

## ISPM News Archive 2020

# CAS in Clinical Research in Health Care Organisations – registration open



02.12.2020 - The next course of advanced studies in clinical research starts with the kickoff meeting on the 28th April 2021.

Registration is now open on  
[www.cas-clinicalresearch.ch/enrolment](http://www.cas-clinicalresearch.ch/enrolment)

In the CAS in Clinical Research you will learn to plan and conduct clinical research projects for a well-defined re-search question, to describe data from clinical studies, and to apply statistical methods and regression models commonly used in clinical research. The CAS also covers prognostic research and systematic reviews of multiple studies and meta-analyses of their results. You will also learn how best to communicate the results of clinical research.

The program involves approximately 450 hours of work in modules that are generally 3-day courses. Completion of the CAS usually takes 2 years, but it can be done in 1 or 3 years, and leads to the acquisition of 15 ECTS points. Participants also have the opportunity to attend elective modules according to their particular interests.

[«CAS Clinical Research» website](http://www.cas-clinicalresearch.ch)

# Teacher of the year 2019: Thomas Abel



02.12.2019 - Each year the program directors of the three Swiss Universities MPH program honor teachers responsible for modules evaluated as outstanding by the students. [Thomas Abel](#) has received this award again in 2019 for his course «*Grundlagen der Gesundheitswissenschaft und Sozialepidemiologie*».

Thomas's comment: *«I feel privileged continuously working with my fellow colleagues and great students on key public health issues. The best courses are those where teachers and students bring their expertise to the classroom and together better understand the major challenges in public health, incl. why and how the problems of health inequities occur and how to find best solutions.»*

# CAS in Sex- and Gender-Specific Medicine: Start in March 2021



27.11.2020 - Understanding how sex and gender interact enhances the quality of science, health, and medicine. Covid-19 is an excellent example of this. We are therefore very pleased to announce the start of the continuing education course CAS in Sex- and Gender-Specific Medicine ([www.gender-medicine.ch](http://www.gender-medicine.ch)) with several speakers from ISPM in March 2021.

Both biology (sex) and sociocultural variables (gender) have a fundamental impact on health behaviour, as well as epidemiology, manifestation, and pathophysiology of diseases. Although sex and gender are essential to effective health care, differences between women and men are often neglected in medical research and clinical practice. The CAS study programme in Sex- and Gender- Specific Medicine is a part-time course at the Universities of Bern and Zurich aimed at postgraduates in medicine and life sciences. To meet the eligibility requirements for this CAS course candidates must hold a master's degree in either medicine or a related field.

The two-day modules can also be booked individually. The costs per module are CHF 960, the entire CAS costs CHF 9,400. PhDs receive a 50% discount.

Please refer to the module overview below or the website [www.gender-medicine.ch](http://www.gender-medicine.ch) for details of the course content and registration deadlines. The CAS is a collaboration of the Universities of Bern and Zurich and is coordinated at ISPM. If you have any questions, please do not hesitate to contact Amoya Ramseyer or Nicole Steck at [info@gender-medicine.ch](mailto:info@gender-medicine.ch) or +41 31 684 55 76.

# What exoplanets have to do with the coronavirus



25.11.2019 – Astrophysicist Kevin Heng and epidemiologist Christian Althaus have just published a joint study. In an interview with «uniaktuell», the two researchers explain what the spread of infectious diseases such as COVID-19 has to do with exoplanetary chemistry and what they hope to gain from INPUT, a newly founded interfaculty platform.

Astrophysics and epidemiology – how do they go together? The contact between the Center for Space and Habitability CSH and the Institute for Social and Preventive Medicine ISPM was established in 2018, as Kevin Heng, director of CSH, explains: «Oscar Franco, who was the new director at ISPM then, and I had various discussions to explore a possible collaboration. Christian Althaus was also present at one of these meetings. That's how we met.» The COVID-19 pandemic then expedited the collaboration between astrophysicist Heng and epidemiologist Althaus to such an extent that they were not only jointly involved in two studies on COVID-19, but they have now institutionalized the cross-faculty collaboration on the new INPUT platform. ...

[Read the full «uniaktuell» article here](#)

# ISPM represented on Medicus Mundi Switzerland Executive Board



24.06.2020 – Per von Groote from the HIV, Hepatitis and Tuberculosis research group was elected to the Executive Board of the Medicus Mundi Switzerland.

Medicus Mundi Switzerland is a network that provides a platform for exchange and collaboration among its 50 Swiss member organizations active in international health cooperation. It facilitates networking and collaboration among Swiss stakeholders for a continual improvement in health around the globe and a high commitment of Switzerland at the international level.

Read more on [Medicus Mundi Switzerland](#)

# Three ISPM Professors among the list of Highly Cited Researchers 2020

Clarivate  
Web of Science™  
Highly Cited Researchers



22.11.2019 – Professors Georgia Salanti, Matthias Egger and Oscar H. Franco from ISPM Bern have been included in the 2020 list of world's most influential researchers.

This list recognizes world-class researchers selected for their exceptional research performance demonstrated by production of multiple highly cited papers that rank in the top 1% by citations for field and year in *Web of Science*.

