



Women & Aging: The Impact of Dementia

7th Annual WWHF Dialogue White Paper



Wisconsin Women's Health Foundation
2503 Todd Drive, Madison, WI 53713 www.wwhf.org

Women & Aging: The Impact of Dementia

Wisconsin Women’s Health Foundation 7th Annual Dialogue

Event Dates:

October 10, 2013
Madison, WI

October 11, 2013
Milwaukee, WI

Table of Contents

About the WWHF.....	3
About the Dialogue.....	3
Event Moderator.....	4
Panelists.....	4
Overview.....	5
Panelist Presentations.....	6-11
Dialogue Discussion	12-15
Additional Resources.....	15
Sponsors.....	16

About the Wisconsin Women's Health Foundation

The Wisconsin Women's Health Foundation (WWHF) is a 501(c)(3) nonprofit that helps women and their families reach their healthiest potential. The WWHF specializes in health education and outreach with the goal of equipping women to become advocates for their own health. WWHF programs address major causes of morbidity and mortality for Wisconsin women. The organization's goals are to:

- Reach all Wisconsin women with the information, opportunities and support they need to be healthy
- Encourage women to become advocates for their own health
- Improve the overall quality of life for women and their families

The WWHF provides programs and conducts forums that focus on education, prevention and early detection of the greatest threats to women's health: cancers, cardiovascular disease, domestic abuse, mental illness, osteoporosis and tobacco and alcohol use.

About the Dialogue

The WWHF Annual Dialogue is held each fall and focuses on a current women's health topic. The event provides an opportunity for dynamic discussion of complex issues related to the health of Wisconsin families. Past Dialogue topics have included healthcare reform, mental health parity, the economics of smoking, obesity, and more. Discussion revolves around recent research and findings, challenges in clinical and community-based interventions, and potential ways that different stakeholders can help create solutions.

The Dialogue is led by a moderator and a multi-disciplinary panel of experts. Panelists represent a variety of perspectives examining the issues through different lenses. The event begins with each panelist giving a brief presentation. Following prepared statements, the moderator asks follow-up questions and fields questions from the audience. Panelists close the event with summary statements focusing on ways to move forward together.

Moderator

M. Bridget Duffy, M.D.

Chief Medical Officer

Vocera Communications, Inc.



M. Bridget Duffy, M.D. the Chief Medical Officer (CMO) of Vocera Communications, Inc., served as the moderator of the 2013 Dialogue. Vocera is a leading provider of mobile communication solutions for hospital staff, with a mission to improve patient safety and satisfaction. Duffy is widely known for her previous work as Chief Executive Officer of ExperiaHealth, a company whose goal was to restore the human connection to healthcare. She held the first senior position of its kind in the nation as the Chief Experience Officer of the Cleveland Clinic. Her work has earned her the Quantum Leap Award for taking the risk to spur internal change in her field and has led her to be featured in HealthLeaders magazine as one of “20 People Who Make Healthcare Better.” Dr. Duffy attended medical school at the University of Minnesota, and completed her residence in internal medicine at Abbott Northwestern Hospital in Minneapolis, Minnesota.

Panelists

On October 10, 2013, The Wisconsin Women’s Health Foundation held their 7th Annual Dialogue at the Concourse Hotel in Madison. The event was held a second time on October 11, 2013 at the Italian Conference Center in Milwaukee. In each location, the event featured a panel of five speakers from across the state. Each speaker’s area of expertise highlighted a different perspective on dementia, culminating in an informative multifaceted dialogue.

Elizabeth Chapman, MD

Clinical Assistant Professor

Geriatrics Division

UW Department of Medicine, Madison

Kari Paterson**

Executive Director

Alzheimer’s Association

South Central WI Chapter, Madison

Malgorzata Franczak, MD*

Associate Professor

Neurosciences Center

Medical Colleges of Wisconsin, Milwaukee

Krista Scheel*

Program Director

Alzheimer’s Association

Southeastern WI Chapter, Milwaukee

Gina Green-Harris, MBA

Director

Milwaukee Outreach & Services

WI Alzheimer’s Institute, Madison

Patricia Wilson

Family Support Coordinator

Alzheimer’s & Dementia Alliance of

Wisconsin, Madison

Kurt Hansen, MD**

Clinical Assistant Professor

Geriatrics Division

UW Department of Medicine, Madison

**Milwaukee location only*

***Madison location only*

Overview

What is Dementia?

