

## The Brain and Aging

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*Understanding the Brain – What Lawyers Need to Know*

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## **THE BRAIN AND AGING**

### **INTRODUCTION**

Canada's population is aging, and issues of concern to older adults will have growing implications for medical and legal practice. The majority of Canadians over 65 can expect a usual pattern of aging for many years. However, sooner or later, each will confront their own pattern of cognitive or functional decline in the last years of life. When will that pattern be first recognized and acknowledged? Who will be available to assist? What resources will be made available in this final journey? What will define success? To prime this discussion, this paper will introduce concepts of interest to lawyers including (1) a description of the demographics of aging in Canada, (2) an exploration of the spectrum of cognitive changes in older adults from normal aging through to advanced dementia, (3) the introduction of how multi-morbidity, polypharmacy and frailty interact with cognition, and (4) possible implications for legal practice.

### **DEMOGRAPHICS OF AGING IN CANADA**

Despite a tendency to characterize population aging as a recent crisis, an accelerated growth in the proportion of older adults in Canada has been experienced for decades. In 2016 for the first time in our nation's history, the number in Canada over the age of 65 began to exceed the number under age 15. By comparison, there were five under 15 for every one over 64 in 1956. Of greater interest is the exponential growth rate of Canadians over the age of 80, expected to triple by 2045. This then becomes a backdrop for a number of issues that arise at this stage of life. First, barring the discovery of a fountain of youth, the number of old age deaths in Canada will substantially increase. Second, there will be an imperative to respond to the impact of cognitive and functional changes in older adults before death. This might include the need for advanced directives and proxy-decision making, the need for expanding dementia care, and the opportunity to develop supported communities to provide appropriate social care, all within sustainable fiscal parameters. Next, advocacy for individuals who require help to cope with specific diseases such as cancer, organ failure (heart, lung, liver, kidney), and degenerative conditions will be required. Finally, a comparable response will be needed to respond to a group that is larger than any of these: older adults living with frailty.

### **NORMAL AND USUAL AGING**

Normal aging is defined as universal and physiological changes that occur predictably with age, and that are not necessarily harmful. Within this, when extrinsic factors have a negative impact, we would call this "usual aging"; when extrinsic factors play a neutral or positive role, we might talk about "successful aging". In this way, we can say that it is "normal" for individuals to experience loss of