Further details can be found here: [hcr.clarivate.com](https://hcr.clarivate.com)

- [Media release: Bernese Researchers on Highly Cited Researchers 2020 List](#)
- [Medienmitteilung: Berner Forschende gehören zu den meistzitierten der Welt](#)

# Oscar Franco receives «Epidemiology Academic of the Year (Europe)» award from Global Health and Pharma Magazine



13.11.2020 – Academic success is a great way to measure the intelligence and importance of a certain individual, but Professor Oscar H. Franco is so much more than that. As the Professor of Epidemiology and Public Health, and Director of the Institute of Social and Preventative Medicine (ISPM) at the University of Bern, Professor Franco is one of the most influential figures in the world of epidemiology.

Alongside his wealth of responsibility at ISPM in Bern, Professor Franco is also Adjunct Professor at the Harvard T.H. Chan School of Public Health and Erasmus University Medical Centre in Rotterdam, as well as being scientific advisor for French television channel, France24. With more than seven hundred publications, Professor Franco has dedicated much of his life to scientific advancement, and particularly to the sector of epidemiology.

Read more:

[Epidemiology Academic of the Year \(Europe\): Oscar H. Franco \(PDF, 144KB\)](#)

# Special Talk on «COVID-19 vaccine allocation and prioritization during a pandemic under vaccine supply constraints»



11.11.2020 – With effective vaccines on the horizon new questions emerge in our struggle to overcome the current pandemic. In a fantastic talk Prof. Annelies Wilder-Smith from the London School of Hygiene and Tropical Medicine addresses the key issues in distribution of SarsCov2 vaccination.

Watch the full Special Talk here:

Speaker: Prof. Annelies Wilder-Smith - Date: 10.11.2020

Watch other podcasts [here](#).



# ESTHER Alliance event: «Improving Health Service Quality through Health Partnerships»



10.11.2020 – The ESTHER Alliance is pleased to invite to a joint event with WHO and THET: «Improving Health Service Quality through Health Partnerships».

## *Date/time*

02 December 2020 – 11:00 am - 1:00 pm Bern/ Berlin Time; 10:00 am - 12:00 pm GMT/ London / Dublin Time

## *ESTHER Alliance*

The institutional health partnership (IHP) approach has emerged as a successful means of global collaboration between health institutions in developing and developed countries. The power of partnerships working together has had a positive impact on health care services. (...) The shared practices and experiences of partnerships are a source of great learning for those undertaking similar collaborations. In this two-hour live web event, the WHO will set the scene by providing an overview of the seven characteristics of quality of health services. Afterwards, we will explore the inner workings of stand-out health partnerships operating in different contexts, driven by the common goal of improving quality of healthcare services.

- [Further information](#)
- [Registration](#)

# Orestis Efthimiou appointed honorary member of Oxford University



21.10.2020 – Dr. Orestis Efthimiou has been appointed an honorary member of the Department of Psychiatry of the University of Oxford.

[Dr. Orestis Efthimiou](#) has been appointed an honorary member of the [Department of Psychiatry of the University of Oxford](#). This corroborates and further strengthens the link between ISPM and the Department of Psychiatry in Oxford. Already, several members of the Evidence Synthesis Methods research group of ISPM are actively collaborating with psychiatrists in Oxford in a range of projects.

# E-cigarette use is common among adolescents in Switzerland



20.10.2020 – A recent study from the ISPM Bern and the children's hospitals in Bern and Zurich highlights results of the LuftiBus in the school study (LUIS). It found that e-cigarette use is common among older schoolchildren and that adolescents tend to combine smoking e-cigarettes, shisha and conventional cigarettes. Adolescents who smoked reported more respiratory symptoms than those who did not.

LUIS is a study on respiratory health in schoolchildren. The study was funded by Lunge Zürich and done in 2013-2016 in the canton of Zurich, in a collaboration between the children's hospitals Zurich and Bern, and the ISPM Bern. A bus (LuftiBus) visited schools over the entire canton of Zurich, invited parents and children to fill in questionnaires and measured lung function in the children.

About 3500 children and adolescents aged 6 to 17 years answered the questionnaire that asked about active smoking of e-cigarettes, shishas and cigarettes and about respiratory symptoms. Rebeca Mozun analysed the data on smoking as part of her PhD. Five percent of 6 to 12-year-olds had smoked any of these products occasionally. Smoking increased with age. Among 16 to 17-year-olds, 70% of girls and 60% of boys had smoked occasionally or frequently. Of adolescents aged 13 to 17 years who smoked occasionally, 74% smoked e-cigarettes, 73% shishas and 49% cigarettes. Among those who smoked frequently, 76% smoked cigarettes while 20% used e-cigarettes and 19% shishas. Adolescents often combined smoking e-cigarettes, shisha and cigarettes – with a fifth of 15 to 17-year-olds smoking all of them. Children who smoked, even if occasionally, reported more frequently respiratory symptoms compared to those who did not. Swiss legislation on smoking prevention remains weak compared to EU countries and now e-cigarettes are an emerging threat to our youth. Long-term health effects of e-cigarettes are unknown. Preventive policies like advertising bans and increasing taxes have shown to be effective in reducing smoking in adolescents. To protect our youth, we need to set up structural preventive strategies that focus not only on traditional cigarettes, but also on e-cigarettes.

