By Mary Frances Hill

RESEARCH REACHES AGING

It can take a decade or two for evidence to become clinical practice. Meet some researchers who are bridging the gap faster

ILLUSTRATIONS BY WENTING LI

CANADA'S POPULATION OF SENIORS AGED 85 AND OLDER is our fastest-growing demographic group. Improving care for those who'll need it is more important than ever, and COVID-19 showed us the challenges facing the long-term care sector. Research leaders from the Faculty of Nursing are enhancing standards of care for older adults near the end of life and living in long-term care (LTC) homes. And they're picking up the pace of knowledge translation, getting research findings into the hands of caregivers.

With an average age of 85, most residents of long-term care homes are frail and coping with chronic health conditions, most are women and most have dementia. In the aftermath of the pandemic, many LTC homes are still coping with outbreaks of COVID-19 and struggling to find enough direct care staff. By far, most direct nursing care is given by care aides, who are currently unregulated. These workers, who care for the most vulnerable and complex residents, have the least education and the most difficult working conditions, yet they're the ones who provide hands-on care and report changes in residents' conditions. Care in LTC facilities is a team effort that requires appropriate numbers of properly trained, regulated nursing and allied staff—and there aren't enough of them.

Given the challenges, long-term care homes need resilient leaders: managers and directors of care. "This is also a group under siege," says professor **Carole Estabrooks**, '87 MNurs, '97 PhD, principal investigator in the Translating Research in Elder Care (TREC) research program since 2007. Fortunately, nurse scientists like Estabrooks have formed partnerships with long-term care homes, managers, policy-makers and funders, who are receptive to using research findings to improve the quality of care and life for residents, and the quality of work life and environment for staff.

Roots of Research

More than 25 years ago, when Estabrooks launched her career as a nurse scientist, she had the kind of resumé that afforded her choices in an academic home. The University of Alberta was a good fit. "I wanted to be a research scientist," she says. "At the time, in the late 1990s, Alberta was the 'research-richest' province." She jumped into her work and is now a professor in the Faculty of Nursing, where she holds a Tier-1 Canada Research Chair in Knowledge Translation in the care of older adults. She built a team of health scientists to research to make things better by moving research to action.

Early on, she began her work in hospitals focused on changing nurses' behaviour by incorporating research in their practice. She wanted to understand and influence clinician behaviour, using research to improve patient care and scale up strategies to use evidence in practice.

But she soon recognized that something was missing. "I became really disillusioned, almost despondent, when I realized that if you work only on nurses' behaviour to improve use of research-based evidence practice, you're just swimming upstream," says Estabrooks. "Nurses are constrained by the organizations in which they work."

So, she turned her focus to studying the nursing work environment, the impact it had on morale, patient care and well-being, and the health-care system.

A formative experience for Estabrooks early in her career was working as part of the International Hospital Outcomes study led by Linda Aiken and, in Alberta, by the late Phyllis Giovannetti, the findings of which were published in the *Journal of Nursing Research*.

That planted the seeds of Estabrooks's recent research, working with health scientists to connect nursing care to patient outcomes. She saw firsthand the challenges and rewards of large team research.

"It was a truly formative and transformative experience," she says. "It wasn't easy but it altered my trajectory. Both my postdoctoral work at the Institute for Clinical Evaluative Science and my seemingly casual connections to other scientists — some of whom I work with to this day — influenced my decision to move my work to LTC."

Few nurse scientists were working in long-term care and fewer were doing programmatic research using an integrated knowledge translation model, which entails working in deep partnership with system leaders, from design to implementation of findings.

"That model of integrated knowledge translation arose from my work with the Canadian Health Services Research Foundation and the influence of people like Jonathan Lomas and Ian Graham," she says. Lomas and Graham are Canadian researchers and experts in knowledge translation in health.

Estabrooks and other researchers established Translating Research in Elder Care (TREC) in 2007 with a $4.7 million dollar grant from the Canadian Institutes of Health Research. TREC is a pan-Canadian health services research partnership of researchers, knowledge users, policy makers and citizens that aims to improve elder care. The work was welcomed by policy-makers and other decision-making partners in the LTC sector as well as by long-term care homes and funders. The appetite was high for research that would improve care and conditions. The number of Canadians over 85 is expected to triple by 2046 and dementia, which is a main driver of LTC home admission, is on the rise as baby boomers age. Chronic diseases increase with age and older adults face complex social challenges, such as loneliness.

