Impact case:
Lifelines Corona Research Study (LCRS)

From left to right: Rob Alessie, Hermien Dijk, Ruud Koning, Viola Angelini

During the Covid-19 pandemic, the Lifelines Corona Research Study (LCRS) was developed: a large-scale interdisciplinary data collection project within the Lifelines Biobank. Professor of Public Health Economics Jochen Mierau lead the project, which he carried out together with other (FEB) researchers.

The study started at the beginning of the first lock-down and lasted until the tail end of the pandemic. Throughout the pandemic the study was an ongoing source of impact in various domains. For instance, it was used to evaluate the Coronamelder App, was the basis of various questions in parliament and was used by the National Institute for Public Health (RIVM) to evaluate policy. Importantly, the study also made it possible to identify long-covid.

Underpinning Research

The Lifelines Corona Research Study (LCRS) consisted of repeated question-naires to the participants of Lifelines. Lifelines is a population biobank and cohort study in the Northern Netherlands which has been collecting, storing and distributing data about the participants health and life(style) since 2007. The LCRS could benefit from the fact that data from the respondents to the questionnaire respondents could automatically be linked to their health history.

The LCRS team included researchers from various faculties, and researchers from FEB were involved in many parts of the project. Jochen Mierau was one of the three principal investigators to set-up the study. The full set-up, as well as the first results of the study were presented in the cohort-profile paper published in the BMJ Open. Subsequently, the data were used for various projects involving FEB researchers, many of these studies went on to have substantial impact in their own right.

The team of FEB reseachers who contributed to this case are:

Rob Alessie is professor of Micro-Econometrics and his research focuses on health and labor economics.

Viola Angelini is Professor in the Economics of Household Behaviour and is a member of the scientific council of the Max Planck Institute for Social Law and Social Polic in, Munich (Germany).

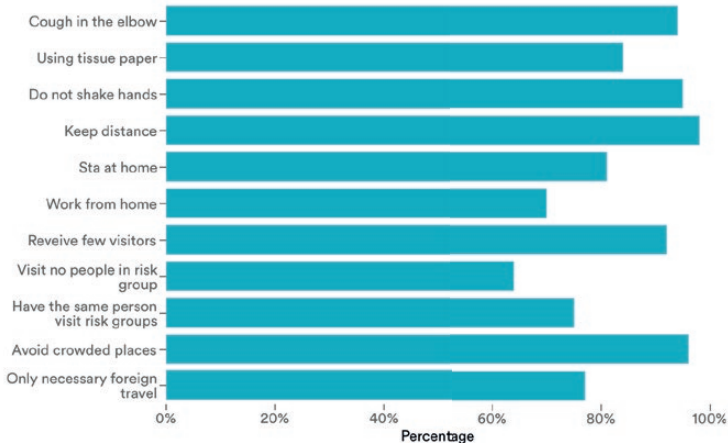Hermien Dijk is assistant professor of Health Economics.

Ruud Koning is professor of Sports Economics and his expertise is in Insurance economics, non-life insurance models as well.

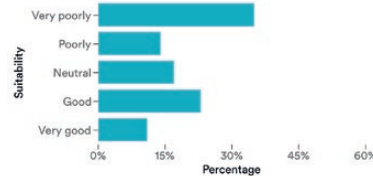Jochen Mierau is Professor Public Health Economics and Scientific Director of Lifelines.

Laura Viluma is Assistant Professor of Health Economics and her expertise is in health policy and services.
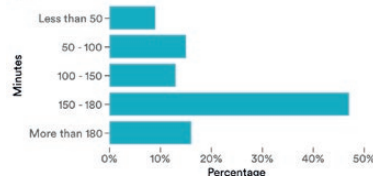
Stick to the measures

Cough in the elbow
Using tissue paper
Do not shake hands
Keep distance
Sta at home
Work from home
Reveive few visitors
Visit no people in risk group
Have the same person visit risk groups
Avoid crowded places
Only necessary foreign travel

Suitability of daily work tasks to do from home

Weekly (moderate) intensive exercise

References

de Boer, W. I., Mierau, J. O., Schoemaker, J., Viluma, L., Koning, R. H., & Lifelines Corona Research Initiative. (2021). The impact of the Covid-19 crisis on socioeconomic differences in physical activity behavior: Evidence from the Lifelines COVID-19 cohort study. Preventive Medicine, 153, 106823.

Mc Intyre, K., Angelini, V., Mierau, J.O., Boezen, H.M. & Franke, L. (2021). Lifelines COVID-19 cohort: investigating COVID-19 infection and its health and societal impacts in a Dutch populationbased cohort. BMJ Open, 11(3), e044474.

Vloo, A., Alessie, R.J.M. Mierau, J.O. Lifelines Corona Research Initiative. "Gender differences in the mental health impact of the COVID-19 lockdown: Longitudinal evidence from the Netherlands." SSMPopulation Health 15 (2021): 100878.

* https://www.rtvnoord.nl/nieuws/933947/minister-kuipers-prijst-lifelines-onderzoek-praat-niet-over-kinderhartchirurgie (only in Dutch).

For instance, the collected data was used to study the impact of the Covid-pandemic (the virus and disease as well as the measures to counter them) on the sports and movement behavior across socioeconomic groups. This research showed that individuals with a low socioeconomic position were more likely to decrease their physical activity than those with a high socioeconomic position.

Within the LCRS, the impact of Covid on the gender differences in mental health throughout the pandemic was also researched. The results showed that women were more likely to develop depression during the pandemic, while men were more likely to develop anxiety.

Another project that was part of the study highlighted the socioeconomic disparities in self-reported and tested Covid infections. The results showed that individuals with a low socioeconomic position were the most vulnerable to self-reported and tested Covid.

Jochen Mierau
Leading researcher and Lifelines current scientific director

"I have been a Lifelines participant since the beginning and as a researcher, I used Lifelines data to establish the relationship between the conditions people had at an early stage in their lives and their health later on in life.

The data was especially useful during the pandemic. The data was especially useful during the pandemic, when 135.000 participants were asked to fill in a questionnaire and 1 in 3 replied. It gave us an unprecedented view of Covid-19 and how it affected people in their lives. We are very proud that former minister of Health, Welfare and Sport praised the research done by Lifelines. During a work visit to the UMCG, Kuipers mentioned the national and international importance of the research.

Lifelines' data provide a treasure of insights on the health and well-being of ten percent of the population of the Northern Netherlands. Combined with the methods and theories of economics and business our data contribute to addressing societal challenges in health and welfare and social inequalities."