## Reference

*Mozun R, Ardura-Garcia C, de Jong CCM, Goutaki M, Usemann J, Singer F, Latzin P, Kuehni CE, Moeller A. Cigarette, shisha, and electronic smoking and respiratory symptoms in Swiss children: The LUIS study. Pediatr Pulmonol. 2020*

[Link to the publication](#)

# Annual Reports



The 2019 annual ISPM report marks the first steps towards our [strategy ISPM2030](#). With dedication and commitment ISPM collaborators have achieved enormous success, new research fields such as climate change and health and cardio-metabolic research have been implemented. New collaborations have been established with the Oeschger Centre for Climate Change Research and the Paraplegic Research at Nottwil and on the international level collaborations have been initialized and strengthened.

[Annual Report ISPM 2019 \(PDF, 7.8 MB\)](#)

# New Ambizione fellowship to be funded by the Swiss National Science Foundation (SNF)



14.09.2020 – [Andreas Haas](#) has been awarded an SNF Ambizione fellowship to study the causal pathways leading to lower life expectancy in people living with mental illness in South Africa.

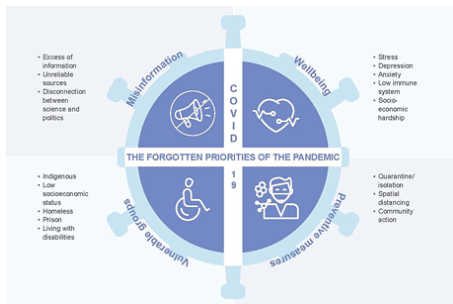
People with mental illness have sharply increased mortality compared with the general population. In a study that will appear in the October issue of *The Lancet Global Health*, Haas and colleagues could show that in HIV-positive adults, a history of mental illness was associated with a 200% increase in all-cause mortality.

The team hypothesizes that excess mortality in people with mental illness reflects a variety of reasons including higher rates of physical illness, unnatural deaths, and health care disparities. In his Ambizione project, Haas and his collaborators from the University of Cape Town, Columbia University, Harvard University, University of Queensland, UMIT and ISPM will study the effects of these hypothesized causal pathways on mortality in people affected by mental illness.

Picture reference:

[Graffiti on Table Mountain's Tafelberg Road, Cape Town](#) captured by JB Dodane. [CC BY-NC 2.0](#)

# Editor's Choice Award for article «COVID-19: The forgotten priorities of the pandemic»



24.06.2020 – The article “COVID-19: The forgotten priorities of the pandemic”, written by ISPM PhD student Cristina Mesa Vieira and Professors Oscar Franco and Thomas Abel jointly with Professor Carlos Gomez (Javeriana University, Colombia), has been awarded the Editor's Choice for the June Edition of *Maturitas* (Vol. 136).

As the pandemic spreads to all countries around the globe, reaching over 9 million persons infected, the article gains relevance as it highlights the effect of Covid-19 on the overall wellbeing of the population. In the paper, the authors describe some implications of social distancing that can be detrimental to people’s mental health, especially of those who do not have an extensive support network. Therefore, the term spatial distancing denotes better the intention of the preventive measure. The pandemic carries a particularly high burden to persons living in low- and middle-income countries, where public health authorities struggle to balance measures to contain the pandemic and their consequences on the economy and its social hardship. Vulnerable populations, such as indigenous, migrants, homeless, the elderly and healthcare workers are at higher risk and are often neglected and have limited healthcare access. For instance, the increasing rates of Covid-19 in Peru, Brazil and the Amazon region in Colombia show the rapid spread of the disease and complications within these communities. Furthermore, the authors explain how miss-information contributes on spreading prejudice and fear that may impair the overall wellbeing of the population. This ISPM paper was among the first to stress the importance of social and psychological determinants and consequences of the current pandemic. Addressing those, ISPM’s Social Environment research group is currently conducting a survey among University students on their health and wellbeing during the Covid-19 crisis. This study is part of an international project involving universities from more than 20 countries.

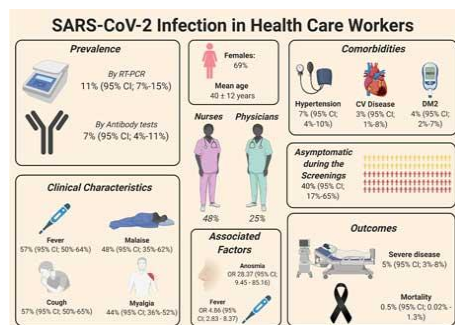
## Links

[Maturitas article «COVID-19: The forgotten priorities of the pandemic»](#)

[Covid-19 SWS Study](#)

[Platform of social and economic studies on pandemics](#)

# Up to 11% of health care workers globally might be infected from SARS-CoV-2



14.09.2020 – Health care workers (HCW) are at the frontline response to the new coronavirus disease 2019 (COVID-19), exposing themselves to a higher risk of acquiring the disease, and subsequently, exposing patients and colleagues. Characterizing severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2 infection) within health-care workers is critical for designing effective preventive measures to limit the transmission of the virus within a hospital, and from hospitals to the community, and thus achieving optimal control of the pandemic.

