lifelines

Longitudinal collection of COVID-19 related data

At the very beginning of the COVID-19 pandemic in the Netherlands, a large-scale study into the risk factors of the novel coronavirus started in the Northern Netherlands. Since then, 135,000 Lifelines participants receive (bi-) weekly, extensive questionnaires about their health, wellbeing and lifestyle. The collected COVID-19 questionnaire data is linked to the previously collected longitudinal data from the Lifelines biobank. Lifelines encourages researchers worldwide to use these data to gain insight into the risk factors, spreading and (longterm) consequences of the coronavirus. Click here for the COVID-19 cohort paper

This unique dataset enables researchers to study in detail the relationship between COVID-19 risk factors and physical and mental consequences of a pandemic.
Prof. dr. Jochen Mierau professor Public Health Economics, University Groningen

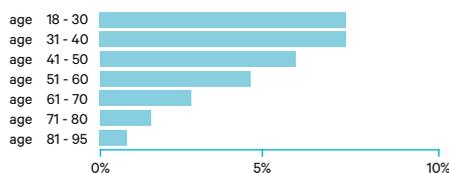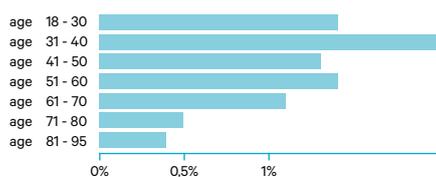| 135,000 participants	12 questionnaires between march and september 2020	36% average response rate	14% completed all questionnaires (19,239)	31% completed 4 or more questionnaires (42,812)

Prevalence COVID-19

Self-diagnosed: 6,2% (n=4,300)

Positive test or diagnosed by physician: 1.4% (n=1,036)

Positive test result and diagnosed by physician by gender

32% male	68% female

This factsheet is based on data from the first 9 questionnaires.
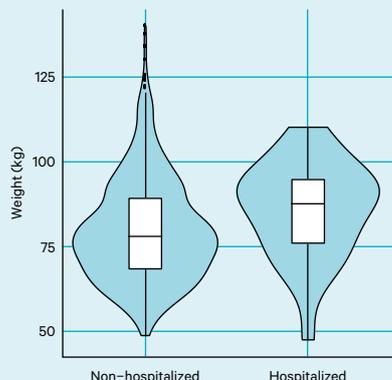
More results can be found at coronabarometer.nl

COVID-19 questionnaire content

Risk factors
- General health
- Chronic disease status
- Medication use
- Medical history
- Lifestyle

Impact
- Social demographics
- Mental health and well-being
- Quality of life
- Employment situation
- Income

BMI

Weight of participants with postive test or diagosed by physician

Job loss

Percentage of unemployed participants that indicate to have lost their job as a result of the COVID-19.
Average unemployment rate of 4.8%
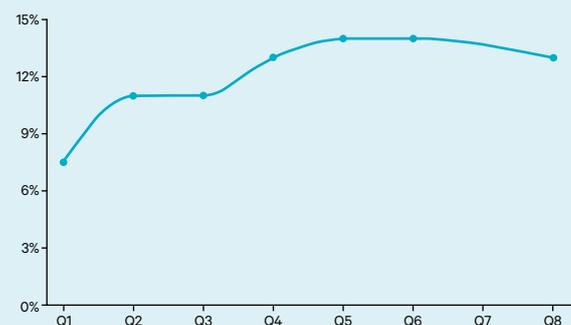
Contact us
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This study is a joint initiative

UMCG · rijksuniversiteit groningen · Aletta Jacobs SCHOOL OF PUBLIC HEALTH · lifelines

lifelines

unique data- and biobank for health research

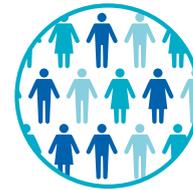Lifelines is a large population-based cohort and biobank which started in 2006 with 167,000 inhabitants of the northern part of the Netherlands. Our aim is to enable research to better prevent, predict, diagnose and treat diseases. For this purpose participants are being followed for 30 years and surveyed every 5 years. We collect data through questionnaires and measurements on a wide range of topics such as lifestyle, environment, multi-omics, and medical history. In addition, Lifelines offers research opportunities through:

- A versatile collection of over 8 million samples
- Record linkage with other registries
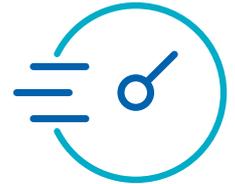- Re-invitation of specified subsets of participants

