

## Pre-Clinical Phase of Dementia: Questions and Answers

### **Description of the Pre-Clinical Phase:**

If you were to take a life course, epidemiological (population health) perspective of dementia, you would look “upstream” at the potential causes of dementia care: the pre-clinical phase. The pre-clinical phase of dementia is closely linked to the concept of brain health, which begins in-utero, and continues from birth to evolve throughout the entire life course. The preclinical phase ends when there is clinical evidence of pathological changes in the brain resulting in cognitive losses from an early dementia.

### **Why is it important to focus on dementia before it even develops?**

In the absence of evidence of dementia disease, the health focus for this phase is on brain health promotion and primary disease prevention. This focus identifies dementia risk factors from the biological, social and environmental factors which influence the development, maturation and functioning of the brain. Some risk factors are not modifiable, such as age, sex or genetic inheritance, but many risk factors result from modifiable lifestyle behaviours. The cumulative or additive effect of brain risks over the course of a lifetime may result in the development of cognitive loss or a dementia.

Understanding these life-course risk factors permits population level strategies to address the primary prevention strategies that reduce risk of dementia. Even if these “brain health” strategies target individuals with existing pathological changes that are not yet clinically evident, a secondary prevention approach may then permit the delay or slowing of dementia expression. When we can prevent or delay the development of a chronic disease such as dementia, we are lessening the burden of disease on clients, caregivers and the health care system as a whole.

### **I thought dementia developed late in life – why are you looking at the whole life course?**

Dementia is a slow and progressive disease and dependent on type (Alzheimer, vascular, mixed, etc) and onset (early or before age 65 vs. late, or after age 65) it can be expressed anytime from mid-life onwards into later age. However, there has been a surge of research interest in looking at how early life factors impact the adult risk for chronic disease. The brain, as in other vital organs affected by chronic diseases, accumulates wear and tear and develops changes over many years, long before dementia is clinically identifiable.

A life course approach is a holistic way of looking at which factors may protect or increase risk throughout an individual’s life time. For example, the quality of nutrition in utero, the presence or lack of stimulating environments in the early years of life, how well the brain is protected from trauma and injury, and lifestyle behaviours such as exercise, smoking and alcohol, all contribute towards determining brain health and relative risk for developing cognitive loss or dementia in later life.