Simon, M. A. (2014). Elder abuse and dementia: A review of the research and health policy. Health Affairs, 33(4), 642-6499. doi: 10.1377/hlthaff.2013.1261.

Edington, D. (2001) Emerging Research: A View From One Research Center. American Journal of Health Promotion: 15(5);341-349. doi: http://dx.doi.org/10.4278/0890-1171-15.5.341.

Eisenberg, D., Golberstein, E., & Gollust, S. (2007). Help-Seeking and Access to Mental Health Care in a University Student Population. Medical Care, 45(7), 594-601. doi: 10.1097/MLR.0b013e31803bb4c1.

Elliot, A., Mooney, C., Douthit, K., & Lynch, M. (2014). Predictors of Older Adults' Technology Use and Its Relationship to Depressive Symptoms and Well-being. Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 69(5), 667-677. doi: 10.1093/geronb/gbt109.

Emanuel, E. (2014, January 18). Sex and the Single Senior. Retrieved from: http://www.nytimes.com/2014/01/19/opinion/sunday/emanuel-sex-and-the-single-senior.html?_r=0.

Employed and Unemployed full- and part-time workers by Age, Sex, Race, and Hispanic or Latino ethnicity. (2015, February 12). Retrieved from: http://www.bls.gov/cps/cpsaat08.htm.

Ending Homelessness among Older Adults and Elders through Permanent Supportive Housing. (2011, December 1). Retrieved from: http://www.csh.org/wp-content/uploads/2012/01/Report_EndingHomelessnessAmongOlderAdultsandSeniorsThroughSupportiveHousing_112.pdf.

Engdahl, B.E., Eberly,R.E., Hurwitz, T.D., Mahowald, M.W., & Blake, J. (2000). Sleep in a community sample of elderly war veterans with and without posttraumatic stress disorder. Biological Psychiatry, 47(6), 520-525. doi: 10.1016/S0006-3223(99)00201-2.

Erickson J., Johnson G. M (2011). Internet use and psychological wellness during late adulthood. Canadian Journal on Aging, 30, 197–209. doi:10.1017/S0714980811000109.

Executive Order No. 13625, 77 FR 54783 (2012), Improving access to mental health services for veterans, service members, and military families. Retrieved from:https://www.whitehouse.gov/the-press-office/2012/08/31/executive-order-improving-access-mental-health-services-veterans-service.

Fact Sheet: Age and Socioeconomic Status. (n.d.). Retrieved from: http://www.apa.org/pi/ses/resources/publications/factsheet-age.pdf.

Feldman, HA., Goldstein, I., Hatzichristou, D., Krane, R., McKinlay, J. (1994). Impotence and its medical and psychosocial correlates: Results of the Massachusetts male aging study. The Canadian Journal of Human Sexuality, 3(1), 65-66.

Final Recommendation Statement: Cognitive Impairment in Older Adults: Screening. U.S. Preventive Services Task Force. (2015, May). Retrieved from: http://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/cognitive-impairment-in-older-adults-screening.

Fleck, C. (2008, July 30). Older minorities are becoming America's poorest residents. AARP Bulletin Today, Retrieved from http://paydaystorefinder.com/article/aarp_older_minorities_are_becoming_americas_poorest_residents_cash_poor.html.

Fratiglioni, L., Winblad, B., & von Strauss, E. (2007). Prevention of Alzheimer's disease and dementia. Major findings from the Kungsholmen Project. Physiology & behavior, 92(1), 98-104.

Frist, W., Marshall, J., Kussman, M., & Roy, A. (2015, February 12). Fixing Veterans Mental Health Care. Retrieved from: http://www.cnas.org/sites/default/files/CVA_TF_vetshealthcare.pdf.

Fukuda, K., Nisenbaum, R., Stewart, G., Thompson, W., Robin, L., Washko, R. (1998). Chronic Multisymptom Illness Affecting Air Force Veterans of the Gulf War. JAMA, 280(11), 981-988. doi:10.1001/jama.280.11.981..

Gallo, L., Matthews, K., & Cooper, Harris. (2003). Understanding the Association Between Socioeconomic Status and Physical Health: Do Negative Emotions Play a Role? Psychological Bulletin, 129(1), 10-51.

Galvin, J., & Sadowsky, C. (2012). Practical guidelines for the recognition and diagnosis of dementia. Journal of the American Board of Family Medicine : JABFM, 25(3), 367-82. doi: 10.3122/jabfm.2012.03.100181.

Gatchel, R., McGeary, D., Peterson, A., Moore, M., Leroy, K., Isler, W., Edell, T. (2009). Preliminary Findings of a Randomized Controlled Trial of an Interdisciplinary Military Pain Program. Military Medicine, 174(3), 270-277. doi: http://dx.doi.org/10.7205/MILMED-D-03-1607.

Grabowski, D.C., Aschbrenner, K.A., Rome, V.F., & Bartels, S.J. (2010). Quality of mental health care for nursing home residents: A literature review. Medical Care Research and Review, 67(6), 627-656. doi: 10.1177/1077558710362538.

Gray, S., Sager, L., Lestico, M., & Jalaluddin, A. (1997). Depression, Cognitive Impairment, and Understanding of Medication Directions in Hospitalized Elderly Patients. Pharmaceutical Research, 14(3), 316-319. doi: 10.1023/A:1012093904190.

Gretebeck, Rj, & Gretebeck, Ka. (2011). Physical Activity, Functional ability, and Chronic Disease in Older Adults. Medicine And Science In Sports And Exercise, 43(5), 827-828.

Grocery Plus/Commodity Supplemental Food Program (CSFP). (n.d.). Retrieved from: http://dcoa.dc.gov/service/commodity-supplemental-food-program.

Goldstein, J. (2014.) Evaluation of the Department of Veterans Affairs Mental Health Services. PowerPoint presentation at IOM meeting, Washington, DC.

Gonyea, J., Mills-Dick, K., & Bachman, S. (2010). The Complexities of Elder Homelessness, a Shifting Political Landscape and Emerging Community Responses. Journal of Gerontological Social Work, 53(7), 575-590. doi:10.1080/01634372.2010.510169.

Hankin, C., Spiro, A., Miller, D., & Kazis, L. (1999). Mental disorders and mental health treatment among U.S. Department of Veterans Affairs outpatients: The Veterans Health Study. American Journal of Psychiatry.156(12), 1924-1930.

Hanlon, J., Semla, T., & Schmader, K. (2014). Medication Misadventures in Older Adults: Literature from 2013. Journal of the American Geriatrics Society,62(10), 1950-1953. doi: 10.1111/jgs.13026.

Haskell, S., Ning, Y., Krebs, E., Goulet, J., Mattocks, K., Kerns, R., & Brandt, C. (2012). Prevalence of Painful Musculoskeletal Conditions in Female and Male Veterans in 7 Years After Return From Deployment in Operation Enduring Freedom/Operation Iraqi Freedom. The Clinical Journal of Pain, 28(2), 163-167. doi:10.1097.

Healthy Aging Data Portfolio. (2013). Centers for the Disease Control and Prevention. Retrieved from: http://nccd.cdc.gov/DPH_Aging/Location/LocationSummary.aspx?state=222.

Healthy Vision: Make It Last a Lifetime. (2015, May 11). Centers for Disease Control and Prevention. Retrieved from: http://www.cdc.gov/features/healthyvision/index.html.

