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710-714, Los Angeles, CA 90024, USA.

Email: bseligman@mednet.ucla.edu

Benjamin Seligman MD PhD^{1,2} 

Kevin Ikuta MD MPH^{3,4} 

Greg Orshansky MD^{5,6}

Matthew Bidwell Goetz MD^{3,4} 

¹*Geriatrics Research, Education, and Clinical Center,
VA Greater Los Angeles Health Care System,
Los Angeles, California, USA*

²*Division of Geriatric Medicine,
Department of Medicine,
David Geffen School of Medicine at UCLA,
Los Angeles, California, USA*

³*Division of Infectious Diseases,
Department of Medicine,
VA Greater Los Angeles Health Care System,
Los Angeles, California, USA*

⁴*Division of Infectious Diseases,
Department of Medicine,
David Geffen School of Medicine at UCLA,
Los Angeles, California, USA*

⁵*Division of Primary Care, Department of Medicine, VA
Greater Los Angeles Health Care System, Los Angeles,
California, USA*

⁶*Clinical Informatics Service, VA Greater Los Angeles
Health Care System, Los Angeles, California, USA*

Correspondence

Benjamin Seligman, 1100 Glendon Avenue,

ORCID

Benjamin Seligman  <https://orcid.org/0000-0002-8223-5924>

Kevin Ikuta  <https://orcid.org/0000-0002-3149-3907>

Matthew Bidwell Goetz  <https://orcid.org/0000-0003-4542-992X>

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COMMENTS

A call to action to enhance understanding of long COVID in long-term care home residents

The COVID-19 pandemic has highlighted significant vulnerabilities in the long-term care (LTC) sector, with widespread outbreaks and high rates of mortality in LTC homes (including nursing homes and assisted living facilities). In Canada, where our team is based, 81% of all COVID-19 deaths in the first wave of the pandemic were among LTC residents.¹ By the end of 2020, there had been ~44,000 COVID-19 cases and 9200 related deaths among residents in Canadian LTC homes.² Although most LTC residents survived acute COVID-19

infection, this does not mean they escaped the lasting impacts of long COVID. There are few studies investigating COVID-19 survivorship, including long COVID prevalence, management, and outcomes among LTC residents.

There has been increasing recognition and research on post-acute sequelae of COVID-19 (PASC), commonly known as long COVID. PASC is a complex and poorly defined syndrome with several possible mechanisms (e.g., viral persistence, immune dysregulation,

autoimmunity).³ It involves diverse, persistent, and sometimes disabling symptoms lasting for weeks to months following acute COVID-19 infection (e.g., fatigue, shortness of breath, malaise, cough, pain, brain fog).⁴

Long COVID research is challenged by several factors. First, there is a lack of a globally standardized clinical case definition for long COVID. Some definitions,⁴ but not all, recognize several phases of long COVID, such as ongoing symptomatic COVID-19 (4 to 12 weeks) and post COVID-19 syndrome (≥ 12 weeks).⁵ Variations across definitions can inadvertently exclude groups with possible atypical presentation and different clusters of symptoms, such as in older adult and pediatric populations. Second, there lacks consensus on the onset and duration of long COVID symptoms and phases, as well as on the symptoms associated with long COVID. In fact, some studies identify more than 200 different symptoms.⁶ This hampers health professionals' ability to diagnose and treat persons experiencing long-term sequelae of COVID-19, which also hinders clinical research on long COVID in particular.

Another shortcoming of long COVID research has been the exclusion of older adults - especially the oldest old (80+ years), those with multiple complex comorbidities, frailty, disability, dementia, and impaired immune function, which are characteristic of LTC residents. Challenges in studying this population include distinguishing between long COVID as a clinical entity separate from anticipated decline when recovering from acute illness, and intersecting mechanisms of advanced aging, pre-existing conditions, and long COVID. One of the few studies⁷ in older adults found that COVID-19 survivors (65+ years) had a higher risk of new or persistent clinical sequelae compared to non-infected older adults. Furthermore, older adult COVID-19 survivors only had increased risk differences of select sequelae (i.e., respiratory failure, dementia, and post-viral fatigue) compared to a group of older adults with viral lower respiratory tract illness.

Emerging, although limited, research in LTC residents has investigated symptoms, clinical outcomes, and wellbeing of COVID-19 survivors.⁸⁻¹⁰ However, these studies lack consideration of long COVID in their design and interpretation, such as the etiology, symptoms, and follow-up periods consistent with the current evidence on long COVID. The only study⁸ to our knowledge on COVID-19 disease trajectories in LTC residents found widespread, prolonged symptoms regardless of symptom severity, but neglected to assess differences in the acute COVID-19 infection versus long COVID phases. COVID-19 survivors in LTC have been found to have poorer outcomes related to malnutrition, weight loss, and frailty compared to non-infected residents.^{9,10} Studies have also

attributed physical and cognitive decline and depressive symptoms among COVID-19 survivors to the isolation and loneliness due to protective measures in LTC.⁹

Research design and interpretation of long COVID outcomes for LTC residents require special consideration of their complex comorbidities and diverse physical, psychological, and social care needs (e.g., communication impairments that limit self-reporting of symptoms, long COVID symptoms being attributed to pre-existing conditions).⁵ There is also a need to explore the impact and possible further exacerbation of policies and practices that were enacted in LTC homes during the pandemic. Given the waves of COVID-19 and its variants, it is also important to consider the impacts of policies and practices at different junctures in time, such as visitation restrictions and pre-vaccinations and boosters for LTC residents.

We make a call to action to the research community to rapidly address the dearth of research about long COVID among residents in LTC homes. The knowledge gaps and challenges outlined above emphasize the need for research to inform guidelines for long COVID management in this unique care context. This must be addressed in a timely fashion considering the ongoing COVID-19 outbreaks in LTC homes and the immense challenges currently faced by the LTC sector.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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None.

Janice M. Sorensen PhD¹  
Valorie A. Crooks PhD²

Shannon Freeman PhD³ 
 Simon Carroll PhD⁴
 Karen M. Davison PhD⁵
 Maura MacPhee RN, PhD⁶
 Annette Berndt⁷
 Jennifer Walls⁷
 Akber Mithani MD^{1,8}

¹Long-Term Care and Assisted Living, Fraser Health Authority, Surrey, British Columbia, Canada

²Department of Geography, Simon Fraser University, Burnaby, British Columbia, Canada

³School of Nursing, University of Northern British Columbia, Prince George, British Columbia, Canada

⁴Department of Sociology, University of Victoria, Victoria, British Columbia, Canada

⁵Health Science Program, Kwantlen Polytechnic University, Surrey, British Columbia, Canada

⁶School of Nursing, University of British Columbia, Vancouver, British Columbia, Canada

⁷Long-Term Care and Assisted Living Research Partners Group, Fraser Health Authority, Surrey, British Columbia, Canada

⁸Department of Psychiatry, University of British Columbia, Vancouver, British Columbia, Canada


Correspondence

Janice M. Sorensen, Central City Tower Suite 400, 13450-102nd Ave Surrey, BC V3T 0H1, Canada.

Email: janice.sorensen@fraserhealth.ca

ORCID

Janice M. Sorensen  <https://orcid.org/0000-0002-6219-6630>

Shannon Freeman  <https://orcid.org/0000-0002-8129-6696>

TWITTER

Janice M. Sorensen  @JaniceMSorensen

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