



Wittgenstein Centre

FOR DEMOGRAPHY AND
GLOBAL HUMAN CAPITAL

Due to the COVID-19 pandemic, the seminar will be held online via Zoom.

WIC Colloquium Online

An indirect estimation method for the total number of COVID-19 infections

Wednesday, May 13th, 2020
14:00-15:00

Please click [here](#) to register online.
Login information will be sent to registered participants on Tuesday, May 12th.

Christian Dudel

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The number of COVID-19 infections is important for assessing the progression of the pandemic, as the number of confirmed cases may underestimate the total number. We develop an indirect method to estimate the total number of infections based on age-specific death counts and age-specific infection fatality rates (IFRs). We use remaining life expectancy to scale IFRs between countries to account for differences in age structure, health status, and health care system. Using data for 10 countries up to April 17, we estimate that on average the total number of infections is four times higher than the number of confirmed cases. Cross-country variation is high. For Italy, the estimated number of infected is six times the confirmed cases; for the U.S. twice the confirmed cases; and for Germany, where testing has been comparatively extensive, 1.2 times the confirmed cases. Comparing our results with findings from local seroprevalence studies suggest that the seroprevalence studies are not representative.

About the presenter

Dr. Christian Dudel is a researcher at the Laboratory of Population Health and the Research Group Labor Demography at the Max Planck Institute for Demographic Research, Rostock, Germany. He holds a PhD in Social Science from Ruhr University Bochum. His work has been published in leading journals in sociology, demography, and research methods. Current interests include labor markets, population aging, fertility, and population health.

The Wittgenstein Centre is a collaboration among the Department of Demography of the University of Vienna, the World Population Program of the International Institute for Applied Systems Analysis (IIASA) and the Vienna Institute of Demography of the Austrian Academy of Sciences (VID/ÖAW).

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