An international team of researchers from Bern, Switzerland and Bucaramanga, Colombia conducted a review and meta-analysis of observational studies quantifying SARS-CoV-2 infection in terms of prevalence, risk factors, and prognosis among healthcare workers. The researchers identified ninety-seven studies performed across 24 countries, and including 230,398 participants, that met criteria for inclusion in the analysis. This article is currently in press at the American Journal of Epidemiology.

Among HCW, the global pooled prevalence of SARS-CoV-2 infection based on RT-PCR was 11%, while the pooled prevalence of antibody presence was 7%. Almost half of infected HCW workers (48%) were nurses, followed by physicians (25%) and other HCW. Most of the SARS-CoV-2 positive personnel were working in hospitalization/non-emergency wards during the screenings (43 %), followed by the operating rooms and surgery services (24%).

Authors also found that 40% HCW were asymptomatic at the time of SARS-CoV-2 diagnosis by RT-PCR. While as expected, symptomatic HCW were more likely to test positive than non-symptomatic HCW (19% vs. 7%). Among symptomatic HCW, the most common reported symptoms were fever, cough, myalgia, headache and malaise, but presence of anosmia and fever were identified as the only factors significantly associated with SARS-CoV-2 infection among HCW. Five percent of the COVID-19 positive HCW developed severe disease, and 0.5% died.

Dr Sergio Alejandro Gómez-Ochoa, researcher in the Cardiovascular Foundation of Colombia, Colombia, and first author on the paper, said: "Nurses accounted for the largest number of HCW positive for SARS-CoV-2 infection. This may be explained by the larger time staff nurses usually spend with direct patient care involving tasks performed at the bedside, drug administration, and being the first line of response in case of any patient complications".



The researchers say that high SARS-CoV-2 infection observed among HCW in hospitalization/non-emergency wards in the current study may suggest a difference in Personal Protective Equipment (PPE) use across settings, which might lead to a higher compliance to these measures in the emergency departments and intensive care units compared to non-COVID-19 wards. Implementation of adequate PPE and training on how to use them among HCW could be critical to reduce transmission of SARS-CoV-2 in a clinical setting.

[Dr Taulant Muka](#), preventive medicine researcher at the Institute of Social and Preventive Medicine (ISPM) University of Bern, Switzerland, and senior author on the paper, said: *"HCW protect us, it's time we do our best to protect them from SARS-CoV-2 infection. They represent a population with a very high risk of being infected with SARS-CoV-2, with 5% of infected HCW developing clinical complications. Forty percent of the infected HCW are asymptomatic at the time of diagnosis. This might favour silent transmission to colleagues, patients, family members and their communities if the preventive measures are not implemented. While screening for Covid-19 specific symptoms could be useful in low- and middle-income countries with limited testing capacity, universal screening for all exposed HCW regardless of symptoms should be the standard strategy. We will miss a large proportion of COVID-19 cases if screening targets only symptomatic HCW."*

Professor Oscar Franco from the University of Bern, Switzerland, co-author of the paper, said: *"Our findings have important implications for policy makers and hospital administrators in better planning of resources to reduce SARS-CoV-2 transmission in hospitals. Yet, further rigorous studies are needed to determine specific interventions that can help reducing SARS-CoV-2 infection among healthcare personnel. This is a key vulnerable population that deserve receiving the best protection equipment, adequate work conditions and training. Policy makers and society should recognise this segment of the population as priority, without their health and wellbeing we won't be able to control this pandemic"*

## [Reference](#)

*Gómez-Ochoa, SA et al. COVID-19 in Healthcare Workers: A Living Systematic Review and Meta-analysis of Prevalence, Risk Factors, Clinical Characteristics, and Outcomes. American Journal of Epidemiology; in Press.*

[Link to the publication](#)

## [Contact details](#)

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# ISPM's Matthias Egger Reelected President of the National Research Council



11.09.2020 – The executive committee of the Swiss National Science Foundation has retained Matthias Egger for a second four-year term as President of the National Research Council of the SNSF.

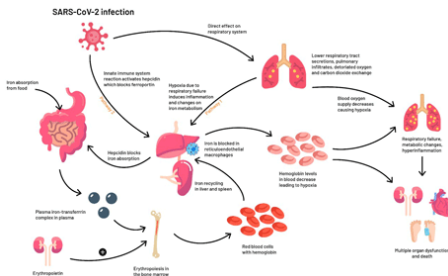
An internationally recognized and widely cited epidemiologist, Matthias Egger trained in medicine (University of Bern) and epidemiology (London School of Hygiene and Tropical Medicine). He had academic appointments at University College London and the University of Bristol before returning to the University of Bern in 2002 as professor of epidemiology and public health. In 2016 he stepped down from heading the Institute of Social and Preventive Medicine and was elected to the Presidency of the National Research Council of the SNSF, which he has been a member of since 2010.

The impact on science in Switzerland of the funding decisions made by the council that Matthias Egger leads is large. Last year the SNSF evaluated 6900 grant applications and awarded 1 billion francs to 3400 proposals. During his first term heading the research council of the SNSF, Egger focused on quality of evaluation and making funding selections fair and transparent, leveling the field for all researchers who apply for SNSF funding. Open access to data and publications, along with gender equity and scientific integrity will remain among his priority interests during his second term.