Dementia is a term that describes a range of symptoms associated with decline in memory and cognitive abilities severe enough to interfere with daily living. This includes decreased ability to:

- Speak coherently or understand spoken or written language;
- Recognize or identify objects, assuming intact sensory function;
- Perform motor activities, assuming intact motor abilities and sensory function and comprehension of the required task; or
- Think abstractly, make sound judgments and plan and carry out complex tasks.

The chance of developing dementia symptoms increases with age, but dementia is not a normal or inevitable part of the aging process. Dementia is a progressive disease that typically starts later in life and lasts for the rest of a person's life. Unfortunately, progressive dementia currently has no cure and the symptoms are not reversible and lead to permanent damage.

Why is Dementia a women's health issue?

Because women are at the center of the dementia epidemic. More women than men have Alzheimer's disease and other dementias. And over 60% of dementia caregivers are women.ⁱ

Almost two-thirds of Americans with Alzheimer's are women.ⁱⁱ Because of the rapidly increasing number of people age 65 and older in our country, the number of new cases of Alzheimer's and other dementias could double or even triple by the year 2050.ⁱⁱⁱ In Wisconsin alone, we can expect a 30% increase in Alzheimer's and dementia diagnoses by 2025, with a projected 130,000 new cases per year.ⁱⁱⁱ Alzheimer's disease is the 6th leading cause of death in the United States overall and the 5th leading cause of death for those aged 65 and older.^{iv} It is the only cause of death among the top 10 in the United States without a way to prevent it, cure it, or slow its progression.

What are the costs of dementia?

The costs are staggering and continue to rise.

A recent study published in the New England Journal of Medicine found that the annual cost attributable to dementia was over \$50,000 per patient.^v In 2010, the total monetary cost of dementia was between \$157 billion and \$215 billion; Medicare paid approximately \$11 billion of this fiscal burden.^{iv}

Each year, caregivers provide an estimated 17.5 billion hours of *unpaid* care for loved ones with dementia.^{vi} Unpaid caregivers are typically immediate family members, but they also may be other relatives or friends. Over 60% of unpaid dementia and Alzheimer's caregivers are women.^{vii}

Panelist Presentations*



Elizabeth Chapman, MD

Geriatrics Division

UW Department of Medicine, Madison, WI

Dr. Chapman received her certification in Internal Medicine from the University of Wisconsin School of Medicine and Public Health in 2008. Her presentation at the 2013 Dialogue was a detailed overview of dementia featuring statistics, the cost of caregiving, research efforts and diagnosis and treatment.

Prevalence:

Alzheimer's disease accounts for 60-80 percent of all cases of dementia. In 2013, there were 42 million people with dementia in the United States. Looking ahead to 2029, an estimated 72 million people will suffer from dementia, roughly 20 percent of our population. The cost of Alzheimer's disease is 203 billion dollars a year with a projected cost of 1.2 trillion in 2050.

Impact on Caregivers:

A vast share of caregiving costs are undocumented because caregiving is often provided by family members. However, the financial impact on the caregiver may be reflected in loss of a job or a loss of job hours. Other impacts on the caregiver include physical stress, guilt, emotional stress, an increase in depression and poor physical health.

Current Research:

Researchers have located genes that may influence the onset of Alzheimer's disease. Additionally, cardiovascular disease and diabetes increase an individual's risk of developing dementia. Lifestyle choices, such as diet and exercise, also play an important role in the development of Alzheimer's disease.

Testing for Alzheimer's:

Clinicians may use any of the following tests to investigate Alzheimer's disease:

- A spinal tap to detect for beta-amyloid in brain fluid
- PET scans to look for sugar being used in the brain
- An MRI to determine the size of various parts of the brain
- Amyloid imaging (a new tool being developed by UW researchers)

Discovering Better Alzheimer's Treatments:

Research is being conducted to determine more effective treatments for Alzheimer's disease. Focus areas include:

- Drugs that reduce beta-amyloid levels in the body and brain
- Preventing tau protein from forming tangles
- Reducing inflammation in the brain and decreasing insulin resistance

* Panelist presentation slides available at: <http://www.wwhf.org/annual-dialogues/>

Panelist Presentations *



Dr. Kurt Hansen

*Clinical Assistant Professor-Geriatrics Division
UW Department of Medicine, Madison*

Dr. Hansen spends much of his time caring for hospitalized geriatric patients. He is a Clinical Assistant Professor of Medicine in the Geriatrics Division at the University of Wisconsin School of Medicine and Public Health in Madison, WI. Dr. Hansen's presentation at the Dialogue in Madison focused on the diagnosis and treatment of dementia.