Hearing Loss and Older Adults. (2013, November 1). Hearing Loss and Older Adults. Retrieved from: http://www.nidcd.nih.gov/health/hearing/pages/older.aspx.

Heisel, M., Neufeld, E., & Flett, G. (2015). Reasons for living, meaning in life, and suicide ideation: Investigating the roles of key positive psychological factors in reducing suicide risk in community-residing older adults. Aging & Mental Health, 1-13. doi: 10.1080/13607863.2015.1078279.

HIV, AIDS, and Older People. (2015, June 19). Retrieved from: https://www.nia.nih.gov/health/publication/hiv-aids-and-older-people.

Holt, E., Muntner, P., Joyce, C., Morisky, D., Webber, L., & Krousel-Wood, M. (2012). Life Events, Coping, and Antihypertensive Medication Adherence Among Older Adults. American Journal of Epidemiology, 176(Suppl7), S64-S71.

Huguet, N., Kaplan, M. S., & Feeny, D. (2008). Socioeconomic status and health-related quality of life among elderly people: Results from the Joint Canada/United States Survey of Healthstar. Social Science & Medicine. 66(4), 803-810. doi: 10.1016/j.socscimed.2007.11.011.

Hynes, D. M., K. Koelling, K. Stroupe, N. Arnold, K. Mallin, M. Sohn, F. M. Weaver, L. Manheim, and L. Kok. (2007). Veterans' Access to and Use of Medicare and Veterans Affairs Health Care. Medical Care 45(3): 214-223.

Improving the Lives of LGBT Older Adults. (2010, March 1). Sage Publishing. Retrieved from: http://www.lgbtmap.org/file/improving-the-lives-of-lgbt-older-adults.pdf.

IOM and NRC. (2014.) Evidence for violence prevention across the lifespan and around the world: Workshop summary. Washington, DC: The National Academies Press.

Independence Program. (2015). Retrieved from https://www.woundedwarriorproject.org/programs/independence-program.aspx.

Institute for Health Metrics and Evaluation (IHME). (2015). US County Profile: District of Columbia, District of Columbia. Seattle, WA: IHME.

Institute of Medicine and National Research Council. (2014). Elder Abuse and Its Prevention: Workshop Summary. Washington, DC: The National Academies Press.

Institute of Medicine. (1997). Approaching Death: Improving Care at the End of Life. Washington, DC: The National Academies Press.

Institute of Medicine. (2015). Cognitive Aging: Progress in Understanding and Opportunities for Action. Washington, DC: The National Academies Press.

Institute of Medicine. (2013). Fostering Independence, Participation, and Healthy Aging Through Technology. Washington, DC: National Academies Press.

Karavidas M., Lim N., Katsikas S .(2005). The effects of computers on older adult users. Computers in Human Behavior, 21, 697–711. doi:10.1016/j.chb.2004.03.012.

Karlawish, J. (2013, April 17). Elder abuse and Neglect: Ethical consideration in research and care. Presented at Elder Abuse and Its Prevention: A Workshop. Institute of Medicine, Washington, DC.

Kite, M., et al., (2005, June). "Attitudes Toward Younger and Older Adults: An Updated Meta-Analytic Review," Journal of Social Issues 61(2) 241–66, doi:10.1111/j.1540-4560.2005.00404.x.

Laumann EO, Gagnon JH, Michael RT, Michaels S. The social organization of sexuality: sexual practices in the United States. Choice Reviews Online, 32(8) 32-4802. doi: http://dx.doi.org/10.5860/CHOICE.32-4802a.

Laumann, EO., Nicolosi, A., Glasser, DB., Paik, A., Gingell, C., Moreira, E., Wang, T. (2004). Sexual problems among women and men aged 40–80 y: Prevalence and correlates identified in the Global Study of Sexual Attitudes and Behaviors. International Journal of Impotence Research, 17(1), 39. doi: 0.1038/sj.ijir.3901250.

Lachs, M., Williams, C., O'Brien, S., Pillemer, Karl A., Charison, M. (1998). The Mortality of Elder Mistreatment.(part 2). JAMA, The Journal of the American Medical Association, 280(5), 428B. doi:10.1001/jama.280.5.428.

Lewis A. (2005). Non-compliance: a $100 billion problem. The Remington Report, 5(4):14–15.

Levine, M., & Reid, M. (2012). Primary care providers' perspectives on telemedicine in the pharmacologic

management of older adults with chronic pain (CP). Journal Of The American Geriatrics Society, 60, S202. doi: 10.1111/j.1532-5415.2011.03821.x.

Levitt, M. (2008). 2008 Physical Activity Guidelines for Americans. Retrieved from http://health.gov/paguidelines/pdf/paguide.pdf.

Levy, B., Ding, L., Lakra, D., Kosteas, J., & Niccolai, L. (2007). Older Persons Exclusion from Sexually Transmitted Disease Risk-Reduction Clinical Trials. Sexually Transmitted Diseases, 34(8), 541-544. doi:10.1016/j.amepre.2011.06.032.

Li B., Mahan, C.M., Kang, H.K., Eisen, S. A., & Engel, C.C. (2011). Longitudinal health study of US 1991 gulf war veterans: Changes in health status at 10 –year follow up. American Journal of Epidemiology, 174(7), 761–768. doi: 10.1093/aje/kwr499.

Lin, S. (2004). Access to Community Pharmacies by the Elderly in Illinois: A Geographic Information Systems Analysis. Journal of Medical Systems 28(3): 301-309. doi: 10.1023/B:JOMS.0000032846.20676.94.

Lin, S., DrP.H., Beck, A. N., PhD., Finch, B. K., PhD., Hummer, R. A., PhD., & Master, R. K., PhD. (2012). Trends in US older adult disability: Exploring age, period, and cohort effects. American Journal of Public Health, 102(11), 2157-2163. doi: 0.2105/AJPH.2011.300602.

Lindau, S., Schumm, P., Laumann, E., Levinson, W., O'Muircheartaigh, C., & Waite, L. (2007). Sexuality and Health among Older Adults in the United States. New England Journal of Medicine N Engl J Med, 357(8), 2732-2733. doi:10.1056/NEJMoa067423.

Linley, L., Prejean, J., An, Q., Chen, M., Hall, HI. (2012). Racial/ ethnic disparities in HIV diagnoses among persons aged 50 years and older in 37 US states, 2005–2008. Am J Public Health; 102(8):1527–1534. doi:10.2105/AJPH.2011.300431.

Loftis, C. W., and E. Salinsky. (2006). Medicare and Mental Health: The Fundamentals. National Health Policy Forum. The George Washington University. Retrieved from: http://www.nhpf.org/library/background-papers/BP_McareMentalHlth_11-27-06.pdf.

Loisel P. (2009, March 22). Developing a new paradigm: work disability prevention. Paper presented at: International Congress on Occupational Health;; Cape Town, South Africa.

Luxton, D.D., Greenburg, D., Ryan, J., Niven, A., Wheeler, G., & Mysliwiec, V. (2011). Prevalence and impact of short sleep duration in redeployed OIF soldiers. SLEEP, 34(9),1189-1195. doi: 10.5665/SLEEP.1236.