With longstanding engagement in research funding and science policy internationally, scientific collaboration with Europe is more vital than ever in this time of pandemic. In a Swiss context, Matthias Egger is a member of the Swiss National COVID-19 Science Task Force, which advises the Swiss government on the novel coronavirus pandemic. Egger also led the task force from its inception through July this year. Egger notes that "the future of scientific collaboration with Europe will be on our minds. This question is of vital importance for research in Switzerland."

[The SNSF press release](#)

# Meta-analysis from 189 studies indicate alerted levels of iron and anemia biomarkers in Covid-19



21.08.2020 – A new study led by researchers at the Institute of Social and Preventive Medicine in Bern Switzerland within an international collaboration (Bucaramanga, Colombia; Debrecen, Hungary; Groningen, the Netherlands; Istanbul, Turkey; Manila, Philippines and Notwil, Switzerland), has found that patients with severe COVID-19 or those who did not survive this infection had differences in levels of iron and anemia biomarkers, compared to those with less severe disease or those who survived, respectively. The study was published at the [European Journal of Epidemiology](#).

Changes in iron levels have been associated with worsening disease for other viral infections such as HIV and Hepatitis C, but this is the first updated and comprehensive study to elucidate a similar association for COVID-19, using several iron metabolism biomarkers.

Iron is needed to form hemoglobin, part of red blood cells that carry oxygen and remove carbon dioxide (*as a waste product*) from the human body. Iron storage can be found mainly binded to hemoglobin, stored as ferritin and hemosiderin in the bone marrow, spleen, and liver.

The current work is the first updated and comprehensive systematic review and meta-analyses exploring the potential clinical utility of anemia and iron metabolism in COVID-19. Based on data from 189 studies and 57,563 COVID-19 patients across all ages, researchers found a pooled mean hemoglobin level of 129.7 g/L, which decreased with older age and a higher proportion of comorbid illness and disease severity. Pathological values of ferritin were found in most COVID-19 patients, more common among males, elderly and individuals with hypertension. Major differences in ferritin levels were reported between different levels of COVID-19 severity, and among patients who survived and those who did not. In addition, compared to moderate COVID-19 cases, severe patients had worst erythrocytes phenotypes, including lower red blood cell count and higher red blood cell distribution width. Due to limited evidence and/or heterogeneity among included studies, researchers were not able to meta-analyse the evidence on other biomarkers of iron metabolism and anemia.

In addition, drawing from the findings authors have hypothesized a new mechanistic approach in evaluating the pathophysiological role of iron metabolism in COVID-19. Since, iron is essential for the growth of pathogens, but also for the body's own immune response, during an infection, the immune system seems to 'compete' with the pathogen for iron. According to the findings of this work there are two potential pathways through which iron metabolism may be involved in the pathophysiology of COVID-19: 1) the virus inflicts hypoxia via direct deleterious effects on the respiratory system, altering the inflammatory response leading to anemia; and 2) the innate immune system may aim to decrease the bioavailability of iron in order to prevent an expanding viral load in the acute-phase of the infection. This leads to the activation of hepcidin, sequestration of iron within cells, increased levels of ferritin and decreased hemoglobin, culminating in hypoxia.

Overall this study suggests that hemoglobin and ferritin levels vary according to the severity of COVID-19 as well as age, gender and presence of comorbidity among COVID-19 patients. Whether hemoglobin and ferritin can be used for prognostic purposes, or have further implications for identifying novel treatment targets, needs further investigation.

[Link to the publication](#)

# ISPM leads NRP 78 «Covid-19» project project to investigate the impact of the pandemic on mental health

## covid19-mhsr

[View the Project on GitHub](#)

[esm-ispm-unibe.ch/covid19-mhsr](https://esm-ispm-unibe.ch/covid19-mhsr)

07.08.2020 – Georgia Salanti's proposal for «A continuously updated meta-ecological study of the effects of the COVID-19 pandemic on mental health, alcohol/substance abuse and violence in the general population» is now funded by the Swiss National Science Foundation.

According to a recent UN report, the vast majority of mental health needs remain unaddressed because of the lack of investment in relevant research and urges for considering mental health actions as part of a national response to COVID19. The chances of mounting a successful response to a pandemic greatly depend on the speed and accuracy of the available information, and hence collecting high-quality data on the mental health effects of the COVID-19 pandemic is an immediate priority. In this project, Georgia Salanti and colleagues aim to provide reliable large-scale evidence about mental health during the COVID19 pandemic and examine how the changes in mental health state of the societies depend on the lockdown measures put in place worldwide.

More specifically, they will answer the questions:

- What is the prevalence of mental health problems in the general population and subpopulations worldwide during the COVID-19 pandemic?
- How are mental health problems associated with a) characteristics of the pandemic b) the extent and intensity of measures to contain the pandemic? And which population characteristics (e.g. sex, age, comorbidities, cultural characteristics) modify these prevalences.

The project is led by [Georgia Salanti](#) and will be embedded in the Evidence Synthesis Research Group at ISPM. [Theodore Papakonstantinou](#) and [Nicola Low](#) are part of the research team. The project is in collaboration with the Department of Psychiatry at the University of Munich.

