Improving long-term **care**

Dr Carole Estabrooks is passionate about applied research. Here, she discusses the importance of knowledge translation to improve care for the elderly

Could you begin by discussing your current appointments?

I have been at the University of Alberta since 1997 and am currently a professor in the

Faculty of Nursing, as well as a Canadian Institutes of Health Research (CIHR)-supported Tier 1 Canada Research Chair in Knowledge Translation (KT). I am also cross-appointed in the School of Public Health, University of Alberta.

Your research is focused on the basic and applied aspects of inquiry in the fields of KT and research utilisation. Can you outline your principal objectives?

Our main aims are to: advance KT science about the effects of context, facilitation, and their interaction on the use of knowledge, with a particular focus on residential long-term care (LTC) settings; develop unique KT innovations aimed at improving quality of care, quality of life and end of life for frail, older adults in LTC settings, and quality of work life for their care providers; develop researcher and decision-maker capacity in applied health services research in ageing, with a focus on KT, quality improvement and safety; work with decision makers to develop strategies to sustain, spread and scale up effective KT and quality improvement interventions.

INTEGRATED KNOWLEDGE TRANSLATION

In integrated KT, also known as collaborative research, stakeholders or potential research knowledge users are engaged in the entire research process. They work together to shape the research process by collaborating to determine the research questions, deciding on the methodology, being involved in data collection and tools development, interpreting the findings, and helping to disseminate the research results.

See: http://www.cihr-irsc.gc.ca/e/39033.html#two-types-2

How can the impact of KT on patients and providers be evaluated?

We evaluate the impact of KT on patient outcomes either by directly measuring changes in outcomes (eg. in a clinical trial) or by measuring the trends in routinely collected administrative data (eg. registries, discharge summaries) before and after a KT intervention. The latter, despite its challenges, can be more efficient and enable a much broader look at how outcomes change in different settings and populations. However, the availability of such data is highly variable both across and within countries.

In terms of providers, we use behavioural assessment – sometimes observational but more often through surveys, semi-structured and open-ended interviewing and/or focus groups.

You lead the Translating Research in Elder Care (TREC) project, which focuses on quality of care in residential LTC and the rising incidences of dementia in the

elderly. Could you introduce the project and discuss your findings?

In 2007, we embarked on a five-year applied health services research programme (TREC 1.0) funded by the CIHR. TREC seeks to discover modifiable aspects of organisational context in residential LTC facilities (nursing homes) that could increase use of best practices and improve quality and safety.

We accomplished a number of scientific objectives – for example, we undertook a major adaptation and validation of the Alberta Context Tool (ACT) for LTC. The ACT measures the organisational context of facilities and the LTC adaptation is a core product of our research programme. It has been translated into six languages and is currently in use in 10 countries.

We were able to leverage TREC 1.0 to secure resources for two additional major initiatives: the Partnership for Health System Improvement project Older Persons' Transitions in Care (OPTIC) and the Health Canada funded Safer Care For Older Persons (in residential) Environments (SCOPE) pilot project. Importantly, over five years we demonstrated the impact of workplace context on the use of best practices, staff health and wellbeing, quality of care and resident outcomes to regional executives, local management and LTC facility staff.

What is your role in mentoring graduate students?

Mentoring is a core activity in my programme, be it for trainees or newer investigators. If we do not build applied health services research interest and capacity in the next generation of researchers, we will not have the robust and much needed research to help manage our collective health systems. Nor will we have teachers for succeeding generations of health services researchers.

TREC 2.0 OBJECTIVES

TREC 2.0, the next phase of the project, will advance achievements to date via:

- Improving the use of evidence and decision-making in continuing care

- Improving the quality and safety of care for frail, older adults who require residential care

- Improving the quality of work life of the staff who care for them

- Contributing to improved system outcomes

- Fostering the scale-up and spread of quality improvement innovations

Giving a voice to the **elderly**

The rise of dementia is increasing the need for residential long-term care. The **University of Alberta** is conducting translational research to better understand the factors that affect standards of care, and, in turn, it hopes to improve quality of life for some of society's most vulnerable

DEMENTIA IS A major cause of disability and dependency among older people and has significant socioeconomic impacts. At present, 35 million people are affected worldwide, 50-90 per cent of whom will eventually die in a long-term care (LTC) facility. With 7.7 million new diagnoses of dementia each year, the demand for residential LTC is increasing.