Nursing science and the health and social sciences see a need to conduct and apply research. But according to the *Journal of the Royal Society of Medicine*, it takes an average of 17 years for research evidence to develop into clinical practice. So, Estabrooks set her sights on shortening the gap. "We are learning that the 17-year gap does not have to be," Estabrooks says. "But it takes effort, resources and planning." The Faculty of Nursing's support for applying research on the dimensions of aging allows nurse scientists to carry out this work, despite built-in obstacles.

One obstacle, Estabrooks says, is that long-term care homes have long been seen by nurses as less-than-desirable places to work. She and her team focus on transforming the work environment to improve staff retention, quality of worklife, and the quality of care and life for older adults. "Creating a positive work environment in LTC depends on many things — strong leadership, teamwork, resources, involving point-of-care staff in decisions, and staff feeling and being valued," Estabrooks says. But a positive environment is insufficient to help students and clinicians see long-term care as a desirable field, Estabrooks says. She says nursing education still has work to do.

In 2019 and 2020, Estabrooks and the TREC team collected data from staff in more than 90 western Canadian long-term care facilities. This baseline made it possible to complete an assessment during the height of the COVID-19 pandemic about how the workforce was managing. Their findings: not well. The TREC team published several papers that reported on the mental health challenges faced by staff and the ensuing burnout and negative effects on their well-being.



"Staff worked under combat-like conditions, without adequate protective equipment at first, with constrained resources," Estabrooks says. "They saw death in greater numbers and witnessed the suffering that isolation practices imposed on residents, families and staff."

Long-term care staff are still dealing with the aftermath of the pandemic and the resulting workforce emergency. The Canadian Association for Long Term Care reports that in the fourth quarter of 2021, Statistics Canada found more than 35,000 vacant jobs in long-term care, a number that was 10,000 higher than that of the first quarter. It's an ongoing crisis in employee recruitment and retention, heralded by negative changes to mental health, burnout, well-being and job satisfaction, according to Estabrooks's research. "We need a healthy workforce because it is closely associated with resident care outcomes and quality of life," she says. "Robust, reliable data are critical."

The data and stories provided by the LTC partners and a core group of LTC staff during the pandemic have helped the TREC team provide a variety of resources. One example is an intervention called "coherent breathing," which the team introduced in long-term care homes. If practised regularly, the technique ameliorates the practitioners' stress, anxiety and burnout, and it improves sleep, calming the nervous system's "fight or flight" response. The team is preparing a "breathing toolkit" free of charge to reach a greater number of LTC staff.

TREC researchers have also developed ways to distribute research-based information quickly. For example, they completed a study identifying a nation-wide, informal advice-seeking network of LTC-home leaders. They also identified LTC homes from whom others sought advice. Such networks can be used to spread innovation. And the researchers

create information packages, videos and webinars for LTC homes and policy-makers, and host regional summits to discuss research findings. They regularly present and publish their findings. And always, the foundation of TREC's work is the science.

"When I was a young postdoc, I remember clearly Dr. Matthew Spence talking to me in a meeting," Estabrooks recalls. **Spence**, '59 MD, '06 LLD (Honorary) is a former president and CEO of the Alberta Heritage Foundation for Medical Research. "He looked me in the eye, shook his finger and said, 'Always take care of the science, Carole. Everything is possible, but only if you take care of the science.'"

Research Goes Global

Newly retired, **Wendy Duggleby**, '90 MNurs, is a researcher and mentor who has helped put U of A clinical nursing research into practice—on a global scale. She has worked with graduate students, fellows and partners who have gone on to conduct their own research across the world.

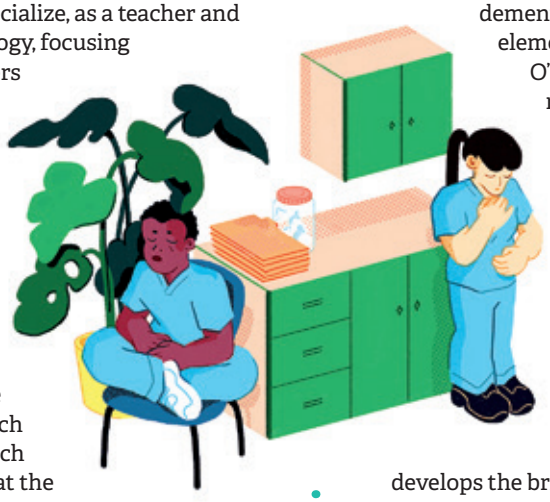
As a practising nurse in Saskatchewan, she worked in hospice care, student health and intensive care in the hospital setting. "But treatments were changing, the understanding of nursing was changing, and that's what led me back for my master's degree. I wanted to learn more about research." So she moved from Saskatchewan to Edmonton, with family in tow, to start graduate school at the U of A.