Maffucci, J. (2014.) Building a 21st Century VA: Challenges to Meeting the Mental Health Needs of the Newest Generation of Veterans. PowerPoint presentation at IOM meeting, Washington, DC.

Martin, L.G., et all (2009, May 1). "Health and Functioning Among Baby Boomers Approaching 60," The Journals of Gerontology Series B: Psychological Sciences and Social Sciences 64B(3) 369–377, doi:10.1093/geronb/gbn040.

Mattson, J. (2010). Transportation, Distance, and Health Care Utilization for Older Adults in Rural and Small Urban Areas. Transportation Research Record: Journal of the Transportation Research Board 2265,192-199. doi: 10.3141/2265-22.

Mcpherson, S., & Schoephoerster, G. (2012). Screening for dementia in a primary care practice. Minnesota Medicine, 95(1), 36-40.

Mclay, R. N., Klam, W. P., & Volkert, S. L. (2010). Insomnia is the most commonly reported symptom and predicts other symptoms of post-traumatic stress disorder in U.S. service members returning from military

deployments. Military Medicine, 175(10), 759-62.

Medigap Medicare Supplement Health Insurance (n.d). Retrieved from: http://www.cms.gov/Medicare/Health-Plans/Medigap/index.html?redirect=/Medigap/.

Mental Health and Older Adults. (2013, September). WHO. Retrieved from: http://www.who.int/mediacentre/factsheets/fs381/en/.

The Mental Health and Substance Use Workforce for Older Adults. (2012). Committee on the Mental Health Workforce for Geriatric Populations, Board on Health Care Services, Institute of Medicine.

Mental Illness. (2012, October 4). Retrieved from: http://www.cdc.gov/mentalhealth/basics/mental-illness.htm.

Mental Illnesses and Veterans. (n.d). NAMI: National Alliance on Mental Illness. http://www2.nami.org/template.cfm?section=mental_illnesses1.

Merkin, S. S., Diez Roux, A.V., Coresha, J., Fried, L. F., Jackson, S. A., & Powe, N. R. (2007). Individual and neighborhood socioeconomic status and progressive chronic kidney disease in an elderly population: The Cardiovascular Health Study. Social Science & Medicine, 65(4), 809–821. doi: 10.1016/j.socscimed.2007.04.011.

Miller, S. C. (2015). Hospice and Palliative Care in Nursing Homes: Challenges and Opportunities for Enhanced Access. Rhode Island Medical Journal, 98(4), 26-29.

Milliken, C.S., Auchterlonie, J.L., & Hoge,C.W. (2007). Longitudinal assessment of mental health problems among active and reserve component soldiers returning from the Iraq war. The Journal of the American Medical Association, 298(18), 2141-2148.

Munnell, Sass & Soto (2006). Employer Attitudes Toward Older Workers: Survey Results. Center for Retirement Research at Boston College.

Musculoskeletal Disorders and Social Security Disability. (2014). Retrieved from: http://www.disability-benefits-help.org/disabling-conditions/musculoskeletal-system.

National Coalition for Homeless Veterans. (n.d.). National Coalition for Homeless Veterans. Retrieved from: http://nchv.org/index.php/news/media/background_and_statistics/.

National Center for Veterans Analysis and Statistics. (2010.) Retrieved from: http://www.va.gov/vetdata/Veteran_Population.asp.

National Center for Veterans Analysis and Statistics (2014). Veteran's Supplemental Nutritional Assistance Program (SNAP) Participants, 2013 American Community Survey: Retrieved from: http://www.va.gov/vetdata/docs/SpecialReports/SNAPVeterans2013.pdf.

National Center for Veterans Analysis and Statistics (2014). Veteran Population: Retrieved from http://www.va.gov/vetdata/Veteran_Population.asp.

National Council for Behavioral Health [NCBH], (2012). Meeting the behavioral health needs of veterans operation enduring freedom and operation Iraqi freedom. Retrieved from: http://www.thenationalcouncil.org/wp-content/uploads/2013/02/Veterans-BH-Needs-Report.pdf.

National hospice and palliative care organization NHPCO; NHPCO: Congressional hospice champions send letter to President Obama urging action to stop funding cuts. (2009). Politics & Government Week, 7. Retrieved from http://search.proquest.com/docview/214602894?accountid=1454.

National Organization of States Offices of Rural Health. (2013). Addressing the Health Care Needs of Rural Veterans: A Guide for State Offices of Rural Health. Retrieved from: http://www.nosorh.org/wp-content/uploads/2013/07/NOSORH-Rural-Veterans-Health-Guidenhmedits-21.pdf.

National Research Council. (2011). The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding. Washington, DC: The National Academies Press.

National Research Council. (2012). Treatment for Posttraumatic Stress Disorder in Military and Veteran Populations: Initial Assessment. Washington, DC: The National Academies Press.

Navarro , A. E., Wilber, K. H., Yonashiro, J.Y., & Homeier, D.C.(2010). Do we really need another meeting? Lessons from the Los Angeles County Elder Abuse Forensic Center. The Gerontologist, 50(5), 702–711. doi:10.1093/geront/gnq018.

Navarro, A., Gassoumis, Z., & Wilber, K. (2012). Holding Abusers Accountable: An Elder Abuse Forensic Center Increases Criminal Prosecution of Financial Exploitation. The Gerontologist, 53(2), 303-312. doi:10.1093/geront/gns075.

Neighborhood Data. (2015, May 9). Retrieved from http://www.neighborhoodinfodc.org/.

Neundorfer, Marcia M., Harris, Phyllis Braudy, Britton, Paula J., & Lynch, Delores A. (2005). HIV-Risk Factors for Midlife and Older Women. Gerontologist, 45(5), 617.

Ngamini.,Ngui.,Vasiliadis,& Préville. (2015). Individual and area-level factors correlated with death by suicide in older adults. Preventive Medicine, 75, 44-48. doi: 10.1016/j.ypmed.2015.03.015.

NIDCD - Directory of Organizations. (n.d). NIDCD - Directory of Organizations. Retrieved from: http://www.nidcd.nih.gov/directory/Bykeyword.aspx?key1=45&key2=.

N, L Linsk. (2000). HIV among older adults: age-specific issues in prevention and treatment. AIDS, pp. 430–440.

NRC (National Research Council). (2003). Elder mistreatment: Abuse, neglect, and exploitation in an aging America. Washington, DC: The National Academies Press.

Odubanjo, E., Bennett, K., & Feely, J. (2004). Influence of socioeconomic status on the quality of prescribing in the elderly—a population based study. British Journal of Clinical Pharmacology. 58(5), 496–502. doi: 10.1111/j.1365-2125.2004.02179.x.

Older Employees in the Workplace. (2012, July 1). Retrieved from http://www.cdc.gov/nationalhealthyworksite/docs/issue_brief_no_1_older_employees_in_the_workplace_7-12-2012_final508.pdf.

Older Adult Technology Use. (April 2014). Pew Research Center. Retrieved from: http://www.pewinternet.org/files/2014/04/PIP_Seniors-and-Tech-Use_040314.pdf.

Orsulic-Jeras, Silvia, Shepherd, J. Brad, & Britton, Paula J. (2003). Counseling Older Adults with HIV/AIDS: A Strength-Based Model of Treatment. Journal of Mental Health Counseling, 25(3), 233-44.

