"Big Data" solutions to meet the needs of the aging population

There are now more adults 65 years+ than kids 14 years and under. This big change in society's makeup requires social innovation reaching beyond today's health and social care policies and practices. If we used the enormous amount of data from all the systems that routinely collect information about us (aka "Big Data"), there would be tremendous insights and innovative solutions to the urgent social, economic and health issues for our aging population. Unfortunately, there is a big shortage in the number of people who can analyze "Big Data" and communicate the results meaningfully to solve those problems.

As part of its social enterprise mission, SE Health has joined an international group of academics and private and public sector organizations to do something about the shortage of evidence-based decision making in population aging. The Consortium on Analytics for Data-Driven Decision-Making – more easily known as "CAnD3" – has developed a training and internship program to develop skills and expose graduate-level trainees to real-life experience in Big Data analysis and communication of the results.

Background

SE Health is at the forefront of innovative models of care, making those models available to more and more Canadians. The goal is to improve clients' care experiences, safety and outcomes across the continuum of health care with strong links to providers of services addressing clients' social determinants of health.

Like many health care organizations, SE Health collects and has access to enormous amounts of data, but so far, is not using the available data to its full advantage. Leading-edge population health analytics will be fundamental to how we research, plan, prepare, test, scale up and communicate new models and practices. But like other organizations in Canada and around the world, SE Health has encountered the skills shortage in Big Data analytics.

What are we doing?

SE Health is a founding member of CAnD3, which is funded by a $2.5-million Partnership Grant from the Social Sciences and Humanities Research Council (SSHRC) and $4.1-million from partner organizations in Canada, the US, the UK and Germany. CAnD3's Program Leader is Dr. Amélie Quesnel-Vallée, Canada Research Chair in Policies and Health Inequalities at McGill University. The SE Research Centre's Director, Dr. Paul Holyoke, serves as a member of the Executive Committee of the Consortium and chairs the Intersectoral Committee, which is focused on bringing the voice of organizations outside universities to the Consortium.

The training program, described below, has started for the first group of trainees, and SE Health will host an intern in early 2021 to apply their skills to visualization of Big Data analytics for better, targeted care for older adults. These newly-available and newly-presented data will be for use by SE Health's provider staff as well as managers. With the "Big Data" available in useable formats, decision-makers at all levels will be able to take into account regional variations in health and social conditions and care. This will help ensure that the needs of individual older adult clients are addressed holistically, will help with quality improvement initiatives, and will help address the health and social needs of the population.

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Developing Talent in Population Analytics in Aging Societies

THE POLICY PROBLEM

How to face the health and social services needs of an increasing aging population.

As adults 65 years and over now outnumber children 14 years and under, more Canadians transition from work to retirement than from school to work. This momentous demographic change will require social innovation reaching far beyond health and social care policies for older adults.

A large potential for innovation remains untapped in the data to decision-making pipeline. Lack of training is a bottleneck: 65% of employers report a skill shortage in data analytics. But beyond data science skills, substantive knowledge and the capacity to communicate results meaningfully to a wide range of stakeholders are essential to support data-driven decision-making.

THE SOLUTION

The Consortium on Analytics for Data-Driven Decision-Making (CAnD3) will collaboratively develop, implement and deliver an innovative training program, Population Analytics in an Aging Society, to complement formal training in population research with skills to support evidence-informed decision-making.

KEY FEATURES

International, and anchored in interdisciplinary and intersectoral exchange

Leading-edge suite of data science, policy and knowledge mobilization skills

Nimble program structure responsive to partner needs

THE PROGRAM IN NUMBERS

32 partners including Canadian and international universities, government, private & not-for-profit sectors

12-month program

130 hours of online training

20 hours of cross-sectoral mentoring

20 hours of peer-to-peer collaboration

A minimum of 160 hours of experiential learning

$2.5M from SSHRC, with $4.1M in matched funding from partners

THE GOALS

- Increasing employability both in and out of academia
- 150 core CAnD3 awardees trained over six years
- 360 participants from our partner organizations (both academic and non-academic)
- Prepare the next generation and upskill current population researchers to work in academia, government, policy think tanks, not-for-profit organizations, and private sector companies
- Contribute to decision-making informed by the highest quality empirical evidence