

Understanding the 1918 flu pandemic can aid in better infectious disease response

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City map of Labrador, Canada. Labrador, Canada, as seen today. Credit: JCMurphy, Wikimedia Commons.

The 1918 Flu Pandemic infected over 500 million people, killing at least 50 million. Now, a researcher at the University of Missouri has analyzed the pandemic in two remote regions of North America, finding that despite their geographical divide, both regions had environmental,

nutritional and economic factors that influenced morbidity during the pandemic. Findings from the research could help improve current health policies.

"Epidemics such as the Black Death in the 14th century, cholera in the 19th century and malaria have been documented and recorded throughout history," said Lisa Sattenspiel, professor of anthropology in the College of Arts and Science at MU. "While it is probably impossible to consider all the dimensions of pandemics, such as cultural, social and political factors, we can get a 'snapshot' by pinpointing similar areas. Our research focused on the 1918 [influenza pandemic](#) in Labrador, Canada and Alaska, which are widely separated in space, yet have similar geographic and environmental constraints as well as ethnic overlap."

By analyzing death records and community history, Sattenspiel and her fellow researcher, Sverre-Erik Mamelund, senior researcher at the Work Research Institute of Oslo, found that both Labrador and Alaska were devastated by the 1918 pandemic. Beginning in January 1918 and lasting through December 1920, both regions experienced higher mortality rates than most other parts of the world—34 percent and 8 percent, respectively.

Archival materials from Labrador and Alaska indicated that circulating pathogens, including pneumonia and tuberculosis, played a role in morbidity. Environmental influences, including harsh, stressful winters, and nutritional factors, such as lack of food, also played a role in susceptibility to influenza. Sattenspiel says that during the summer months in Labrador the influx of infected commercial fishermen played an important role in the milder first wave of the pandemic, while during the severe second (fall and winter) wave, the movements of fur traders and hunters were more important. Additionally, researchers found that transmission rates were higher in harsher climates where a greater proportion of daily life is conducted indoors.

"Inadequate access to health care contributed to higher mortality rates in the regions studied," Sattenspiel said. "Our findings indicate that today's infectious disease planning should include evaluating the placement of nurses and trained [health care professionals](#) who can administer vaccines and treatment. Programs that improve housing conditions and crowding may also help reduce disease transmission. Finally, contingency plans must take into account the remoteness of an area as well as distance to population centers and [health care](#) facilities."

Sattenspiel says that lessons learned from 20th century Labrador and Alaska illustrate how important it is to take a systemic approach if health officials are to improve our response to future infectious disease pandemics in today's world.

Her study, "Cocirculating epidemics, [chronic health problems](#), and social conditions in early 20th century Labrador and Alaska," was published in the *Annals of Anthropological Practice*.

Provided by University of Missouri-Columbia

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