Otero, B., & Thompson, J. (2014, January 20). Modernization of the District's Senior Wellness Centers. Retrieved from: http://dcoa.dc.gov/sites/default/files/dc/sites/dcoa/publication/attachments/Senior Wellness Center White Paper_FINAL_January 202014.pdf.

Park, M. and J. Unützer. (2011). Geriatric Depression in Primary Care. Psychiatric Clinics of North America 34(2): 469-87.

Penhale, B. (2010). Responding and intervening in elder abuse and neglect. Ageing International, 35(3), 235-252. doi:http://dx.doi.org/10.1007/s12126-010-9065-0.

Petrovic, K. (2013). Respite and the Internet: Accessing care for older adults in the 21st Century. Computers in Human Behavior, 29(6), 2448-2452. doi: 10.1016/j.chb.2013.02.005.

Pillemer, K., & Finkelhor, D. (1988). The prevalence of elder abuse: A random sample survey. Gerontologist, 28(1), 51–57.

Potera, C., & Pfeifer, G. (2013). Veterans' mental health. American Journal Of Nursing, 113(1), 16.

Polytrauma And Blast-Related Injuries. (2015, July). Retrieved from: http://newyorkcity.ny.networkofcare.org/mh/library/article.aspx?id=2267.

Price, J.L. (2014). The National Center for PTSD: Findings from the National Vietnam Veterans' Readjustment Study. Retrieved from http://www.ptsd.va.gov/professional/research-bio/research/vietnam-vets-study.asp.

Qato, D., Alexander, G., Conti, R., Johnson, M., Schumm, P., & Lindau, L. (2008). Use of Prescription and Over-the-counter Medications and Dietary Supplements Among Older Adults in the United States. JAMA,300(24), 2867-2867. doi: 10.1001/jama.2008.892.

Qiu, W. Q., Dean, M., Liu, T., George, L., Gann, M., Cohen, J. and Bruce, M. L. (2010), Physical and Mental Health of Homebound Older Adults: An Overlooked Population. Journal of the American Geriatrics Society, 58: 2423–2428. doi: 10.1111/j.1532-5415.2010.03161.x.

Reduce the Hearings Backlog and Prevent Its Recurrence (2015, July). Office of the Inspector General Retrieved from: http://oig.ssa.gov/audits-and-investigations/top-ssa-management-issues/social-security-disability-hearings-backlog.

Repeal of "Don't Ask, Don't Tell" (n.d.). Retrieved from http://www.hrc.org/resources/entry/the-repeal-of-dont-ask-dont-tell.

Retiree Insurance (n.d.). Retrieved from: http://www.medicare.gov/supplement-other-insurance/retiree-insurance/retiree-insurance.html.

Rice, D., Fineman, N. (2004). Economic implications of increased longevity in the United States. Annual Review Of Public Health, 25, 457-473. doi:10.1146/annurev.publhealth.25.101802.123054.

Rickets, Thomas. (2011, April 21). The Health Care Workforce: Will It Be Ready as the Boomers Age? A Review of How We Can Know (or Not Know) the Answer. Annual Review of Public Health 32(2), 417–30, doi:10.1146/annurev-publhealth-031210-101227.

Rockville (MD): Substance Abuse and Mental Health Services Administration (US) (1998.) Report No.: (SMA) 98-3179. SAMHSA/CSAT Treatment Improvement Protocols.

Sallis, J., & Saelens, B. (2000). Assessment of physical activity by self-report: Status, limitations, and future directions. Research Quarterly for Exercise and Sport, 71(2 Suppl), S1-14. doi:10.1186/1479-5868-8-1.

Salmon, M. (2010, November 10). After the Battle: 7 Health Problems Facing Veterans. Retrieved from: http://www.livescience.com/8916-battle-7-health-problems-facing-veterans.html.

Sandweiss, D. A., D. J. Slymen, C.A., Leardmann, B., Smith, M.R., White, E.J., Boyko, T.I., Hooper, G.D., Gackstetter, P. J., Amoroso, and T. C. Smith. (2011). Preinjury psychiatric status, injury severity, and

postdeployment posttraumatic stress disorder. Archives of General Psychiatry 68(5):496-504 doi: 10.1001/archgenpsychiatry.2011.44.

Savundranayagam, M., & Montgomery, R. (2008). Do "Powerful Tools" translate into successful caregiving? Impact of a psychoeducational program on caregiver stress and rewards. Gerontologist, 48, 390. doi: 10.1080/03601270590962523.

Schick, V., Herbenick, D., Reece, M., Sanders, S., Dodge, B., Middlestadt, S., & Fortenberry, J. (2010). Sexual Behaviors, Condom Use, and Sexual Health of Americans Over 50: Implications for Sexual Health Promotion for Older Adults. Journal of Sexual Medicine, 7, 315-329. doi: 0.1111/j.1743-6109.2010.02013.x.

Screening for Suicide Risk in Adolescents, Adults, and Older Adults in Primary Care: Recommendation Statement. (2015). American Family Physician, 91(3), 190F,190G,190H,190I.

Section for Enhancing Geriatric Understanding and Expertise Among Surgical and Medical Specialists (SEGUE), American Geriatrics Society (2011), Retooling for an Aging America: Building the Healthcare Workforce. Journal of the American Geriatrics Society, 59(8) 1537–1539. doi: 10.1111/j.1532-5415.2011.03503.x.

Shah, M., Gillespie, S., Wood, N., Wasserman, E., Nelson, D., Dozier, A., & McConnochie, K. (2013). High-Intensity Telemedicine-Enhanced Acute Care for Older Adults: An Innovative Healthcare Delivery Model. Journal of the American Geriatrics Society, 61(11), 2000-2007. doi: 10.1111/jgs.12523.

Shah, M., Wasserman, E., Gillespie, S., Nelson, D., Wood, N., Doyle, M., Mcconnochie, K. (2013). Performance of an Urgent Care Telemedicine Program for Older Adults. Journal Of The American Geriatrics Society, 61, S84. doi: 10.1111/jgs.12157.

Shapira N., Barak A., Gal I. (2007). Promoting older adults' well-being through Internet training and use. Aging & Mental Health, 11, 477–484. doi:10.1080/13607860601086546.

Sheehan, P. (2011). Elder abuse: Zero tolerance. Long-Term Living, 60(6), 40-41. Retrieved from http://search.proquest.com/docview/884326210?accountid=14541.

S. J. Czaja et al. (2008, September). "Older Adults and Technology Adoption," Proceedings of the Human Factors and Ergonomics Society Annual Meeting 52(2) 139–143, doi:10.1177/154193120805200201.

S. Jay Olshansky et al. (2009, December). "Aging in America in the Twenty-First Century: Demographic Forecasts from the MacArthur Foundation Research Network on an Aging Society: Aging in America in the Twenty-First Century," Milbank Quarterly 87(4), 842–862, doi:10.1111/j.1468-0009.2009.00581.x.

Smith, F., & Himmel, S. (2013). Changing the Way We Die : Compassionate End of Life Care and the Hospice Movement. Street Berkeley, California: Cleis Press.

Social Security Administration. (2006). Income of the population 55 or older, 2004 (SSA Publication No. 13-11871). Retrieved from: http://www.socialsecurity.gov/policy/docs/statcomps/income_pop55/2004ee/index.html.