This is particularly pressing in Canada. Around 43 per cent of Canadian seniors will at some point reside in an LTC facility, one in five of whom will remain there for over five years. An ageing population is placing a burden on LTC settings, which, in many cases, provide suboptimal care. In order to improve standards and quality of life for older Canadians, research must be properly translated into practice.

Dr Carole Estabrooks, Canada Research Chair in Knowledge Translation (KT) and Professor at the University of Alberta, is working to address these goals. She holds several research grants, most recently a Canadian Institutes of Health Research (CIHR)-funded programme entitled Translating Research in Elder Care (TREC).

Given the mounting urgency of the situation, TREC represents an important effort to improve outcomes for LTC residents, staff and systems. Specifically, TREC examines the role of organisational context (eg. leadership, culture and resources) in instituting evidence-based practice in the LTC sector. Using a fully integrated KT model, TREC aims to increase the use of research to improve quality of care and quality of life at the end of life for elderly people in an LTC facility, the quality of work life for their care providers and, ultimately, increase the efficiency of healthcare systems.

TREC 1.0

TREC 1.0, a five-year research programme (2007-12), was the second phase of a lengthier programme of applied health services research (2002-22) that aims to move evidence on best practice into use in an LTC facility. The programme was composed of three synergistic projects and a series of pilot studies, which were used to develop a monitoring system for the assessment of outcomes. At the time it was awarded, it represented the largest single grant in KT and ageing in Canada, involving more than 25 researchers and decision makers. The collaborative nature of its integrated KT model allowed TREC 1.0 to directly connect research with stakeholders at all levels in LTC: "Sustained system change will not result from scientific pursuits unless we have meaningful partnerships with people who can leverage system level change," Estabrooks elaborates.

Researchers studied data from 36 individual LTC centres, involving interviews with over 3,000 care aides and surveys of more than 500 regulated care providers, managers and administrators, in addition to quarterly resident assessments. To collect this data, the TREC team developed a longitudinal measurement system that links administrative and primary data. This novel resource is extremely valuable for the residential LTC sector, as it enables the bridging of organisational context and staff health outcomes to resident data. "It enables us to link the data not only at the facility level, but

INTELLIGENCE

CANADA RESEARCH CHAIR IN KNOWLEDGE TRANSLATION

OBJECTIVES

• To develop sustainable, practical solutions for improving quality of care, quality of life and quality of end of life for nursing home residents, enriching the work life of their caregivers, and enhancing system efficiencies and effectiveness

• To contribute to the provision of better healthcare by developing and translating strategies for implementing new research into practice

KEY COLLABORATORS

Dr James W Dearing, Michigan State • **Dr Peter G Norton**, University of Calgary • **Dr Greta Cummings**, University of Alberta • **Dr Malcolm Doupe**, University of Manitoba • **Dr Janice Keefe**, Mount Saint Vincent University • **Dr Adrian Wagg**, University of Alberta • **Dr Jennifer Baumbusch**; **Dr Colin Reid**, University of British Columbia • **Dr Janet Squires**, University of Ottawa • **Dr Whitney Berta**, University of Toronto • **Dr Liane Ginsburg**, York University

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completed her undergraduate work at the University of New Brunswick, her graduate work at the University of Alberta and her postdoctoral work at the Institute for Clinical Evaluative Sciences (ICES), Toronto. She was an MRC scholar/CIHR new investigator, a Population Health Investigator with AHFMR and is currently a CIHR Tier I Canada Research Chair. She is a fellow in the Canadian Academy of Health Sciences and the American Academy of Nursing. Her programme focuses on practical solutions for sustainable improvements in residential care of the elderly. She has been with the Faculty of Nursing at the University of Alberta since 1997 and is also appointed in the School of Public Health.

also at the resident care unit level," Estabrooks expands. "Real change happens at the unit or Clinical Microsystem level." This information forms a database – the TREC Longitudinal Measurement System – enabling repurposing of the data to promote future research in elder care.