[Link to project website](#)

# Lockdown exit strategies must treat health and economy as equally important, argue researchers



13.07.2020 – Strategies for the safe reopening of low and middle-income countries (LMICs) from months of strict social distancing in response to the ongoing COVID-19 pandemic must recognise that preserving people's health is as important as reviving the economy, argue an international team of researchers.

The team also say that strategies need to be based on local epidemic growth rate at the time, social and economic costs, existing health systems capabilities and detailed plans to implement and sustain the strategy.

The COVID-19 pandemic has been responsible for over half a million deaths globally. Many LMICs responded to the pandemic by introducing a number of measures from physical distancing to strict social distancing.

These measures have proved relatively successful in containing the disease and limiting the number of deaths in places where the risk of transmission is high, public health systems and usage are suboptimal and awareness of disease prevention practices is low. However, they have often come with tremendous negative social, economic and psychological effects.

To prevent further negative impacts of lockdown, many countries are now looking to 'reopen', risking population health, especially given shortcomings in surveillance infrastructure and poor diagnostic capabilities.

In a paper published in the *European Journal of Epidemiology*, a team of epidemiologists from the University of Cambridge, the University of Bern, BRAC University and the National Heart Foundation in Bangladesh, have examined three

community-based exit strategies, and recommend their scopes, limitations and the appropriate application in the LMICs.

Dr Shammi Luhar of the University of Cambridge and co-author of the paper said: "Successfully re-opening a country requires consideration of both the economic and social costs. Governments should approach these options with a mind-set that health and economy both are equally important to protect – reviving the economy should not take priority over preserving people's health."

The three approaches considered are:

### *Sustained mitigation*

Sustained 'mitigation-only' approaches such as those adopted in the United Kingdom, Switzerland and other European countries, involve basic prevention measures such as mask wearing, physical distancing and the isolation of positive cases after testing.

However, the researchers point out that the relative success and ease of implementation of these approaches in high-income settings was aided by a number of factors. For example, high-income countries have the capacity to implement mass testing, population surveillance and case isolation to contain the epidemic, in addition to a high number of trained contact tracers operating in a relatively small and sparse population and high levels of adherence to the measures, including home quarantine and hygiene advice.

By contrast, in LMICs, a sustained mitigation-only approach may be unfeasible due to poor or absent nationwide population surveillance, contact tracing, testing infrastructure and critical care. For example, LMICs generally have limited supply of ventilators (around 48,000 for India's 1.3 billion people), personal protective equipment, trained healthcare personnel and safe working conditions, compromising the healthcare system's effectiveness.

### *Zonal lockdowns*

Zonal lockdowns involve identifying and 'cordoning off' new outbreak clusters with a high number of cases, keeping contact between zones low and containing the disease within a small geographic area.

However, the authors point out that any successful implementation of zonal lockdown requires regular data feedback operations in real time to identify hotspots, including information on newly confirmed cases, updated region-specific reproduction and growth rates, and deaths by age. This may be especially difficult to introduce in LMICs due to the absence of widespread population surveillance on random selections of the population and poor reporting and testing capabilities – for example, Pakistan conducts only 0.09 tests daily per 1,000 individuals compared to 0.52 in France.

Additionally, control of transmission within zones may be an enormous undertaking. In India, where this approach has been employed, the infection size within a cordoned zone can be as high as 100-200 times that outside the zone.



Countries seeking to introduce such measures should establish within the lockdown zone public health measures, including house-to-house surveillance and case-referral systems, and emergency services. They should also create buffer zones to reduce the rates of transmission from outside the zone. Such measures may only be effective when overall population transmission is relatively low and reducing.

### *Rolling lockdowns*

Intermittent rolling lockdowns are now advocated by the World Health Organization in various LMICs. These involve implementing strict social distancing for a set number of days before a period of relaxation. Rolling lockdowns may be particularly useful in LMICs with dense populations, where this is a high potential for contact, weak health systems and poor contact tracing.

A [modelling study published by the team in May](#) showed that a system involving 50 days of strict lockdown followed by 30 days of relaxation, enabling the economy to 'breathe' and recuperate, could reduce the reproduction number to 0.5, reduce the strain on health systems and considerably reduce the number of deaths compared to a situation with no lockdown.

Dr Rajiv Chowdhury from the University of Cambridge, lead author of the paper, said: "Rolling lockdowns need be flexible and tailored to the specific country. The frequency and duration of the lockdowns or relaxed periods should be determined by the country based on local circumstances. They don't necessarily need to be nationwide – they can also involve a large zone or province with very high incidence of COVID-19."

[Professor Oscar Franco](#), of the University of Bern and senior author of the paper, added: "These three strategies should not be considered as one or the other. A country should further adapt and could combine them as needed."

### *Reference*

[\*Chowdhury, R et al. Long-term strategies for low and middle-income countries to control COVID-19 pandemic: an overview of non-pharmacological interventions. European Journal of Epidemiology.\*](#)

# Clinical Research Collaboration on Primary Ciliary Dyskinesia



06.07.2020 – The BEAT-PCD (Better Experimental Approaches to Treat Primary Ciliary Dyskinesia) Clinical Research Collaboration (CRC) is one of the three new CRCs funded in 2020 by the European Respiratory Society (ERS) after a successful application of Dr Amelia Shoemark from the University of Dundee and Dr [Myrofora Goutaki](#) from ISPM Bern. It is a pan-European network of clinicians and scientists committed to promoting clinical, translational research and education in Primary Ciliary Dyskinesia (PCD).

