

EDGEWISE

Dementia is the deterioration of mental function caused by the loss of cells in the brain and the breakdown of important nerve connections. Alzheimer's disease is the most common form of dementia.

Up to 15 per cent of Canadians aged 65 years and older are living with some form of dementia. The number of Canadians with dementia is expected to double by 2031.

Symptoms of dementia worsen over time and include memory loss, changes in judgment and reasoning, difficulty performing familiar tasks, and changes in mood and communication abilities.

In 2011, family caregivers spent 444 million unpaid hours a year looking after someone with cognitive impairments, including dementia. This figure represents \$11 billion in lost income and 227,760 full-time equivalent employees in the workforce.

The causes of dementia are not precisely known. Possible risk factors include physical inactivity, unhealthy diet, environmental influences, genetic factors, gender (women are at higher risk) and severe brain injury. For more information visit the Alzheimer Society of Canada at www.alzheimer.ca

UVic's Centre on Aging draws on the expertise and experiences of researchers across campus, governments, health organizations and practitioners to understand the social, psychological, environmental and cultural factors that affect us as we age, and apply that new knowledge to health care policy and practice. Info: uvic.ca/research/centres/aging

Meet Scott Hofer at
<http://bit.ly/uvic-hofer>



GROW OLD

ALONG WITH ME...

Hofer. UVIC PHOTO SERVICES

Detecting the earliest signs of dementia is the first step in finding ways to slow it down

by Kim Westad

We spend plenty of time and money on gadgets and apps that track our steps, heart rate or how many calories we've burned in a day.

But what about our cognitive health and well-being?

How we think, reason, remember and process information varies from person to person. And importantly, it varies within ourselves, perhaps more and more so, as we age. Over time, these changes can signal neurocognitive problems such as dementia.

Yet, tracking individual cognitive changes in a person in real time, which we do with fitness gadgets for our physical health, is a relatively untested world.

Researchers and students at the University of Victoria's Centre on Aging are working to change that. They're teaming with community groups and institutions—including a key partner, Island Health—in groundbreaking research that could lead to earlier detection of dementia-related changes.

"We should be able to detect individual 'change-points' a number of years prior to when a person shows enough change that they become clinically identifiable as having dementia,"

says Scott Hofer, director of the centre.

Hofer is a psychologist who studies long-term changes in cognition and health that are related to dementia and other age-related conditions.

He's been involved in coordinating the analysis of over 100 longitudinal studies from all over the world. These studies follow people, often for decades, measuring health behaviours, physical and cognitive functioning, social interactions and nutrition to find out why people change with age and why some age differently than others.

Longitudinal studies offer powerful windows into how and why we change as we age. But the measurements are often spaced years apart and rarely permit analysis of individual change-points.

Our personal levels of health, functioning and well-being fluctuate—often day to day and sometimes even hour to hour. To measure those minute changes, Hofer is taking the research to a far more precise level.

He and his students are working with local physicians and Island Health researchers on what are called "patient-reported outcome measures." These take into account things like pain, fatigue and mobility limitations, but also include factors that influence a person's

day-to-day functioning, such as stress, physical activity and sleep quality. All are measured far more frequently than in longitudinal studies.

The patient would self-report the outcomes using a secure web-based portal or mobile app. In the future, this information could then be integrated into Island Health's electronic health records system that allows a person's health record to be viewed by approved health professionals—as well as the patient—to improve care.

"It's through such long-term, personalized measurements that individual changes can be detected much earlier than currently possible—and potentially be reversed or stabilized through precision health care," says Hofer.

There is no cure or ideal treatment for dementia and related neurocognitive disorders, yet. But earlier detection is a huge step forward and will lead to a better understanding of how the disease progresses, says Hofer. Such knowledge could also help reduce risk and improve prevention.

Until then, there are simple steps we all can take: stay active, both physically and mentally, and remain socially engaged. Research shows that these all help our day-to-day quality of life and decrease the risk of dementia in the long-term.