Analysing the data, Estabrooks found evidence of a connection between context, the use of best practices and improved outcomes for nursing home residents. TREC found that care aides, who provide the majority of direct care, often work in difficult situations with limited support. They provide care for an increasingly complex resident population, the majority with dementia. These residents enter the LTC facility later in their trajectory of decline and are there for shorter periods before death. They have pressing needs for high-quality end of life care. This group of care aides tends to rely on informal knowledge sources, such as conversations with co-workers, to guide their practice.

A POWERFUL STIMULUS

TREC has acted as a catalyst for a number of other projects. A primary example is the Safer Care for Older Persons (in residential) Environments (SCOPE) pilot project, which sought to improve care in an LTC facility by increasing the engagement of care aides.

Care aides have a central role to play: "They deliver 80 per cent of the direct care in Canadian LTC facilities and are the staff most likely to observe, interpret and respond to residents' care needs," Estabrooks explains. Surveys undertaken by TREC showed that care aides had high levels of exhaustion and cynicism at work, but they also had unusually high levels of job efficacy (the belief that their work is important). Estabrooks hoped to tap into the latter by implementing strategies that would empower the workforce. The resultant SCOPE project established 10 care aide-led quality improvement (QI) teams, in seven LTC centres, operational over a 12-month period.

QI in an LTC facility is primarily led by professional healthcare providers who direct care aides to implement new procedures. However, the SCOPE study showed that teams led by care aides can effectively carry out QI. Successfully engaging frontline workers in planning and decision making had a positive impact on the quality of care provided. Based on the project's success, the

TREC'S KEY FINDINGS

• **Context matters** – a more favourable context positively influences the use of best practices and staff wellbeing

• **Healthcare aides are under stress, but remain highly committed** – engaging care aides to improve bedside care is a powerful strategy

• **Microsystems (care units) are important** – data must be examined on a care unit level; analysing data purely on the whole nursing home level can obscure important performance differences between units

• **Programmes like TREC leverage research** – in addition to analysing collected data, TREC has resulted in multiple case studies, pilot projects and spin off studies

team is developing a full-scale implementation and evaluation of the SCOPE model.

THE NEXT STEPS

TREC has enabled researchers to build strong foundations for high-quality research in elder care, and ongoing relationships with the LTC sector will support further large-scale projects. By building KT theory on the role of context, TREC has contributed to the better use of knowledge in LTC. The programme successfully applied research findings to improve quality of life for the frail and vulnerable, and motivate and engage their caregivers.

Looking ahead, the TREC team is primed to begin more rigorous testing of its interventions in clinical trials. The official launch of TREC 2.0, in which an expanded team will build on the successes of TREC 1.0, is underway this year. It will involve efforts to augment the longitudinal TREC measurement system, foster the scale-up of important innovations and enhance the model of integrated KT as a way of doing business. Ultimately, Estabrooks aims to create more substantial and enduring change by contributing to remodelling the existing systems. She plans to spread change from units to organisations, and then to embed it in a provincial systems.

CANADA'S AGEING POPULATION*

Seniors constitute the fastest growing population group in Canada
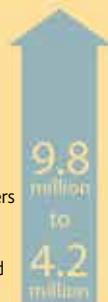
Starting in 2011, baby boomers began to turn 65. Between 2005-36, the number of seniors in Canada is projected to increase from

9.8 million to 4.2 million

– causing the seniors' share of the population to almost double

One in three Canadians aged 85 or older have dementia, 70 per cent of whom will die in an LTC facility

43 per cent of Canadian seniors will live in an LTC facility for 3-4 years

*Statistics Canada and The Alzheimer Society of Canada

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TREC