More than half of intensive care unit (ICU) patients who have been mechanically ventilated for a long period need help from caregivers a year after they have been discharged. A Canadian study has found that caregivers of ICU survivors experience symptoms of depression up to 1 year after their relative is discharged, with 16% experiencing severe symptoms that did not improve over time. Factors associated with worse mental health symptoms were younger age, greater impact of patient care on other activities, less social support and sense of control over life and less sense of personal growth. However, no patient variables, such as patients’ illness severity, functional abilities, cognitive status and psychological wellbeing were consistently associated with caregiver outcomes over time, and the caregivers’ physical health was similar to population norms. The study is published in the *New England Journal of Medicine*.

In an email to *ICU Management & Practice*, lead author Jill Cameron, PhD (pictured above), Affiliate Scientist at Toronto Rehabilitation Institute-University Health Network (UHN) and Associate Professor, Department of Occupational Science and Occupational Therapy, Graduate Department of Rehabilitation Science, Faculty of Medicine, University of Toronto, explained that the study is one of the first in this area to take a comprehensive look at caregiver outcomes.

“We simultaneously examined patient illness severity, aspects of the caregiving situation (eg amount of care provided, impact on everyday life of providing care), and aspects of the caregiver (eg their social support network, their ability to maintain control over situations). When you consider all factors at the same time, the most important seem to be those related to the caregiving situation and the caregiver. This suggests that even in situations where the illness is fairly mild, and the disability is low, caregivers without adequate supports, or who don't have good control over their situation may experience depression and need help", she said.

The research team enrolled 280 caregivers of patients in 10 hospitals across Canada, who received 7 days or more of mechanical ventilation in an ICU. They set out to study characteristics of caregivers and patients and their association with the caregivers’ health outcomes during the first year after discharge from the ICU. Using a mix of hospital data and questionnaires completed by the caregivers, the researchers collected information on caregiver and patient characteristics, caregiver depression symptoms, psychological wellbeing, health-related quality of life, sense of control over life, and impact of providing care on other activities. The caregivers were assessed after ICU discharge at 7 days, 3-, 6- and 12-month intervals. The researchers expected to find that caregivers’ mental and physical health would be associated with patient condition, higher levels of care needed and less social support and sense of control.

**Results**
- Caregivers’ average age: 53
- Gender: 70% female
- Role: 61% caring for a spouse
- Depression symptoms:
  - 67% at 7 days; 43% at 1 year
  - Improvement in depression symptoms: 84%

Older caregivers caring for a spouse, with a higher income and better social support and sense of control had better health outcomes.

The researchers note the study limitations are lack of a control group and no knowledge of the caregivers’ prior mental health status. However, their findings emphasise the need to consider the mental health of caregivers in post-ICU care programmes.

“We need to intervene and support caregivers of all patients, not just the ‘sickest’ patients. Caregivers are not a uniform body of individuals - they have different needs unique to their caregiving situation”, said Dr. Cameron.

The study is part of Phase one of the RECOVER Program, a multi-phase project, involving 10 intensive care units across Canada, co-led by Drs. Margaret Herridge, Scientist at the Toronto General Research Institute, and Cameron, in collaboration with the Canadian Critical Care Trials Group. The project aims to identify risk factors for patients and families with the goal of designing rehabilitation models to improve outcomes.

**Next Steps**

The next phase of this research will focus on developing models of rehabilitation to optimise patient recovery and a programme for caregivers to better prepare them for their caregiving role, including education and information on community-based resources, access to home care, and how they can draw on social and psychological support.

Dr. Cameron told *ICU Management & Practice* that while caregiver support is not standard practice there are many interventions that have been developed and tested for different caregiving populations. However, these interventions are not incorporated into clinical practice after the study has finished. She added: “Our research moves intervention research a step forward by suggesting that these interventions may not be needed by all caregivers. We may be able to identify those caregivers most in need of support and target them for specific support including psychological support. This would allow the healthcare system to make the best use of available resources and still meet the needs of those caregivers who need more support.”

**Interview with Dr. Jill Cameron**