Diagnosing Dementia

Dementia is a clinical diagnosis. There is no simple test to diagnose dementia or Alzheimer's disease. Instead, physicians examine medical history and conduct an in-depth exam. Obtaining accurate medical history can be challenging with patients showing signs of dementia. For example, a physician might ask, "How's your memory?" The patient replies "Great!" This is not a person in denial; the patient truly does not understand that something is wrong. Ideally, a collateral history with family members/caregivers is collected to determine if a patient has dementia.

Types of Memory Loss

Memory loss associated with dementia is typically informational or functional memory loss. Informational memory loss presents as the inability to learn new information such as a list of words or a story. Functional memory loss involves the inability to perform regular daily activities. Retrieval memory loss, such as where you parked your car, is not a sign of dementia or Alzheimer's disease, but is instead part of normal aging.

Treatment of Dementia:

Presently, dementia treatment is very limited and no cure exists. The types of medications used today do little in way of relieving symptoms or slowing progression. Furthermore, significant side effects can occur, with some of the most serious including gastrointestinal system difficulties.

Benefits of Supporting Caregivers:

While treatment options are limited, positive results have been seen with increased support for caregivers of individuals with dementia. Dementia patients who live with caregivers who obtained outside support were able to delay entrance to a nursing home by 1.5 years, saving families up to \$90,000 per year.

* Panelist presentation slides available at: <http://www.wwhf.org/annual-dialogues/>

Panelist Presentations *



Malgorzata Franczak, MD

Associate Professor
Neurosciences Center
Medical College of Wisconsin, Milwaukee

Dr. Malgorzata Franczak is an Associate Professor in the Department of Neurology at the Medical College of Wisconsin in Milwaukee, WI. She is Director of the Community Engagement Program, in which she helps build relationships between the Neurology Department and community partners. Her presentation at the Milwaukee Dialogue was focused on diagnosis and treatment of dementia, and patients' experiences with the health care system.

Current Issues in the Diagnosis of Dementia

In 2011, The National Institute on Aging and The Alzheimer's Association proposed new criteria and guidelines for the diagnosis of Alzheimer's disease. It is now possible to find changes in patients' brains up to 10 to 20 years before symptoms occur. Biomarker tests are used to locate plaques and tangles in the brain. Biomarkers can show current levels of beta-amyloid accumulation in the brain and brain neurons that are injured or destroyed.

Dementia can be broken into three stages based on changes in the brain and/or symptomology:

- **Preclinical Alzheimer's Disease:** The patient has no symptoms but has changes in the brain and/or blood.
- **Mild Cognitive Impairment (MCI):** The patient has memory complaints/impairment corroborated by caregivers but has preserved the activities of daily living.
- **Dementia due to Alzheimer's Disease:** The patient has a decline in cognitive ability which interferes with daily life.

The conversion rate of mild cognitive impairment to Alzheimer's disease is approximately 12-15 percent over 48 months with 80 percent of patients converting to Alzheimer's disease within six years.

Management of Alzheimer's Disease

There is a strong need to move beyond sole use of pharmaceutical treatments for Alzheimer's disease. A balance between behavior and medical management, along with psychosocial management, is needed. Strong community partnerships should be built to support patients, especially in the MCI stage. Daycares or MCI Cafes with personal curriculums which include cognitive and physical stimulation are crucial in maintaining quality of life.

* Panelist presentation slides available at: <http://www.wwhf.org/annual-dialogues/>

Panelist Presentations *



Gina Green-Harris, MBA

*Director of Milwaukee Outreach Program & Services
Alzheimer's Institute, Madison, WI*

Gina Green-Harris leads the outreach and research program, which is designed to provide resources and recruit minorities into research that is culturally specific to African-Americans. Her Dialogue presentation focused on the need for better diagnosis and treatment of dementia in the African-American community.

What are the Types of Dementia?

Alzheimer's disease is the most common form of dementia. It is characterized by slow onset and a progressive decline in memory loss, language, executive function and possible personality changes. Alzheimer's disease is the most prevalent type of dementia.

Dementia with Lewy bodies has several symptoms including memory loss, movement symptoms, hallucinations, REM sleep disorder and disruptions to the autonomic nervous system.

Vascular dementia symptoms include impaired judgment or the ability to plan steps needed to complete a task. The brain may have microscopic bleeding and blood vessel blockage.