Stalsburg, B. (2011, September). After Repeal: LGBT Service Members and Veterans. Service Women's Action Network. Retrieved from: http://servicewomen.org/wp-content/uploads/2011/10/LGBT-Fact-Sheet-091411.pdf.

Stanley, I., Hom, M., Rogers, M., Hagan, C., & Joiner, T. (2015). Understanding suicide among older adults: A review of psychological and sociological theories of suicide. Aging & Mental Health, 1-10. doi: 10.1080/13607863.2015.1012045.

Substance Abuse and Mental Health Services Administration. (2010). The TEDS report: changing substance

abuse patterns among older admissions: 1992 and 2008. Retrieved from http://oas.samhsa.gov/2k10/229/229 OlderAdms2k10Web.pdf.

Substance Abuse and Mental Health Services Administration. (2011). The NSUDUH report: illicit drug use among older adults. Retrieved from http://oas.samhsa.gov/2k11/013/WEB_SR_013_HTML.pdf.

Suicide in the Elderly - AAMFT Therapy Topic. (n.d). Suicide in the Elderly.

SSI Eligibility Requirements. (n.d). Retrieved from: http://www.ssa.gov/ssi/text-eligibility-ussi.htm.

Swetz, K., & Kamal, A. (2012). Palliative Care. Annals of Internal Medicine,156(3), ITC2. doi: http://dx.doi.org/10.7326/0003-4819-156-3-201202070-01002.

Syed, S. T., B. S. Gerber, L. K. Sharp. 2013. Traveling Towards Disease: Transportation Barriers to Health Care Access. J Community Health 38(5): 976–993. doi: 10.1007/s10900-013-9681-1.

The Older Population: 2011. (2011, November). 2010 Census Briefs. https://www.census.gov/prod/cen2010/briefs/c2010br-09.pdf.

The United States Census Bureau (Census). (2015).Veteran definitions and concepts. Retrieved from: http://www.census.gov/hhes/veterans/about/definitions.html.

Thomas, E., & Brennan, T. (2000). Incidence and Types of Preventable Adverse Events in Elderly Patients: Population Based Review of Medical Records. BMJ: British Medical Journal, 320(7237), 741-744.

T Davis. (2009). Conceptualizing Psychiatric Disorders Using “Four D’s” of Diagnoses. The Internet Journal of Psychiatry, 1(1).

Traumatic Brain Injury. (2010, April). Retrieved from: http://www.publichealth.va.gov/docs/vhi/traumatic-brain-injury-vhi.pdf.

Toomey, R., Kang, H., Karlinsky, J., Baker, D., Vasterling, J., Alpern, R., Eisen, S. (2007). Mental health of US Gulf War veterans 10 years after the war. British Journal of Psychiatry, 190(5), 385-393.

Treatment & Services. (2014, August 1). Retrieved from https://www.nami.org/Learn-More/Treatment.

The United States Census Bureau (Census). (2015).Veteran definitions and concepts. Retrieved from: http://www.census.gov/hhes/veterans/about/definitions.html.

United States. Government Accountability Office. (2011). VA Mental Health Number of Veterans Receiving Care, Barriers Faced, and Efforts To Increase Access. S.l]: [s.n.].

U.S. Census Bureau. (2013). American Community Survey PUMS.

U.S. Census Bureau (2011) 2010 Census.

U.S. Census Bureau (2014). American FactFinder [Fact Sheet]: Retrieved from http://factfinder.census.gov.

U.S. Department of Veteran Affairs: Washington DC VA Medical Center (DCVA). (2015). About the Washington DC VA Center. Retrieved from http://www.washingtondc.va.gov/about/index.asp.

U.S Department of Veterans’ Affairs [VA], (2015a).Eligible Wartime Periods. Retrieved from http://www.benefits.va.gov/pension/wartimeperiod.as.

US Department of Veterans’ Affairs [VA], (2015b). Geriatrics and Extended Care.

Retrieved from http://www.va.gov/GERIATRICS/Guide/LongTermCare/Home_and_Community_Based_Services.asp.

U.S. Department of Veteran Affairs: National Center for Veterans Analysis and Statistics (NCVAS). (2015e). Population Table 4L: Vetpop2011 living veterans by branch of service, gender, 2013-2040. Retrieved from http://www.va.gov/vetdata/Veteran_Population.asp.

U.S. Department of Veteran Affairs: National Center for Veterans Analysis and Statistics (NCVAS).(2015c). Population Table 3L:Vetpop2014 living veterans by race/ethnicity, gender, 2013-2043.Retrieved from http://www.va.gov/vetdata/Veteran_Population.asp.

U.S Department of Veterans' Affairs [VA], (2015a). Eligible Wartime Periods. Retrieved from http://www.benefits.va.gov/pension/wartimeperiod.asp.

U.S Department of Veterans' Affairs [VA]. (2014). Federal Benefits for Veterans, Dependents and Survivors. Retrieved from http://www.va.gov/opa/publications/benefits_book/2014_Federal_Benefits_for_Veterans_English.pdf.

U.S. Department of Veteran Affairs: National Center for Veterans Analysis and Statistics (NCVAS). (2015f). Population Table 6L:Vetpop2014 living veterans by state, age group, gender, 2013-2043.Retrieved from http://www.va.gov/vetdata/Veteran_Population.asp.

U.S. Department of Veteran Affairs: National Center for Veterans Analysis and Statistics (NCVAS).(2015f). About the Data: DoD Worldwide Numbers for TBI. Retrieved from http://www.va.gov/vetdata/Veteran_Population.as.

USDHHS. (2008). 2008 physical activity guidelines for Americans. USDHHS, Washington DC.

VA. (2012). 2011 Survey of Veteran Enrollees' Health and Reliance Upon VA. Retrieved from: http://www.va.gov/healthpolicyplanning/soe2011/soe2011_report.pdf.

VA. (2014a). VA Mental Health Care Fact Sheet. Retrieved from: http://www.hospitalcompare.va.gov/docs/March-2014-VA-Mental-Health-Care-Congressional-Fact-Sheet.pdf.

VA. (2014b). Fact Sheet: Information about the VHA Office of Rural Health and Rural Veterans. Retrieved from: http://www.ruralhealth.va.gov/docs/factsheets/ORH_General_FactSheet_2014.pdf.

Warner, L., Schüz, B., Aiken, L., Ziegelmann, J., Wurm, S., Tesch-Römer, C., & Schwarzer, R. (2013). Interactive effects of social support and social conflict on medication adherence in multimorbid older adults. Social Science & Medicine, 87, 23. doi: 10.1016/j.socscimed.2013.03.012.

Washington, DC: Our Changing City. (n.d). Washington, DC: Our Changing City. http://datatools.urban.org/features/OurChangingCity/demographics/#age.

Watts, T. (2012). Initiating end-of-life care pathways: a discussion paper. Journal Of Advanced Nursing, 68(10), 2359-2370. doi:10.1111/j.1365-2648.2011.05924.x.

What Is Medicare? (2015, June). Retrieved from: https://www.medicare.gov/Pubs/pdf/11306.pdf.

Weeks, W. B., D. M. Bott, R. P. Lamkin, S. M. Wright. (2005). Veterans Health Administration and Medicare Outpatient Health Care Utilization by Older Rural Urban New England Veterans. The Journal of Rural Health 21(2): 167-171. doi: 10.1111/j.1748-0361.2005.tb00077.x.

