

McKnight Brain Research Foundation Working Scientific & Consumer Terminology Guide - Draft Updated 12.11.23 -

OVERVIEW: The purpose of this document is to gain consensus on the definition of terms related to cognitive health and aging that will be used for MBRF communications purposes. The document is broken up into two parts; 1.) the terminology guide which includes scientific and consumer-facing definitions for select terms that are commonly used when discussing brain or cognitive health and; 2) a descriptive verbs chart, which includes verbs that are approved for use in messaging or should be avoided in the context of describing brain or cognitive health. This is a working draft for the MBRF Trustees to review and provide feedback. Once finalized, this document will support the development of campaign key messages, materials and talking points. This is meant to be a living document that will be reviewed regularly and updated and added to as needed.

Terminology Guide: The first chart below outlines key terms related to cognitive health and aging, including scientific definitions primarily from the CDC's Healthy Brain Initiative Road Map and other reputable medical organizations or approved language already in use by the MBRF. The chart also includes operational (consumer-focused) language and a description of how/when the terms will be used. Many of these terms can be used interchangeably and in combination with each other.

The initial terms defined include:

- Brain Health
- Cognition
- Cognitive Function
- Cognitive Health
- Healthy Aging
- Cognitive Aging
- Normal Brain Aging
- Age-related Cognitive Decline

- Age-related Memory Loss
- Cognitive Impairment
- Mild Cognitive Impairment (MCI)
- Neurodegenerative Diseases
- Risk Reduction
- Life Span
- Health Span
- Brain Span

Descriptive Verbs: The second chart includes a list of descriptive verbs that are approved for use in the context of Brain Health/Cognitive Aging as well as verbs to avoid using.

	Terminology Guide		
Term	Scientific Definition	Operational Definition	How it Will Used for Campaign Purposes
Brain Health	Brain health is a concept that involves making the most of the brain's function and helping to reduce some risks to cognition that occur with aging. (Source: <u>Healthy Brain Initiative Road Map</u>) Brain health is the state of brain functioning across cognitive, sensory, social-emotional, behavioral and motor domains, allowing a person to realize their full potential over the life course, irrespective of the presence or absence of disorders (Source:. <u>World Health</u> <u>Organization</u>)	Brain health refers to the ability to draw on the strengths of the brain to remember, learn, play, concentrate, understand and maintain a clear, active mind. (Source: <u>Healthy Brain Initiative</u> <u>Road Map</u>) Brain health is how well your brain functions across several areas, including cognitive health, motor function, emotional function and tactile function. (Source: <u>McKnight</u> & <u>NIH</u>)	The term brain health will be used when speaking broadly about the overall goal of keeping the brain healthy. It will also be used as a broader concept, helping position cognitive function as an important aspect of overall brain health.
Cognition	Cognition is the mental function involved in attention, thinking, understanding, learning, remembering, solving problems, and making decisions. Cognition is a fundamental aspect of an individual's ability to engage in activities, accomplish goals and successfully function independently in the world. (Source: <u>Healthy Brain</u> <u>Initiative Road Map</u>)	Cognition is the mental function involved in attention, thinking, understanding, learning, remembering, solving problems, and making decisions. (Source: <u>Healthy Brain Initiative Road</u> <u>Map</u>)	The term cognition will primarily be used when speaking to HCPs, researchers and the scientific community about mental function. If used when speaking to consumers, it should be used in conjunction with additional consumer-focused terms, like thinking, to make it easier to understand.
Cognitive Function	Cognitive function is a combination of mental processes that includes intuition, judgment, language, remembering, wisdom, and the ability to learn new things, (Source: <u>Healthy Brain Initiative Road Map</u>)		The term cognitive function will primarily be used when speaking to HCPs, researchers and the scientific community about mental function. If used when speaking to consumers it should be used in conjunction with additional terms.

Cognitive Health	Cognitive health is present when cognitive functioning is working well and making the most of the brain's ability to remember, learn, play, concentrate and maintain a clear, active mind. (Source: <u>Healthy Brain Initiative Road Map</u>)	Cognitive health is the ability to clearly think, learn and remember. Cognitive health is one aspect of overall brain health and an important factor in being able to perform everyday activities. (Source: McKnight Brochure)	The term cognitive health will primarily be used when speaking to HCPs, researchers, and the scientific community about a healthy brain. If used when speaking to consumers, it should be used in conjunction with terms like brain health to make it easier to understand.
Healthy Aging	Healthy aging is the process by which older adults retain their health and independence, while minimizing the effects of disease and injury. For older adults with chronic diseases, this includes helping them effectively manage their diseases and avoid complications. (Source: <u>Healthy Brain</u> <u>Initiative Road Map</u>)	Healthy aging is a continuous process of maintaining and working to improve physical and mental health, independence, and quality of life throughout the life course. (Adapted from the <u>Department of Health and</u> <u>Human Services</u> /Pan American Health Organization)	The term healthy aging can be used in context with cognitive aging and brain aging to explain the benefits of maintaining cognitive health with age, including living independently and actively.
Cognitive Aging	Cognitive aging is the 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. (Source: <u>Nationalacademies.org</u>)	Cognitive aging refers to changes in the ability to think, learn and remember that occur as individuals age. Cognitive aging is a natural process that can have both positive and negative effects, which may vary widely from person to person. Cognitive aging is not a disease. The brain changes associated with aging are part of a natural process that starts at birth and continues throughout the lifespan. (Source: <u>McKnight</u>)	The term cognitive aging will primarily be used when speaking to HCPs, researchers and the scientific community about normal brain aging. If used when speaking to consumers it should be used in conjunction with more consumer- friendly terms like brain health.
Normal Brain Aging	Normal brain aging includes subtle changes that may impact thinking, problem-solving, processing speed and memory skills. These changes are typical with aging and not the signs of pathological variants such as Alzheimer's	Normal brain aging is the way your brain changes with age. It's part of a natural process that starts at birth and continues throughout the lifespan. (Source: <u>McKnight</u>)	The term normal brain aging can be used throughout communication and education efforts to describe what is normal or not normal for the brain as you age. The term may also be used in combination with more technical terms to provide context.