African Americans and Dementia

Alzheimer's disease is more prevalent in African Americans, with estimates varying from 14-100 percent more cases than Caucasian-Americans.¹ Genetic and environmental factors may have differential effects in the minority group, introducing greater familial risk of Alzheimer's disease.¹ Moreover, African-Americans tend to have higher rates of hypertension, stroke, type 2 diabetes and high cholesterol, each of which are risk factors in developing dementia.

Barriers to Dementia Identification in African-Americans

Numerous factors prevent African-Americans from getting a diagnosis in dementia. Some variables include:

- Lack of access to knowledgeable health care providers
- Response of providers to patient/family concerns or complaints
- Perceived stigma and social consequences of diagnosis
- Lack of family support
- Belief that there are no effective treatments

African-Americans are under-represented in clinical trials of Alzheimer's disease and dementia. In order to better understand and treat dementia in African-Americans, efforts must be made for better representation in genetic testing and research.

* Panelist presentation slides available at: <http://www.wwhf.org/annual-dialogues/>

¹ http://www.alz.org/national/documents/report_africanamericanssilenteidemic.pdf

Panelist Presentations*



Kari Paterson

*Executive Director
Alzheimer's Association
South Central WI Chapter,
Madison*

Kari Paterson leads and coordinates caregiver support groups, trains new group facilitators/volunteers, and oversees public awareness events related to Alzheimer's disease and dementia.



Krista Scheel

*Program Director
Alzheimer's Association
Southeastern WI Chapter,
Milwaukee*

Krista Scheel oversees the many programs of the Association for persons with dementia, families and health care professionals.

Kari Paterson presented at the Madison Dialogue and Krista Scheel at the Milwaukee Dialogue. Both presented on the impact of heart health on brain health and ways to help delay dementia.

Prevention of Dementia: *Healthy Heart = Healthy Brain*

There is no cure for dementia, however the onset of symptoms can be delayed through purposeful actions including:

- **Watching your numbers:** Blood pressure, cholesterol and blood sugar should be monitored through regular healthcare visits and treated as needed.
- **Taking care of your heart:** Heart attacks and strokes are high risk factors in development of dementia.
- **Getting some exercise:** 20-30 minutes/day of exercise reduces chances of dementia.
- **Eating healthy:** Research has shown that anti-oxidant rich foods, such as berries, nuts, and dark green leafy vegetables, are beneficial for dementia and Alzheimer's disease. Diets with Vitamin E and C, low in saturated and trans-fats are also advantageous. The Mediterranean Diet is a good example of a heart-healthy and brain-healthy diet.
- **Quitting smoking:** Smoking has detrimental effects on the heart, lungs and brain.
- **Staying mentally active and socially connected:** Staying mentally stimulated has been shown to be a protective factor against dementia and Alzheimer's disease. Social connections can foster brain stimulation.
- **Advocating for and participating in research:** Education on dementia facts and treatments will foster knowledge and collaboration. Contact your local government officials and ask them to support dementia research.

* Panelist presentation slides available at: <http://www.wwhf.org/annual-dialogues/>

Panelist Presentations*



Pat Wilson

Family Support Coordinator

Alzheimer's & Dementia Alliance of Wisconsin

As a Family Support Coordinator, Pat Wilson provides information, assistance, resource referrals, supportive counseling and group facilitation for people with Alzheimer's disease and other dementias. Her presentation at the Dialogue focused on young-onset dementia & issues in the workplace.

Young-Onset Dementia

Early-onset dementia affects people under age 65. In the United States, there are an estimated 640,000 people with young-onset dementia. While most affected by young-onset dementia are in the forties and fifties, some are affected as early as their thirties.

Special Issues with Young-Onset Dementia

Young-onset dementia is often misdiagnosed, due to the perception that dementia affects the elderly, not the young and healthy.

Those affected by young-onset dementia often still have children living at home or in college, or may be taking care of an aging parent themselves, putting the family in a stressful situation. Dementia can lead to a loss of intimacy and sharing, and romance between young couples may become strained. Emotional ups and downs can be more severe in younger adults, causing loss of friendships. Grief, fear, anger and anxiety can all affect the patient and family.

Young-onset dementia adults are often still in the workforce. Decreased wages or a lost job is common, yet they are still too young to be eligible for Medicare benefits.

Employee Retention

The American Disabilities Act provides specific information on worker's rights in the work place. Acknowledgment of an employee's diagnosis through a meeting in an informal, friendly environment can open up conversations between the employee and employer. Guidelines developed by Human Resources can put in place specific supports for the employee's weaknesses. These supports may include mentors, a change in work responsibilities/environment, or the use of assistive technology. Social Security Disability Insurance may be available for an employee that does leave the workforce.

