

Researcher measures frailty in intensive care units

October 3 2014



Dr. Sean Bagshaw is going to be honored with the ANZICS Global Rising Star award. Credit: Faculty of Medicine & Dentistry, University of Alberta

Since arriving at the University of Alberta seven years ago, Sean Bagshaw spends each day searching for ways to deliver better health outcomes to patients with critical illness. Lately, the associate professor in the Division of Critical Care Medicine has focused his efforts on measuring the impact of frailty among patients admitted to intensive care units in Alberta. That focus has now been rewarded, as Bagshaw has been honoured with the Australia and New Zealand Intensive Care

Society (ANZICS) Global Rising Star award.

"This is a very flattering and distinctive honour," says Bagshaw, who also works as an intensivist in the Department of Critical Care Medicine at the University of Alberta Hospital. "It's nice to be acknowledged by your peers and to know that your contributions have meaning."

Bagshaw's research, published this past November in the *Canadian Medical Association Journal*, objectively measured for frailty among a cohort of more than 400 critically ill adults, aged 50 years or more, at six hospitals across Alberta between February 2010 and July 2011. The study found that frailty was surprisingly common among [critically ill patients](#), evident in approximately one third of the cohort prior to ICU admission. Frail patients were typically older, more likely to be female and were more likely to have one or more chronic conditions and disability, in addition to their acute health problems.

But according to Bagshaw, frailty is not just limited to the elderly. "It's often viewed as a geriatric syndrome, but my belief is that a frail state among patients, in particular younger patients, may predispose them to a greater susceptibility to developing [critical illness](#) in the first place. So in essence, frailty may 'age-shift' their vulnerability to developing critical illness, as these patients are characterized by less reserve to respond to acute stress."

The study also found that in-hospital mortality was higher among frail patients than among those not frail (32 per cent versus 16 per cent), and remained higher one year after initial ICU admission (48 per cent v. 25 per cent). Compared with not frail survivors, those with frailty were more likely to acquire new disability and become functionally dependent (71 per cent versus 52 per cent). Frail survivors also had poorer quality of life and more often require hospital readmission (56 per cent versus 39 per cent).

The ANZICS Global Rising Star award aims to identify promising and innovative young clinician/scientists contributing to the field of [intensive care](#) medicine. Three monetary prizes are awarded annually to the top contributors in the regions of the Americas, Europe and Asia.

As part of the honour, Bagshaw will travel to the 39th ANZICS/ACCCN Annual Scientific Meeting held in Melbourne, Australia in October. There he will present his findings on the association between frailty and health outcomes among critically ill patients.

"We believe that frail patients may respond differently when developing critical illness when compared to patients who are not frail," explains Bagshaw. "These frail patients have fewer physical and mental reserves and are more vulnerable to adverse outcomes. As a consequence, they're not only more likely to die, but those who survive are more likely to have a much more complicated and prolonged recovery and are more likely to be left with new disabilities."

While the concept of frailty is well known among older patients and has been evaluated among patients undergoing elective surgery, Bagshaw says previous research has never focused on patients entering the ICU.

Bagshaw hopes the findings could lead to improved delivery of clinical care. "We believe our findings will provide clinicians with a bedside tool to objectively assess whether a critically ill patient is indeed frail. We hope the findings from our study will provide new knowledge to clinicians to better inform patients and families about the prognosis for survival and recovery from critical illness, help in decision making about patient preferences for clinical care and appropriately match resources to the needs of patients."

Bagshaw believes frailty should be measured routinely among patients as they enter the ICU. He is now working with the AHS Critical Care

Strategic Clinical Network towards integrating a standardized [frailty](#) assessment for patients admitted to ICU across Alberta.

"If we are able to better identify these vulnerable patients, we will be more prepared when we engage patients and families about treatment preferences and goals of care and about their expectations for quality survival and functional recovery. We can better inform [patients](#) and families about whether they will survive, and if they do, what they can expect during their recovery."

Provided by University of Alberta Faculty of Medicine & Dentistry

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