Weiss, C., Boyd, C., Yu, Q., Wolff, J., & Leff, B. (2007). Patterns of prevalent major chronic disease among older adults in the United States. JAMA,298(10), 1160-2. doi: 10.1001/jama.298.10.1160-b.

Well-being Concepts. (2013, March 6). Retrieved from http://www.cdc.gov/hrqol/wellbeing.htm.

West, Loraine A., Samantha Cole, Daniel Goodkind, and Wan He. (2014, June). 65 in the United States. Retrieved from: https://www.census.gov/content/dam/Census/library/publications/2014/demo/p23-212.pdf.

Why Education Matters to Health. (2013, March). RWJF. Retrieved from: http://www.rwjf.org/en/library/research/2012/12/why-does-education-matter-so-much-to-health-.html.

Wingfield, A., Tun, P. A., & McCoy, S. L. (2005). Hearing loss in older adulthood what it is and how it interacts with cognitive performance. Current directions in psychological science, 14(3), 144-148. doi: 10.1111/j.0963-7214.2005.00356.x.

Women in the US Military: 1950s. (n.d.). Retrieved from http://chnm.gmu.edu/courses/rr/s01/cw/students/leeann/historyandcollections/history/lrnmre1950s.html.

Yaffe, K. (2013). Chronic medical disease and cognitive aging: Toward a healthy body and brain. New York: Oxford University Press.

Zivin, K., Bohnert, A., Mezuk, B., Ilgen, M., Welsh, D., Ratliff, S.,Kilbourne, A. (2011). Employment status of patients in the VA health system: Implications for mental health services. Psychiatric Services (Washington, D.C.), 62(1), 35-8. doi: 10.1176/appi.ps.62.1.35.

Zoroya, G. (2013, April 9). Recent War Vets Face Hiring Obstacle: PTSD bias. USA Today. Retrieved from: http://www.usatoday.com/story/news/nation/2013/04/06/recent-war-vets-face-hiring-obstacle-ptsd-bias/2057857/.

IX. Appendix D: Judging Rubric

DC Regional Case Challenge 2015 - Judging Rubric

These criteria will be considered collectively through a facilitated judging discussion to determine the overall grand prize winner and category prizes. The criteria contributing to the three category prizes listed are indicated below.

Category Prizes: *Practicality Prize; ^Creativity/Innovation Prize; #Interprofessional Prize

	Poor	Acceptable	Very Good	Out-standing	Comments
Analysis of Problem/Challenge					
• Astute synthesis of problem • Identification of key issues	☐	☐	☐	☐	
Appropriateness/Justification of solution					
• Justification of chosen priorities • Justification of chosen intervention(s) • Evidence to support likely effectiveness • Resourcefulness in gathering information	☐	☐	☐	☐	
Acceptability/Uptake of solution *					
• Acceptability to relevant stakeholders • Cultural acceptability • Social/behavioral considerations	☐	☐	☐	☐	
Implementation Considerations *					
• Implementation plan • Timeline and budget • Feasibility (budget and other resources, time frame, cultural/political constraints, logistical/infrastructure constraints) • Monitoring and evaluation plan	☐	☐	☐	☐	
Potential for Sustainability *					
• Long-term maintenance and growth (feasibility, funding)	☐	☐	☐	☐	
Creativity/Innovation ^					
• Creativity and innovation in solution implementation and resources • Creativity and innovation in resources used for information-gathering	☐	☐	☐	☐	
Interdisciplinary/multisectoral#					
• Use of collaborations/interactions among disciplines and/or sectors	☐	☐	☐	☐	
Teamwork #					
• Engagement of whole team in preparation and/or presentation • Clear team understanding and use of each others' roles and expertise	☐	☐	☐	☐	
Presentation Delivery					
• Clarity of content and logic of flow • Time management • Audience engagement • Visual aesthetic • Professionalism, poise, and polish	☐	☐	☐	☐	
Questions & Answers					
• Clarity and thoughtfulness of responses • Ability to draw from evidence	☐	☐	☐	☐	

X. Appendix E (Meet the Team)

Laura-Allison Woods (lead case-writing author) is in her final year at George Mason University, studying Public Health and Psychology. This is her third year participating in the DC Public Health Case Competition, first as a member of the LGBT Youth Violence case representing George Mason University, and secondly as a member of the case-writing team on the topic of Supporting Adult Involvement in Adolescent Health Education. In the past three years, she has been published for her work on Neutrophil Chemotaxis with the University of Iowa School of Medicine, her work on psychiatric crisis intervention in high schools with the University of Iowa School of Public Health, and her work on combating sedentary lifestyles in adults with George Mason University's Department of Health Communication, in which she also was awarded a research scholarship to present her research at the DC Health Communication conference this past spring. In her spare time, she works for a private clinical psychology office, scoring psychoeducational and psychosocial assessments for identification of personality disorders, learning disorders, and mental illness. Additionally, Laura has participated on George Mason University's Institutional Review Board (IRB,) volunteers with the Medical Reserve Corps of Fairfax, has reviewed abstracts for the American Public Health Association (APHA) as a member of the Maternal and Child Health student assembly, is a new member of the National Health Education Honorary Eta Sigma Gamma chapter at George Mason University, and was awarded a scholarship into the Society for Participatory Medicine. Lastly, "Supporting Mental Health In Older Veterans" is an especially significant topic to Laura, who is the daughter of a veteran Air Force Colonel and was raised in a proud military family. She hopes this case will help to bring awareness and recognition regarding the mental and physical well-being of every one of our veterans (and those currently in service). In the future, Laura hopes to continue on for her doctorate in Public Health, and continue to do research in Pediatric and Women's Mental Health Issues.

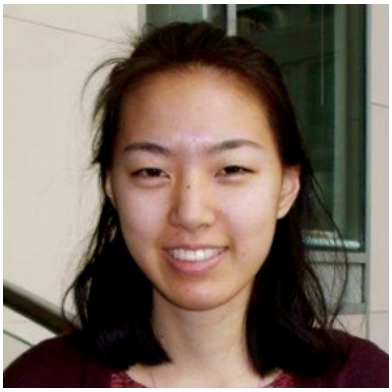
Sweta Batni (case-writing editor) is entering her final year as a PhD Candidate in the Global Infectious Disease program at Georgetown University. Her doctoral research integrates epidemiology, public health, and molecular approaches in studying the eukaryotic parasite, *Giardia lamblia*, one of the major causes of diarrheal disease worldwide. Prior to matriculating at Georgetown, Ms. Batni worked from 2005-2010 as a global health security and policy analyst. During this time, she was contracted to support a number of different US federal government clients, such as the Assistant Secretary for Preparedness and Response office (ASPR) at the US Department of Health and Human Services (HHS) and the Department of Defense, Defense Threat Reduction Agency, Cooperative Biological Engagement Program, on issues

of global health security. Ms. Batni has dual master's degrees (MHS/MA) in Infectious Disease Epidemiology and International Health Policy from the Johns Hopkins Bloomberg School of Public Health (MHS '05) and the Johns Hopkins Paul H. Nitze School of Advanced International Studies (MA '09). This is her third year working with the case writing team for this competition.