Primary ciliary Dyskinesia (PCD) is a rare genetic, multi-organ disease. Previous European initiatives including two ERS Task Forces (2006-2009/ 2014-2016), an FP7 funded project (BESTCILIA 2012-2015), and the EU COST Action BEAT-PCD (2015-2019) improved awareness, diagnosis and clinical care for patients with PCD. Despite these advances, diagnosis remains complex with inequalities between countries and the majority of patients remain undiagnosed. Treatment is based on expert opinion and is borrowed from other diseases such as cystic fibrosis. For a rare disease such as PCD, international collaboration is essential to improve patient diagnosis and care. Therefore, the BEAT-PCD ERS CRC aims to advance clinical and translational research in PCD through building upon the foundations set by the previous collaborative initiatives and the BEAT-PCD network.

BEAT-PCD has the global vision of improving diagnosis and clinical care, expanding and developing further available research resources, setting a framework for clinical trials, engaging PCD patients in research activities and developing collaborations with other networks and relevant stakeholders. The CRC consists of seven work packages covering different aspects of PCD research.

Every clinician and researcher interested in the BEAT-PCD activities is welcome to join the network and become a member. At the core of the network, there is the BEAT-PCD management committee, led by the two chairs Amelia Shoemark and Myrofora Goutaki. The PCD research team of ISPM Bern leads several projects in the framework of BEAT-PCD and besides Dr. Goutaki, Prof. Claudia Kuehni participates in the management committee and Yin Ting Lam joins the CRC's advisory board as a PhD representative. [BEAT-PCD Website](#)



# New searchable living evidence in COVID-19 Open Access project



17.06.2020 – Overwhelmed by 300+ new articles per day on COVID-19? Are you doing a systematic review? Our living evidence resources are getting better all the time. Now you can search the COVID-19 Open Access project and download your results. Follow us on [Twitter @evidencelive](#).

We have built a [living systematic review system](#) to help you navigate the rapidly evolving evidence about COVID-19 and SARS-CoV-2. We use application programming interfaces (API) to collect daily citation data from the medical bibliographic databases EMBASE and PubMed and from the largest preprint servers bioRxiv and medRxiv. [Now you can search](#) using queries for text words in the title and abstract. Colour coding shows you which are peer-reviewed publications and which are preprints. Download the results as a .ris or .csv file and start screening.

In our next updates, we will explain how a crowd of volunteers is tagging each article with its study design and how we are using machine learning tools to speed up the process and provide even more features.

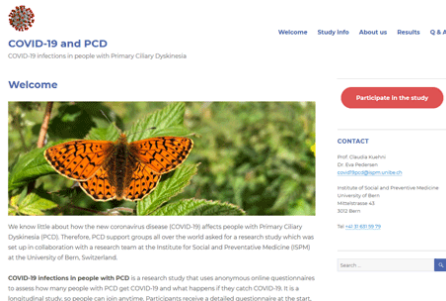
The COVID-19 Open Access project is funded by the Swiss National Science Foundation and Horizon 2020 EpiPose project.

## Links

[Living Evidence on COVID-19 search](#)

[Coronavirus Disease 2019 \(COVID-19\) Resources page](#)

# COVID-19 infections in people with Primary Ciliary Dyskinesia: an online patient-initiated study



02.06.2020 – Support organizations for people with Primary Ciliary Dyskinesia (PCD) from all over the world collaborate with the University of Bern for a new study on COVID-19 infections in people with PCD. The study is led by Claudia Kuehni from ISPM Bern and is now open for participation. It is an online-based questionnaire study to investigate incidence and disease course of COVID-19 in people with a rare chronic lung disease, PCD. Questionnaires are currently available in German and English.

Primary ciliary Dyskinesia (PCD) is a rare genetic, multi-organ disease, which affects primarily the airways. Patients with chronic lung disease such as PCD are thought to be at particularly high risk of getting severely ill from COVID-19. However, there are no valid data to support this. We have been asked by PCD support organisations to set up a survey that gathers essential knowledge on effects of COVID-19 on people with PCD and make this information available to people with PCD, physicians, and policy makers in real time. The study has been developed by the PCD research group at ISPM Bern and is led by [Claudia Kuehni](#).

COVID-19 infections in people with PCD is an anonymous longitudinal online-based study. Participants register via the study website [www.covid19pcd.ispm.ch](http://www.covid19pcd.ispm.ch) and thereafter receive links via email to the online questionnaires. To begin with, participants fill in a detailed questionnaire on previous COVID-19 infections, type, and severity of their PCD disease, and social contact behaviour. Participants afterwards complete short weekly questionnaires to provide information on incident infections and symptoms. Additional short questionnaires will be sent out during the follow-up period that focus on extra topics such as official information and policy issues, availability of treatments, anxieties, etc. Participants are encouraged to suggest topics of interest to them. In case of hospitalisation, a short questionnaire will be sent to the participant or a family member with questions on the hospital stay and treatments. The study was developed for 3 age groups (adults, adolescents, and children) and is currently available in German and English.

