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Promoting Cognitive Health:

Some Good News and a Brief Summary of the Institute of Medicine Report *Cognitive Aging: Progress in Understanding and Opportunities for Action*

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Summer has arrived and what better time to pay attention to our health. We often do not think about the brain health of older adults when addressing other aging organs and encouraging healthy eating and exercise, but we should! Maintaining one's cognitive abilities is integral to quality of life and independence.

Great progress has been made over the past two decades regarding our understanding of maintaining a healthy brain and cognitive aging in the absence of disease, which we can share with our patients in a positive manner. It was not long ago that courses in normal aging preached that there was no mechanism to repair the brain and no way to grow new neurons or alter synaptic integrity. The accepted thinking was that a fixed number of neurons were established early in life and would remain over the lifetime and that neuron death was common. We now know that the number of neurons remains relatively stable as we age and the brain has the capacity for neuronal replacement (Terry, DeTeresa, & Hansen, 1987). We had very little understanding of the relationship between brain structure and function, and discussions regarding neurogenesis, neuroplasticity, and cognitive reserve were nonexistent in the literature. Currently, cognitive reserve is an important area in clinical and basic science research and several important studies in the past year have highlighted the benefits of exercise on the aging brain.

Understanding of the brain and cognitive aging remain important issues that concern patients, families, and community members. A 2014 AARP survey found that 93% of

respondents identified maintaining brain health as a top priority. However, a large gap exists in the fundamental understanding of the cognitive aging process and its distinction from Alzheimer's disease and related dementias. Thus, in 2014, the Institute of Medicine (IOM) convened a 16-member interdisciplinary committee that had the mission of making recommendations on the public health aspects of cognitive aging and defining actions required to better maintain the cognitive health of older adults. The committee was tasked with defining cognitive aging; reviewing the epidemiology of cognitive aging; and making recommendations for prevention and intervention opportunities, the education of health care professionals, and the enhancement of public awareness. I had the privilege of serving on this committee, and in this editorial, I will touch on a few highlights that can be used to educate older adults and community members about brain health. I also challenge you to think about how we can use clinic, home, and wellness visits to take actions to reduce the risks of cognitive decline. The full IOM (2015) report and a quiz to find out how much you know about cognitive aging can be accessed at <http://nationalacademies.org/hmd/reports/2015/cognitive-aging.aspx>

The committee found cognitive aging to be too highly complex to succinctly define, but they provided a conceptual definition of cognitive aging as:

A process of gradual, ongoing, yet highly variable changes in cognitive functions that occur as people get older. Cognitive aging is a lifelong process. It is not a disease or a quantifiable level of function. However, for the purposes of this report the focus is primarily on later life. In the context of aging, cognitive health is exemplified by an individual who maintains his or her optimal cognitive function with age.

(IOM, 2015, p. 20)

The good news is the report found that although aging is inevitable, it is possible to help older adults (and individuals throughout the lifespan) promote and support cognitive health and adapt to age-related changes in cognitive function. In addition to characterizing cognitive aging, the report made some important distinctions that it is different than Alzheimer's disease and other dementias. Cognitive aging is highly variable (similar to the aging of other organs), and although some areas experience decline, such as memory and processing speed, improvements are noted in areas such as wisdom, knowledge, and resilience (Table 1).

The committee also made recommendations about what older adults could do to enhance cognitive aging and provided resources for health care professionals (Table 2). Specifically, the committee recommends that individuals: (a) be physically active, (b) reduce and manage cardiovascular disease risk factors (including hypertension, diabetes, and smoking), and (c) regularly discuss and review health conditions and medications that might influence cognitive health with a health care professional. Other recommendations include being socially and intellectually active and learning new things, getting adequate sleep and treating sleep disorders, and avoiding delirium (IOM, 2015). Overall, the report made 10 recommendations on cognitive aging, covering issues such as population impact, research, and public education for prevention. The report also discusses other important and

controversial areas, such as driving safety, financial decision making, and nutraceutical and brain games. However, until there is more evidence, health care professionals should caution older adults about the use of brain games and nutraceuticals (IOM, 2015).