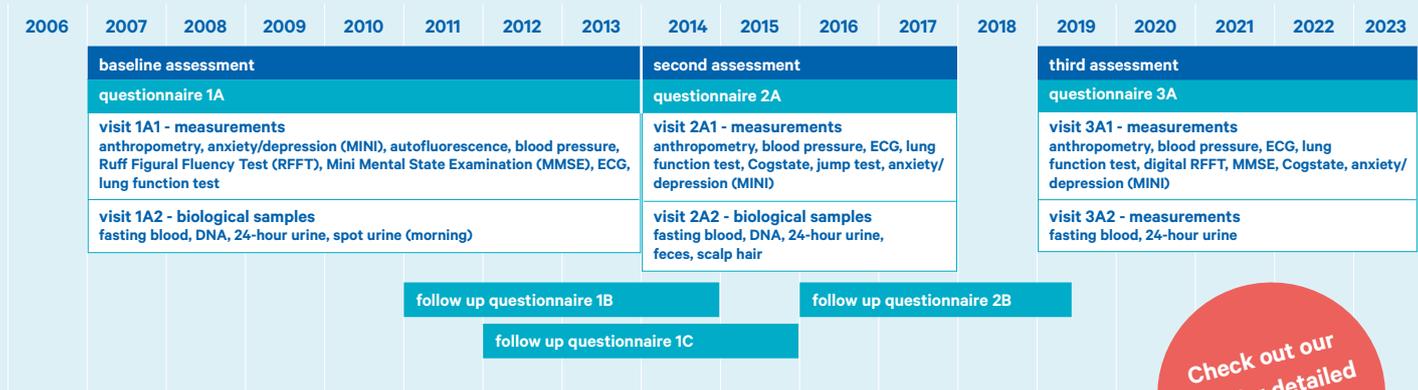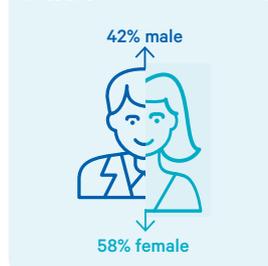**167,000 participants**

Worldwide available

Three generations

Fast data acces

Timeline

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023

baseline assessment

questionnaire 1A

visit 1A1 - measurements
anthropometry, anxiety/depression (MINI), autofluorescence, blood pressure, Ruff Figural Fluency Test (RFFT), Mini Mental State Examination (MMSE), ECG, lung function test

visit 1A2 - biological samples
fasting blood, DNA, 24-hour urine, spot urine (morning)

second assessment

questionnaire 2A

visit 2A1 - measurements
anthropometry, blood pressure, ECG, lung function test, Cogstate, jump test, anxiety/depression (MINI)

visit 2A2 - biological samples
fasting blood, DNA, 24-hour urine, feces, scalp hair

third assessment

questionnaire 3A

visit 3A1 - measurements
anthropometry, blood pressure, ECG, lung function test, digital RFFT, MMSE, Cogstate, anxiety/depression (MINI)

visit 3A2 - measurements
fasting blood, 24-hour urine

follow up questionnaire 1B

follow up questionnaire 1C

follow up questionnaire 2B

Check out our Wiki for detailed information

Participants

2006	2013

167,000 at baseline

2014	2017

124,000 at second assessment

2019	2023

Third assessment ongoing

Age

2012

2016

2020

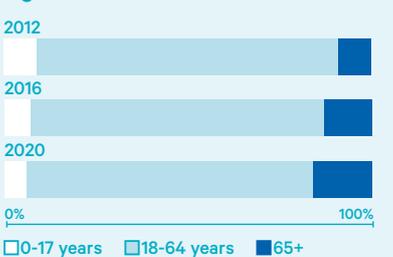0%   100%

☐ 0-17 years ☐ 18-64 years ■ 65+

Gender

42% male

58% female

Family relations*

28,000 siblings
45,000 participants with children
85,000 participants part of 2-generations
20,500 participants part of 3-generations

* Note: these numbers represent the total number of participants, not the number of families

available data & biological samples

Measurements
- anthropometry
- blood pressure
- ECG
- lung function
- cognitive tests
- psychiatric interview
- skin autofluorescence

Biological samples
- blood (fasting sample)
- 24h urine
- faeces
- scalp hair
- DNA

Questionnaires
- medical history
- lifestyle
- nutrition
- physical activity
- social-demographic factors
- quality of life
- symptoms
- personality
- stress
- social context
- other

lifelines COVID-19 study

Are you interested in the possibilities Lifelines has to offer for research or policy development? Please check our website www.lifelines.nl or contact us directly: research@lifelines.nl