



**Date:** October 6, 2022

**Time:** 11am-12pm

**Presenter:** Léo Raymond-Belzile (HEC Montréal)

**Title:** Is there a limit to human longevity?

**Abstract:** There is sustained and widespread interest in understanding the limit, if there is any, to the human lifespan. Mathematically, the question amounts to determining whether the endpoint of the underlying lifetime distribution is finite. Recent analyses of data on the oldest human lifetimes have led to competing claims about survival and to some controversy, due in part to incorrect statistical analysis. We provide a critical assessment of some earlier work and illustrate the ideas through reanalysis of semisupercentenarian lifetime data, focusing on data quality and sampling schemes, choice of suitable statistical models and adequate extrapolation schemes. Using a blend of survival analysis and extreme value theory, we highlight some of the conclusions that can be reasonably reached based on the limited records: although the rate of mortality stabilize around 109 years or so, the hazard is very high with a nearly 50% probability of dying in any given year. Our analysis suggests that a limit to human lifespan would be much beyond the range of the records and there is reasonable power to detect a limit below 130 years.

**How to connect?** [Zoom](#)

**Meeting ID** 816 2064 7497

**Passcode** 162459

**Statistics Seminar Series**  
**(2022-2023)**

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