So as summer unwinds, I challenge us to think about how we can use these resources in our routine and preventive care of older adults. How will we implement best practices for physical activity, delirium prevention, and reduction of inappropriate medications (especially anticholinergic medications and potent over-the-counter [OTC] anticholinergic drugs, such as di-phenhydramine) that patients may not realize impact cognitive health? How will we help older adults increase their social interactions and opportunities to learn new things? I challenge you to ask patients about OTC medications that may impact their cognition, consider using a cognitive screen in your practice, and consistently implement strategies to prevent delirium when patients are high risk or hospitalized (Inouye et al., 2014). These topics are also key areas where more research is needed—especially in how to implement interventions into practice and the most effective ways to sustain practices such as exercise and a healthy diet.

References

- AARP. Brain health important to 93% of Americans, but few know the 5 ways to help maintain or improve it. 2014. Retrieved from <http://www.aarp.org/about-aarp/press-center/info-01-2015/staying-sharp-brain-health-survey.html>
- Inouye SK, Westendorp RG, Saczynski JS. Delirium in elderly people. *Lancet*. 2014; 383:911–922. DOI: 10.1016/S0140-6736(13)60688-1 [PubMed: 23992774]
- Institute of Medicine. Cognitive aging: Progress in understanding and opportunities for action. Washington, DC: The National Academies Press; 2015.
- Terry RD, DeTeresa R, Hansen LA. Neocortical cell counts in normal human adult aging. *Annals of Neurology*. 1987; 21:530–539. [PubMed: 3606042]

TABLE 1

KEY MESSAGES FOR PATIENTS ABOUT COGNITIVE AGING

The brain ages, just like other parts of the body. The brain is responsible for “cognition,” a term that describes mental functions including memory, decision making, processing speed, and learning. As the brain ages, these functions may change—a process called “cognitive aging.”
Cognitive aging is not a disease. It is not the same as Alzheimer’s disease or other types of dementia. Cognitive aging is a natural, lifelong process that occurs in every individual.
Cognitive aging is different for every individual. Some individuals may experience few effects, whereas others may undergo changes that can affect cognitive abilities needed to perform daily tasks, such as paying bills, driving, and following recipes.
Some cognitive functions improve with age. Wisdom and knowledge often increase with age, and older adults report greater levels of happiness and satisfaction than their younger counterparts.
There are steps patients can take to protect their cognitive health. Although aging is inevitable, it is possible to promote and support cognitive health and adapt to age-related changes in cognitive function.

Adapted from the Institute of Medicine (2015).

TABLE 2

RESOURCES FOR HEALTH CARE PROVIDERS

Practice guidelines for health care professionals relevant to cognitive aging	
American Psychological Association—	<i>Guidelines for the Evaluation of Dementia and Age-Related Cognitive Changes</i>
American Occupational Therapy Association—	<i>Cognition, Cognitive Rehabilitation, and Occupational Performance</i>
Royal Australian College of General Practitioners—	<i>Preventive Activities in Older Age</i>
American Association of Colleges of Nursing—	<i>Older Adult Care Competencies</i>
American Geriatrics Society—	<i>Clinical Practice Guideline for Postoperative Delirium in Older Adults</i>
American College of Surgeons—	<i>Best Practices Statement for Prevention and Treatment of Postoperative Delirium</i>
Cognitive assessment procedures and tools for use by health care providers	
Alzheimer's Association—	<i>Recommendations for Operationalizing the Detection of Cognitive Impairment During the Medicare Annual Wellness Visit in a Primary Care Setting</i>
Alzheimer's Association—	<i>Health Care Professionals' Cognitive Assessment Toolkit</i>
American Occupational Therapy Association—	<i>Occupational Therapy's Role in Adult Cognitive Disorders</i>
American Psychological Association—	<i>Part III. Procedural Guidelines: Conducting Evaluations of Dementia and Age-Related Cognitive Change</i>
American Psychiatric Association—	<i>Diagnostic and Statistical Manual of Mental Disorders</i> (5th ed.).
Hospital Elder Life Program	
National Institute on Aging—	<i>Assessing Cognitive Impairment in Older Adults: A Quick Guide for Primary Care Physicians</i>
Patient counseling and education about cognitive aging and related concerns	
National Institute on Aging—	<i>Talking with Your Older Patient: A Clinician's Handbook</i>
Alzheimer's Association—	<i>10 Early Signs and Symptoms of Alzheimer's</i>
American Psychological Association—	<i>Older Adults' Health and Age-Related Changes: Reality Versus Myth</i>
Alzheimer's Association—	<i>Brain Health</i>

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