	disease and other forms of dementia. (Source: <u>NIH article</u>)		
Age-related Cognitive Decline	 Some changes in the ability to think are considered a normal part of the aging process. Normal age-related cognitive decline is subtle and most commonly includes overall slowness in thinking and difficulty sustaining attention, multitasking, holding information in mind and word-finding. (Source: University of California San Francisco) More severe declines in cognition, including frequently forgetting how to perform routine tasks, for example, is not a normal part of aging and can affect a person's ability to live and function independently. This is a form of cognitive impairment and may be related to other neurogenerative diseases and/or other related dementias. (Source: CDC) 		Age-related cognitive decline can be used to distinguish between the decline in cognition that is expected with age vs signs of a serious memory problem. All consumers experiencing signs of cognitive decline will be encouraged to talk with their healthcare professional as a first step to understanding and addressing the problem.
Age-related Memory Loss	Age-related memory loss is usually associated with mild forgetfulness, which is a part of normal part of brain aging and not a sign of a serious memory problem. (Source: McKnight) Mild forgetfulness can be a normal part of aging. As people get older, changes occur in all parts of the body, including the brain. As a result, some people may notice that it takes longer to learn new things, they don't remember information as well as they did, or they lose things like their glasses. (Source: NIA).		Age-related memory loss can be used to distinguish between mild forgetfulness that is expected with aging vs signs of a serious memory problem. All consumers experiencing memory loss will be encouraged to talk with their healthcare professional as a first step to understanding and addressing the problem.
Cognitive Impairment	Cognitive impairment is trouble remembering, learning new things, concentrating, or making decisions that affect everyday life. (Source: <u>Healthy Brain Initiative Road</u> <u>Map</u>) When cognition is impaired, it can have a profound impact on an individual's overall health and well-being. Some people with cognitive impairment may be unable to care for themselves or perform activities of daily living, such as meal preparation, managing medical appointments, or managing their personal finances. (Source: <u>CDC</u>)		Cognitive impairment can be used in the context of explaining the varying degrees of mental function including age-related cognitive decline vs. more serious decline that could be a precursor to disease.
Mild Cognitive Impairment (MCI)	Mild cognitive impairment (MCI) is a medical condition typified by an early stage of memory loss or other type of cognitive ability loss (such as language or visual/spatial perception) in	Mild cognitive impairment (MCI) is the stage between the expected decline in memory and thinking that happens with age and the more serious decline of	Mild cognitive impairment (MCI) can be used in the context of explaining the difference between age-related cognitive decline and more serious decline that could be a precursor to disease.

	 individuals who maintain the ability to independently perform most activities of daily living. MCI is a part of the continuum of cognitive decline; it can be caused by brain diseases but also can be due to hormonal or nutritional imbalances, or other organ system diseases. (Source: <u>Healthy Brain Initiative Road Map</u>) 	dementia or Alzheimer's. (Source: <u>Mayo</u> <u>Clinic</u>)	
Neurodegenerative diseases	Neurodegenerative diseases occur when nerve cells in the brain or peripheral nervous system lose function over time and ultimately die. Examples include Alzheimer's disease, Parkinson's disease and Lewy body disease. (Source: <u>NIH</u>).	Neurodegenerative diseases are conditions that gradually damage and destroy parts of your <u>nervous system</u> , especially areas of your <u>brain</u> . Common examples include Alzheimer's disease, Parkinson's disease and Lewy body disease. (Source: <u>Cleveland Clinic</u>)	Neurodegenerative diseases can be used in the context of explaining the difference between what is normal as the brain ages vs. the signs of a more serious disease.
Risk Reduction (and Primary Prevention)	Risk reduction — or primary prevention — strives to intervene before health effects occur through measures such as altering health risk behaviors (e.g., poor eating habits, tobacco use) and banning substances known to be associated with a disease or health condition (e.g., asbestos, lead and mercury). Modifiable risk factors are the lifestyle choices and behaviors that can reduce or increase a person's chances of developing a disease. (Source: Healthy Brain Initiative Road Map)By educating people about modifiable risk factors, encouraging early assessment and intervention, and understanding its impact on adults and their families, the health and well-being of many older adults may be improved. (Source: CDC)		The term risk reduction (and primary prevention) will primarily be used when speaking to HCPs, researchers, public health professionals, and the scientific community about cognitive health.
Life Span	The duration of existence of an individual (Source: Merriam Webster)	How long an individual lives	Life span can be used in context with brain span and/or health span.
Health Span	The length of time a person is healthy (Source: <u>Merriam Webster</u>)	How long an individual stays healthy throughout their lifespan.	Health span to be used in context with brain span and/or life span to showcase the importance of health longevity during someone's life.

Brain Span	Unlike lifespan which refers to the	Maximizing the quality of brain function	Brain span can be used when describing
	number of years a person lives, brain	throughout a person's life. (Adapted	the importance of maintaining optimal
	span focuses on the quality of brain	from <u>Psychology Today</u>)	brain function across the life span.
	function throughout a person's life.		
	(Adapted from <u>Psychology Today</u>)		

Descriptive Verbs: to be used in the context of Brain Health/Cognitive Health		
Approved	Avoid	
 Preserve Protect Maintain Optimize Enhance Alleviate Slow Risk reduction/reduce risk Mitigate May/can improve Ameliorate 	 Prevent Save Reverse Fortify 	