* Panelist presentation slides available at: <http://www.wwhf.org/annual-dialogues/>

Dialogue Discussion

Following their prepared presentations, Dialogue panelists responded to questions from the moderator and the audience.

Discussion Topics/Major Themes

1. Risk factors for dementia diagnosis
2. Helping a loved one when seeking a diagnosis
3. Patient and caregiver support
4. Opportunities for research involvement

Risk Factors and Diagnosis

Age - The risk of being diagnosed with dementia is 1 out of 2 if you are over the age of 85.

Poor Heart Health – Lifestyle risk factors for cardiovascular disease, such as obesity, lack of exercise, smoking, and certain psychosocial factors, have been associated with an increased risk of cognitive decline and dementia.

Genetics –Children of mothers with dementia have double the risk of developing dementia themselves. However, the specific genetics of dementia at this time are unclear. Many factors influence the onset of dementia. Certain genes are thought to impact dementia development, but future research is required for comprehensive understanding.

Head Trauma - Severe head trauma is a risk factor for dementia.

Major Surgical Procedures - There is an increase in the risk for dementia after a major surgery. There is a high risk of cognitive changes following surgery, for example open-heart surgery, but causation is unknown at this time.

Current Diagnosis: The “gold standard” for diagnosing dementia is autopsy, where the degenerative brain changes can be observed. This is not at all helpful for patients or caregivers, so a number of cognitive screenings and tests have been developed to identify symptoms and rule out other problems. Other diseases can masquerade as dementia, especially depression. Vitamin deficiency and thyroid problems should be ruled out by the physician. Cognitive screenings should be a part of regular physical examinations for patients over 65. When there are red flags the physician can connect a patient to a diagnostic clinic.

Unconfirmed and/or Disproven Risk Factors:

- Exposure to heavy metals
- Drinking out of aluminum cans
- Aspartame
- Flu shots
- Silver dental fillings

Helping a loved one seeking diagnosis

Before seeing the doctor:

- If a loved one is not receptive to going for a formal assessment, a family care coordinator can often go to the home and start with an environmental assessment.
- Start with your primary care doctor. Insurance should always pay for this first visit. They can determine if you need to go to a neurologist, psychologist, or a memory clinic.
- Find a diagnostic clinic in your area. Wisconsin Memory Clinic list can be found at: <http://www.wai.wisc.edu/clinics/cliniclist.html>
- Make a list of symptoms and questions.
- If no other adults live with the patient, look beyond to find other trusted adults to go to the doctor with the patient. This could be a sibling, a trusted lawyer or someone in the faith community.

At the clinic:

- Dementia diagnosis uses a multidisciplinary approach and family members are welcomed to join the process. You can attend visits with your family members and help by calling to attention some of the concerns about memory loss.
- Bring notes about specific examples of potential symptoms of dementia to discuss with the clinician. For example, the Alzheimer's Association's "Know the 10 Signs" brochure provides a guide for recording concerns and starting the conversation.^{viii}
- Diagnosing dementia can include a number of steps and tests:
 - Medical history
 - Physical exam
 - Cognitive and neuropsychological tests
 - Neurological evaluation
 - Brain scans (CT, MRI, EEG)
 - Laboratory tests
 - Psychiatric Evaluation
- Medicare can help cover charges for patients age 65 and over. Patients under 65 years old usually need a preauthorization.

Back at home:

- Respect for a loved one suffering from dementia is important. Dementia often causes fear and distress.
- Maintain the patient's dignity whenever possible. For example, even if a loved one requires assistance getting dressed, it may be helpful to offer them limited choices so they still control what they are wearing.
- Following a diagnosis, it is critical to organize the individual's legal and financial affairs while they are still able to make and voice their decisions.

Patient and Caregiver Support

Most caregivers are overburdened, unpaid for their time, and don't have adequate access to needed resources and supports. However, we know that supporting families of individuals with dementia positively impacts everyone involved, including delayed entry to nursing home care.