Desirée C. Bygrave (case-writing author) is a Doctoral Candidate in Neuropsychology at Howard University. Her research integrates a biopsychosocial approach to investigating cardiovascular disease, obesity and variability in cognitive function particularly in communities of African descent. She is currently a research associate with The Health Promotion and Risk Reduction Research Center at Howard University in Washington, DC. Furthermore, she is currently a Fellow at the Summit Health Institute for Research and Education where she serves as a health consultant, research analyst and evaluator on projects serving underserved populations within Washington, DC. Miss Bygrave has worked with the Directors of Health Promotion and Education (DHPE), and, The National Health IT Collaborative for the Underserved as a research analyst during DHPE's 2014 Internship Program for Public Health Practice. During her tenure as a research analyst, she examined regulatory health policies, challenges and best-practice approaches in health IT, and, collaborated on consumer-centric recommendations for expanding telehealth and telemedicine services to help transform healthcare in Communities of Color at both the national level and within the Washington, DC region. Miss Bygrave is a graduate of Voorhees College in Denmark, SC, with a Bachelor's degree in Biology and obtained her Master's degree in Neuropsychology in 2011 at Howard University in Washington, DC. She was a member of the Howard University team, which placed third in the National Academy of Medicine's 2013 Inaugural DC Regional Public Health Case Challenge. This is her second year on the case writing team for the competition.

Stephanie Campbell (case-writing author) graduated from George Mason University in May 2015 with an M.P.H. in Epidemiology and from The College of William & Mary in May 2013 with a B.S. in Kinesiology & Health Science. During her master's program, Stephanie utilized NHANES data for epidemiologic research focusing on reproductive toxicology. She is currently completing coursework through the post baccalaureate program at Virginia Commonwealth University and hopes to matriculate to medical school in August 2017.

Hannah Risheq (case-writing author) is a Master's of Public Health (MPH) Candidate with a focus in Epidemiology at George Mason University. She received her Bachelor's of Art in Public Health at The American University in 2013. Previous to starting at George Mason University, Hannah provided humanitarian aid to Syrian Refugees and was an advocate for comprehensive healthcare in underserved communities. Throughout her program, she has been an advocate for e-cigarette regulation and tobacco cessation policies. Hannah was a member of the 2014 George Mason University Team in the DC Regional Public Health Case Study Challenge and won the award for "Creativity and Innovation." After completion of her program, Hannah hopes to use innovative technologies to promote easier access to preventative care.



Sophie Yang (case-writing author and DC Public Health Case Challenge organizer) is a Senior Program Assistant with the Board on Health Sciences Policy at the Institute of Medicine. Sophie graduated from Bowdoin College in May 2013 with a B.A. in Economics and Asian Studies. While at Bowdoin, she also worked part-time as a music library assistant and as a dining services student manager. Sophie previously interned at an environmental and health advocacy non-profit in Portland, Maine and at a market research and consulting firm in Beijing.

XI. Appendix F: Guide for Student Teams & Faculty Advisors

The National Academy of Medicine[304] and the Institute of Medicine will host a DC Regional Public Health Case Challenge in October 2015 to promote interdisciplinary, problem-based learning. Teams will be asked to approach a realistic public health issue facing the DC community and to develop a multi-faceted plan to address it. A panel of expert judges will watch student presentations and pick a winning solution.

304 On July 1, 2015, the National Academy of Medicine joined the National Academy of Sciences and the National Academy of Engineering as the third academy overseeing the program units of the National Academies of Sciences, Engineering, and Medicine. The NAM has assumed membership, honorific, and other functions formerly administered by the Institute of Medicine, while the IOM continues its consensus study and convening activities as a program unit of the Academies.

Organizers

Institute of Medicine
Point of Contact: Sophie Yang (syang@nas.edu)
Bridget Kelly (bkelly@nas.edu)
Alina Baciu (abaciu@nas.edu)
Amy Geller (ageller@nas.edu)
Colin Fink (cfink@nas.edu)

Case Writing Team
Sweta Batni (Georgetown)
Desirée Bygrave (Howard)
Stephanie Campbell (George Mason)
Hannah Risheq (George Mason)
Laura-Allison Woods (George Mason)
Sophie Yang (IOM)

Theme

This year's case will focus on aging and health.

Overview

- Universities form a team of 3-6 graduate and/or undergraduate students representing at least three disciplines, schools, or majors. The case will require a comprehensive solution and it is advisable that teams be comprised of students representing a variety of subjects (health, public health, law, business, communications, engineering, IT, gender studies, anthropology, economics, sociology, etc.). Teams are encouraged to have both undergraduate and graduate students.
- Student teams are provided with a case that is based on a real-life challenge faced by individuals and organizations in the DC area. Teams are given two weeks to develop comprehensive recommendations to present to a panel of expert judges. The presented recommendations will be judged on criteria such as content, creativity, feasibility, interdisciplinary nature, and strength of evidence base. The case will include more detailed information on the judging criteria.

Prizes/Incentives for Student Teams

- Experience working with multiple disciplines to tackle a multi-faceted public health challenge
- Practice for Emory University's International Global Health Case Competition
- Publication of winning solution through the Institute of Medicine
- Publication (by IOM) summarizing each team's solution (team members listed as authors). For example, see the 2013 publication.
- Free entrance to the NAM annual meeting (which will focus on aging) for all team members with the opportunity for a poster session and a lunch highlighting the work

of the 2015 event on October 19th. This is an exciting opportunity to meet and connect with leaders in the fields of health, medicine, and beyond. See http://nam.edu/event/nam-annual-meeting/ for more information.

- Prize money
    - Grand Prize: $2,000
    - 3 "Best in Category" Prizes: $1,000

Timeline

- Friday, September 11: Deadline for universities to confirm participation (please email Sophie Yang at syang@nas.edu). Please also note if (some or all of) your team plans to attend the IOM annual meeting on October 19th.
- Friday, September 25: Deadline to submit team member names and email addresses for final team registration. . If all or part of your team plans to attend the NAM annual meeting on October 19th note the names of the members who plan to attend so we can register them for the meeting (advance registration is required and once we know who will be attending we will be in touch with more details about the poster session and meeting).
- Friday, October 2: Organizers will release case to teams by 5:00pm. The case will be provided to the faculty advisor and the student team point of contact, who will be responsible for disseminating it to the other team members.
- October 2-16: Teams will develop their solution to the case.
- Friday, October 16: Teams will present solutions to a panel of judges. Presentations will be followed by a reception and awards ceremony. The event will take place from approximately 9am-3pm, and we will let you know the exact times once we know the number of participating teams.
- Monday, October 19: NAM annual meeting where teams and advisors may attend the meeting and will have the opportunity to participate in a poster session and luncheon with NAM members and others (including the opportunity for one team to present their case solution at the luncheon).

Getting to the National Academy of Sciences Building

The National Academy of Sciences (NAS) building is located at 2101 Constitution Avenue NW, and is accessible by car or metro.

Driving to NAS: Visitor parking is available within the NAS building's main parking lot. To park for free, tell the garage attendant that you are participating in this case competition and provide your name and license plate number. Street parking is also available at normal DC rates, as is a ramp at the corner of 23rd Street NW and I Street NW.