In one of her first research efforts during her master's degree, Duggleby questioned a hospital's practice, at the time, of denying patient-controlled analgesia after hip surgeries to seniors over 65. Thanks in part to her work building the evidence, the hospital changed its policy.

She went on to earn her PhD in Texas, before returning to the U of A to specialize, as a teacher and researcher, on geronto-oncology, focusing on the role of family caregivers in palliative and end-of-life care. She has since earned multiple awards for her research, including a Queen Elizabeth II Diamond Jubilee Medal.

Duggleby's return to Alberta after her doctoral studies in Texas reflected her recognition of the U of A as a national epicentre of nursing research. "I had such a strong foundation in research from my master's in nursing at the University of Alberta that earning a PhD in Texas was *fun*," she says with a laugh.

As a former research chair at the U of A, Duggleby conducted focus groups with caregivers and families dealing with end-of-life care.



She and research partner, Barbara Pesut of UBC, led a three-year study that determined how older persons who live in rural communities and have declining health can achieve and maintain better health and build social connections. That research led to Nav-Care, an initiative that organizes volunteer community "navigators" who visit people in their homes to help them connect with local resources.

The initiative has made such an impact in Canada that in late 2022, the European Commission announced it would invest more than $8 million to adapt Nav-Care for European countries. Duggleby's research also led to My Tools 4 Care, an online tool kit that helps families and caregivers caring for those with Alzheimer's disease, dementia and other cognitive-related dysfunction.

A team-based approach to research translation in geriatric care is the natural outcome of these nurses' experiences. "Along with the high expectations in the faculty, you have all this support," Duggleby says. "My colleagues and I would get together and talk about different issues and how we can overcome them."

Research Relies on Community

Canada's aging population is more than a growing demographic. They're the ones who parented and grandparented, taught, coached, hired and mentored us, the ones who helped care for our children, who acquired wisdom and a wealth of experience.

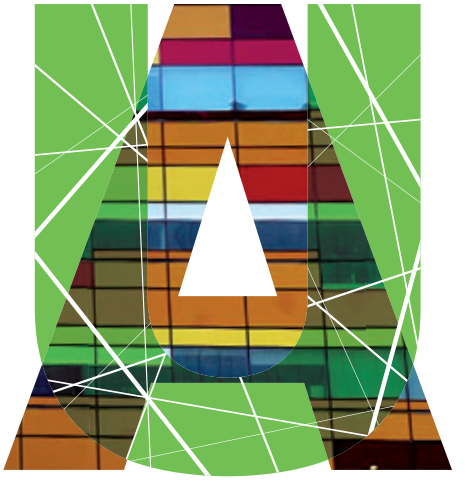
In her role as assistant professor in the Faculty of Nursing, **Hannah O'Rourke**, '08 BScN(Hons), '15 PhD, (see page 25 for more about O'Rourke) also leads Connecting for Quality of Life Across the Lifespan (or CONNECT-QOL), a research program that designs interventions—simple actions and approaches that nurses can take to promote social connectedness among people with dementia in care homes.

Through the program, O'Rourke aims to build broader understanding of the ways that care staff in long-term residences can prevent loneliness among patients with dementia and promote social connectedness, a core element of quality of life for aging adults.

O'Rourke says the nursing faculty's strong research focus drew her to it. In fact, in an online interview in U of A's *Innovator Spotlight*, she credits Duggleby as a mentor. "She has shown me how to work productively in a national team; how to support trainees and offer constructive feedback to help them to develop their own passion and direction; and how to pursue highly rigorous research within an honest, collaborative and relational team."

In a continuous circle, the strength of the Faculty of Nursing and its support of research in healthy aging attracts and develops the brightest researchers from around the world. Ultimately, the swift application of this kind of research helps transform the lives of our most vulnerable seniors.

It turns out that community figures as highly among researchers as it does in the lives of the seniors they serve. *–With files from Mifi Purvis.*



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