Common Challenges:

- Attempting to take on caregiving alone is very difficult; the most effective caregiving is a group effort. Recruit friends and family to help care for loved ones with dementia.
- If a loved one becomes aggressive, we need to be trained as caregivers to realize that the loved one is reading our body expressions and tone of voice. Arrive with a smile on your face and leave your other work problems behind. When we find behavior issues with an Alzheimer's patient, it is often due to unintentional caregiver actions.
- Sleep issues are common, often with the loved one sleeping during the day and awake at night. Instead, we want individuals with dementia to be active in the community or at home. Consider places where the loved one could visit or volunteer regularly with assistance.
- Inadequate respite opportunities and caregiver burnout are common challenges.
- Communities need to be friendly places for people with dementia. For example, MCI cafes could be set up in more communities as they benefit both the patient and the caregiver.
- Financial abuse, physical abuse and neglect all happen to dementia patients. For every one case of abuse reported, five go unreported. It is important to report abuse to county authorities. Involving systems and professionals to help support the caregivers on these issues will make future abuse less likely to occur.

Resources:

Wisconsin Alzheimer's Family & Caregiver Support Program: <http://www.wisconsin caregiver.org/>

Alzheimer's & Dementia Alliance of Wisconsin: <http://www.alzwisc.org/>

Alzheimer's Association, Southeastern Wisconsin Chapter www.alz.org/sewi/

Alzheimer's Association, Greater Wisconsin Chapter - www.alz.org/gwwi/

Alzheimer's Support Center - www.alzheimerssupportcenter.org

Senior Resources - www.seniorresourcesonline.com

Family Caregiver Alliance <http://www.caregiver.org/caregiver/jsp/home.jsp>

Opportunities for Research Involvement

Panelists mentioned several specific studies currently underway in the Midwest and encouraged families to consider getting involved. To find out more about specific clinical trials you or your loved one might be eligible to participate in, go to www.clinicaltrials.gov, a registry of all government and privately funded clinical trials. Search by dementia and use the map feature to find current studies in Wisconsin. At the time of printing of this white paper, a dozen different studies were recruiting for participants.

Additional Resources

- WWHF-www.wwhf.org
- View full Dialogue presentations- <http://www.wwhf.org/annual-dialogues/>
- Alzheimer's Association- <http://www.alz.org/>
- Alzheimer's & Dementia Alliance of Wisconsin-<http://www.alzwisc.org/>
- CDC on Alzheimer's-<http://www.cdc.gov/features/alzheimers/>
- National Institute on Aging-<http://www.nia.nih.gov/>
- Wisconsin Alzheimer's Institute-<http://www.wai.wisc.edu/>
- Wisconsin Department of Health Services on Alzheimer's-
<http://www.dhs.wisconsin.gov/aging/genage/alzfcgsp.htm>

Sponsors

Thank you to all of the sponsors of the WWHF 7th Annual Dialogue:



The Burish Group of
UBS Financial Services



Interfaith Older Adult Programs

Coventry Village Retirement Community

Robert W. Baird & Co.

Agrace

Johnson Bank

Independence First

Wisconsin Alzheimer's Disease Research Center

Thank you to the sponsor of the 7th Annual WWHF Dialogue White Paper:



ⁱ The Shriver Report: A Woman's Nation Takes on Alzheimer's. 2010.

<http://www.alz.org/shriverreport/overview.html>

ⁱⁱ Hebert LE, Weuve J, Scherr PA, Evans DA. Alzheimer's disease in the United States (2010-2050) estimated using The 2010 Census. *Neurology*. 2013 May 7;80(19):1778-83.

ⁱⁱⁱ Hebert LE, Beckett LA, Scherr PA, Evans DA. Annual incidence of Alzheimer's disease in the United States projected to the years 2000 through 2050. *Alzheimer Dis Assoc Disord*. 2001;15(4):169-73.

^{iv} Alzheimer's Association: 2013 Facts & Figures Report. http://www.alz.org/downloads/facts_figures_2013.pdf

^v Hurd MD, Martorell P, Delavande A, Mullen KJ, Langa KM. Monetary Costs of Dementia in the United States. *N Engl J Med* 2013; 368:1326-133

^{vi} Feinberg L, Reinhard SC, Houser A, Choula R. Valuing the invaluable: 2011 update. The growing contributions and costs of family caregiving. Washington, D.C.: AARP Public Policy Institute; 2011.

^{vii} Caregiving Across the United States. Caregivers of Persons with Alzheimer's Disease or Dementia in Illinois, Louisiana, Ohio, and the District of Columbia. Data from the 2009 Behavioral Risk Factor Surveillance System. http://www.alz.org/documents_custom/public-health/brfss_caregiver_report_2010.pdf

^{viii} http://www.alz.org/national/documents/checklist_10signs.pdf