

# Older adults with diabetes experienced functional decline during the COVID-19 pandemic, research finds

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Researchers found that approximately one in five older Canadian adults with diabetes and no pre-pandemic functional limitations developed functional limitations for the first time during the COVID-19 pandemic. Functional limitations refer to difficulties with basic mobility-related tasks, such as walking two to three blocks, standing up from a chair, or climbing stairs. In comparison, only one in eight of their peers without diabetes developed functional limitations during the pandemic. The study was [published](#) in the *Canadian Journal of Diabetes*.

"Functional status is an important predictor of longevity and quality of life among older adults, and individuals with [diabetes](#) face a higher risk of functional decline than the general population," said first author Andie MacNeil, a research assistant at the Factor-Inwentash Faculty of Social Work (FIFSW) and the Institute for Life Course and Aging at the University of Toronto.

"Because the pandemic exacerbated many [risk factors](#) for functional decline, such as [social isolation](#) and physical inactivity, we wanted to examine changes in functional status among this population."

The study's sample came from the Canadian Longitudinal Study on Aging, a national longitudinal study of older Canadians. Respondents with diabetes were 53% more likely to develop at least one functional limitation during the pandemic compared to respondents without diabetes. Even after taking into account major risk factors for functional decline, such as such as physical activity, obesity, smoking, and other chronic health conditions, older adults with diabetes still faced a 28% higher risk of developing [functional limitations](#).

"It is important for health professionals to encourage their older patients, particularly those with diabetes, to engage in behaviors that can help

maintain their functional status, such as regular physical activity," said co-author Susanna Abraham Cottagiri, doctoral candidate at the School of Medicine at Queens University.

The study also found that socioeconomic factors were associated with functional limitations among older adults with and without diabetes. When compared to those with an annual household income of \$100,000 or more, older adults with diabetes with an income of \$20,000 or less had a five-fold higher risk of developing at least one functional limitation.

Even among those without diabetes, those with an income of \$20,000 or less had double the risk of developing at least one functional limitation compared to those with an annual income of \$100,000 or more.

"While [socioeconomic status](#) is an important predictor of functional decline among those both with and without diabetes, the magnitude of this relationship is much greater for respondents with diabetes," said co-author Ying Jiang, a senior epidemiologist at the Public Health Agency of Canada.

The authors also examined the probabilities of functional limitations across various patient characteristics such as sex, diabetes status, and household income, and then stratified into several risk factors, such as age, physical activity level, smoking status, multimorbidity, and weight. Across various patient profiles, socioeconomic status was a consistent driver of functional status.

Co-author Professor Paul Villeneuve at the Department of Neuroscience and the CHAIM Research Center, Carleton University, hypothesized the possible reason for this pattern: "People with low socioeconomic status face disproportionate stressors over their lifetime that may adversely impact their physical functioning in older age, such as working more

physically demanding jobs, worse nutrition, and living in areas with less greenspace and walkability."

The researchers hope these findings can be used to inform interventions to promote better physical functioning among middle age and older adults.

"Combining lifestyle approaches that integrate [physical activity](#) with nutrition interventions have been shown to improve physical function in older adults with diabetes," said co-author Margaret de Groh, scientific manager at the Public Health Agency of Canada.

"Poverty remains a major barrier to nutrition and [food security](#)," said senior author Professor Esme Fuller-Thomson at the University of Toronto's FIFSW and director of the Institute for Life Course & Aging. "It is important to think about broader strategies to decrease poverty and improve food access in Canada in order to promote better physical functioning among [older adults](#)."

The study included 6,045 participants of the Canadian Longitudinal Study on Aging (CLSA) who were free from functional limitations in the 2015–2018 wave of data collection and who provided information on their functional status during the COVID-19 pandemic (September–December 2020).

**More information:** Andie MacNeil et al, Incident Functional Limitations Among Older Adults With Diabetes During the COVID-19 Pandemic: An Analysis of Prospective Data From the Canadian Longitudinal Study on Aging, *Canadian Journal of Diabetes* (2024). [DOI: 10.1016/j.jcjd.2024.02.005](https://doi.org/10.1016/j.jcjd.2024.02.005)

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