

# Study shows link between institutionalization, hip fractures and death

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The St. Louis State Hospital in Missouri c. 1870. A new study using skeletal remains from Missouri shows a connection between institutionalization and hip fractures, particularly among women. Credit: Missouri Historical Society

A team of anthropologists has found that the skeletal remains of people

who lived and died in American public care institutions in the last century have much to tell us about the connection between patient neglect and hip fractures—a connection that may well still exist today in Canada.

Using paleopathology—the study of disease in the past using sources including [human remains](#)—the three researchers studied individuals who lived in state hospitals, city infirmaries and other [public institutions](#) in Missouri and who died between 1910 and 1967. They found evidence of hip fractures in 4.3% of institutionalized individuals, almost double the 2.3% prevalence among non-institutionalized people. The work is published in the journal *PLOS ONE*.

Death records showed that many of these broken hips occurred from preventable accidents, such as falling out of a wheelchair, tripping on an uneven floor, slipping in a bathtub or being pushed to the ground, and death followed shortly after. Most hip fractures need quick medical intervention to prevent deadly complications.

"These folks were living in institutions that were supposedly caring for them," says Madeleine Mant, assistant professor in U of T Mississauga's department of anthropology and an author of the just-released study. "But ultimately the lack of care or the lack of resources or the lack of attention has created instances where they actually suffered fractures that led to their deaths."

With colleagues Carlina de la Cova of the University of South Carolina in Columbia and Megan Brickley of McMaster University in Hamilton, Ont., Mant had access to a large anatomical skeletal collection housed at the Smithsonian National Museum of Natural History in Washington, D.C.

These were people unclaimed after death, because either they were alone

in the world, their loved ones were too poor to afford a burial, or their families simply weren't informed of the death. The 600 individuals in the study included Euro-American and African-American women and men, with ages ranging from the 40s through the 90s. Just over one-third had been institutionalized.

It was no surprise that in both cohorts, older white women showed the greatest prevalence of hip trauma. But the finding that was most critical—and, for Mant, the most disturbing—was that of the instances of broken hips leading to death, 82% of them happened in institutions. "That's what struck me the hardest—the idea that these vulnerable individuals were taken in by institutions that were obviously underfunded and understaffed and that undervalued the lives of these folks."

Mant cites two causes of blame. The first is structural violence, a term describing the way social structures and institutions cause harm to people through inequities and marginalization. This can include underfunding, overcrowding, poorly trained staff and poorly maintained facilities. The second is cultural apathy, which means society doesn't care enough to rise up, speak out and demand change.

While anthropologists look at the past to find echoes of how it's affecting the present, Mant says in this case it's less an echo and more a direct line to what we're seeing today in many care institutions in Canada. She says that whenever she talks about this research, people will tell her about an aunt, a grandparent or other family member who suffered a hip fracture while in care, and the families are still concerned.

"This is not just a historical story, and it's not just an American story," Mant says. "It's an ongoing modern concern and it seems to be, unfortunately, global."

Other studies from the Netherlands and Switzerland have also shown a disturbingly higher risk of fractures among institutionalized people. Mant's study includes a mention of a Canadian news story that made headlines last year: a woman in an Oakville, Ont., nursing home had major spiral fractures in both thigh bones when she died, but staff seemed to know nothing about it.

Mant hopes the study will help increase awareness and drive [public policy](#) to enshrine the equitable care of institutionalized people as a basic human right. She says, "We need to be taking care of our most vulnerable, bring this to people's minds who might not have been aware of it and, honestly, shame people who have known about these problems and haven't done anything so far."

**More information:** Carlina de la Cova et al, Structural violence and institutionalized individuals: A paleopathological perspective on a continuing issue, *PLOS ONE* (2023). [DOI: 10.1371/journal.pone.0290014](#)

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