Taking the Metro: The closest metro station is Foggy Bottom, located along the blue and orange lines. Upon exiting the metro, head west on I Street NW toward 23rd Street NW. Turn left onto 23rd Street NW and walk for about half of a mile. Turn left onto Constitution Avenue NW, and the NAS Building will be on your left.

Upon entering the building, you will need to present a photo ID to the guard at the front desk. Participants may then proceed to Room 120 to check in and receive further instructions.

XII. Appendix G: Student Team Guidelines and Rules

Case Challenge Guidelines and Rules

Suggested Team Preparation:
Teams are encouraged to meet several times before they receive the case in order to get to know each other, look at examples from previous case competitions (several are provided in the resources section below), and loosely plan an approach. It may be helpful for team members to agree on communication strategies and time commitments for the two weeks during which they will be developing the case response.

Developing the Case Solution:

- Organizers will deliver the case electronically to competing teams by 5:00pm on Friday, October 2. The case will be provided to the faculty advisor and team members.
- Designated members of the case writing team will be available to respond via email to questions and requests for clarification during the two weeks while teams prepare their solutions (contact details will be provided with the case). To ensure that all teams have similar knowledge about the case, all teams will receive a copy of the question and the response within 24 hours of receipt. Questions will NOT be accepted after 9AM on Thursday, October 15.
- Teams should not discuss their case presentations or case content with other teams during the case challenge period (October 2– October 16) until the judges have completed final scoring.
- The student team can access and use any available resources for information and input, including both written resources (publications, internet, course notes/text, etc) and individuals within and outside of the team's university.
- This is a student competition and should reflect the students' ideas and work. The case solution must be generated by the registered team members. Faculty advisors and other individuals who are used as resources should not generate ideas for case solutions, but are permitted to provide relevant information, guide students to relevant resources, provide feedback on ideas and proposals for case solutions and recommendations generated by the students, and provide feedback on draft/practice presentations.
- Participants may not speak individually with the judges until judging has concluded on Friday, October 16. Please help the organizers by adhering to this rule during breaks.

Faculty Advisors:
Each team must have at least one faculty advisor. This faculty advisor will serve as a point of contact with the Case Challenge Organizers. The faculty advisor will also ensure that the team is made up of only undergraduate and graduate students of their university and

that the team has representatives of at least 3 disciplines. Faculty advisors can also help student teams prepare for the case challenge competition within the following parameters:

- Faculty advisors CAN:
    - Assist teams with practice sessions or practice review of sample cases in the weeks preceding the release of the case
    - Suggest resources relevant to the case
    - Provide feedback on ideas for case solutions and recommendations generated by the students
    - Provide feedback on draft/practice presentations
    - Communicate with the Case Challenge Organizers about case guidelines and logistics
- Faculty advisors CANNOT:
    - Generate ideas for case solutions and recommendations
    - Communicate about the case with faculty advisors and students from other competing teams

<u>Presentations:</u>

- Presentation Time: Each team will have a total of 25 minutes. (Note: there will be 5 minutes of transition time between presentations)
    - 15 minutes are allotted to present analysis and recommendations
    - 10 minutes are allotted for Q&A with judges
    - Timing will be strictly enforced
    - Any leftover time will be utilized at the discretion of the judging panel
    - Teams may not view other teams' presentations until they have delivered their own presentation
- Format:
    - Analysis and recommendations should be presented in Microsoft PowerPoint.
    - Presentations will be loaded onto the computer and projection screen for you by a Case Challenge Organizer. Teams will have an opportunity to check the compatibility of their file in advance of the presentation.
    - Judges will receive a printout of each team's slides.
    - Teams are encouraged to build appendix slides to help answer questions that they anticipate from the judges.
    - Judges will not know the university affiliation of teams until after judging is completed. The names of team members can be included in the presentation, but DO NOT include the university name or any identifying information in your presentation (e.g. school mascot).
- Presenters:
    - As many team members can participate in the presentation as the team sees fit. All team members should stand at the front of the room during the Q&A session at the end of the presentation.
- Dress code:
    - Competing teams are encouraged to present their case in professional

business attire. The teams will not be identified by university to the judges, so students should not wear or carry any identifying logos, insignias, etc.

- Deadline to turn in completed case:
    - To ensure that each team has an equal amount of preparation time, each team's final presentation should be loaded onto the presentation computer by 8:45AM on Friday, October 16. Failure to submit the presentation on time will result in disqualification from the competition. No changes can be made to presentations after that time and teams should not continue to work on their case solution and presentation while they are awaiting their presentation time.

Judging:

- The judges have agreed to participate in this event as volunteers. The judges will be announced when the case is released, and biographical sketches of the judges will be available to student teams in advance of the case challenge event.
- In evaluating the proposed case solutions, judges will consider the following:
    - Rationale/Justification for strategies proposed
    - Specificity and feasibility
    - Interdisciplinary nature of the solution
    - Creativity and innovation
    - Clarity and organization
    - Presentation delivery
    - Team work
    - Ability to respond to questions
- Detailed judging criteria will be provided with the case when it is released on October 2.

Resources

The following links provide information and examples from public health case competitions at other universities. Note that most of these cases focus on an international issue; however, the DC Case Challenge will address a local problem. These are just examples—please use your own creativity and knowledge to come up with a unique presentation!

Presentation on Emory's competition at the Consortium of Universities for Global Health conference: http://www.cugh.org/sites/default/files/2010-annual/presentations/Monday/Kane-220-mon/Ali.pdf

Emory University's 2013 case: http://www.utihp.ca/wp-content/uploads/2013/04/2013_International_EGHCC_Case.pdf

University of Toronto's presentation from Emory's 2013 competition: http://www.slideshare.net/TheresaLee5/university-of-toronto-emory-global-health-case-competition

Vanderbilt's 2012 Case and winning presentation: http://www.vanderbilt.edu/vigh-sac/case/2012.php

Triangle area competition past cases: http://triangleghcc2013.wordpress.com/

Yale Case competition presentations: http://www.slideshare.net/yaleglobalhealthcc

XIII. Appendix H: Presentation Day Agenda

DC Public Health Case Challenge 2015

Agenda

October 16, 2015
National Academy of Sciences, 2101 Constitution Avenue, NW, Washington, DC
Room 120

8:00-8:30am	**Arrival and Registration** *(Breakfast will be provided)*
8:30am	**Deadline to turn in presentation** *Please take your flash drive to the Case Challenge organizer at the computer. This is when you will draw a card for presentation order.*
	Judges Check-in
8:40am	**Welcoming Remarks** *Victor J. Dzau, M.D., President, National Academy of Medicine*
8:55am	**Logistics**
9:00am-1:00pm	**Presentations** *At this time, all but the first team should leave the room. After you have presented, you may remain in the room to watch the remaining presentations. At some point during the day, an organizer will gather each team to take a photo at the Einstein statue in front of the NAS building.*
	9:00-9:30 Team 1 9:30-10:00 Team 2 10:00-10:30 Team 3 10:30-10:45 Break 10:45-11:15 Team 4 11:15-11:45 Team 5 11:45-12:00 Break 12:00-12:30 Team 6 12:30-1:00 Team 7
1:00-2:15pm	**Lunch** **Judges' Deliberations** *(Board Room)* **Team Icebreakers**
2:15-3:30pm	**Awards Ceremony and Reception**