People with PCD from Switzerland, Germany, the United Kingdom, the United states, Canada, and Australia are already participating. The aim is to include as many people with PCD as possible to have representative data from all over the world. Translation into further languages is possible if there is an interest and strong backing from PCD

support organisations from other countries. This study will allow us to gather real-time data to inform and empower people with PCD and to provide hands-on evidence to physicians and policymakers.

# Online event: Gender Equality, Power and Participation during a Pandemic Crisis



## *Introduction:*

The current coronavirus outbreak risks to have higher economic and social impacts for women by slowing down efforts to address gender inequality across the world. This pandemic experience provides an opportunity to move the debate forward by identifying new opportunities (as gender-neutral distribution of care and work time and to “unstereotype” gender roles) and by addressing the urgent need to ensure equal representation of men and women in decision-making processes. This webinar aims to share expertise on the gender impacts of the crisis, and to discuss the way forward.

## *Details:*

[OnlineEvent Gender WTI \(PDF, 1.5 MB\)](#)

## *When:*

26 May 2020, 17:00 European Standard Time (CET)

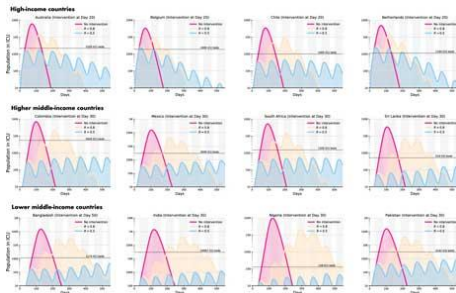
## *Chairs:*

[Elisa Fornalé](#) (WTI, University of Bern) and [Georgia Salanti](#) (ISPM, University of Bern)

## *Panel:*

Zsuzsa Blaskó (European Commission)  
[Annalisa Rosselli](#) (Università degli Studi di Roma)  
[Alessandra Minello](#) (University of Florence)

# Dynamic measures against the coronavirus examined



20.05.2020 – An alternating cycle of suppression interventions and relaxation could offer a pragmatic strategy - particularly for developing countries - to prevent health systems from being overloaded while reducing the economical and societal burden. This is illustrated in an international study with significant participation by the Institute for Social and Preventive Medicine (ISPM).

The coronavirus pandemic has imposed an unprecedented challenge to global healthcare systems, societies and governments. SARS-CoV-2, which causes COVID-19, has been detected in almost every country in the world with 4.8 million confirmed cases and more than 300,000 deaths.

Since there are currently no effective treatments or a vaccine against COVID-19, the strategies to combat the pandemic globally concentrate on interventions that reduce the transmission of the virus through - sometimes drastic - measures of social distancing, including lockdowns. While such measures can prevent health systems from becoming overloaded, they can also lead to considerable economic costs, financial uncertainty and social problems in some countries. There is growing concern that such long-term interventions, particularly for developing countries, will not be sustainable. An alternative approach could be to alternate strengthened measures with periods of relaxation. However, it remains unclear how such intervals should look like such that the health systems of different countries will not become overloaded.

To address this question, an international team including researchers from the Institute of Social and Preventive Medicine (ISPM) modelled three scenarios for 16 countries - from India to Colombia - that differ in health care capacities and demography. Their results are now published in the European Journal of Epidemiology.

## Modelled scenarios

The first scenario modelled imposing no measures. As would be expected, the number of patients requiring intensive care would quickly exceed the available capacity significantly for every single country. Under this scenario, the duration of the epidemic would last nearly 200 days in the majority of the countries included and result in a vast number of deaths.

The second scenario modelled a rolling cycle of alternating cycle of 50-day mitigation measures followed by 30-day relaxation. Based on the considered parameters for the reproduction number  $R$  (the average number of people that are infected by one infected person), this strategy still be insufficient to keep the number of patients requiring healthcare below the available critical care capacity. After the first relaxation, the number of patients requiring intensive care units (ICUs) would exceed the hospital capacity and would result in a considerable number of deaths across the 16 countries. In this scenario, the pandemic would last approximately 12 months in high-income countries, and about 18 months or longer in the other settings.

As a final scenario, the researchers modelled a rolling cycle of 50-day suppression measures followed by 30-day relaxation. With such a strategy, the required number of ICUs remained within the national capacities for all countries. While this approach extends the duration of the epidemic beyond 18 months, a much smaller number of patients would die from COVID-19.

[Oscar Franco, professor of epidemiology at ISPM](#), summarizes: "Our study provides a strategic option that countries can use to help control COVID-19 and delay the peak rate of infections."

## Measures that take into account the economy and society

The researchers highlight that their study mainly offers an illustrative comparison of different intervention strategies. There remains considerable uncertainty as to which measures will lead to a decrease or increase in new infections. Hence, the researchers highlight that the specific durations of these interventions would need to be defined by specific countries according to their needs and local facilities. The key is to identify a pattern that allows to protect the health of the population not only from COVID-19 but also from economic hardship and mental health issues.

"An intermittent combination of strict social distancing and a relaxation phase may allow populations and their national economies to 'breathe' at intervals - a potential that might make this solution more sustainable, especially in resource-poor regions", says Rajiv Chowdhury, global health epidemiologist at the University of Cambridge and lead author of the study.

## Interfaculty collaboration at the University of Bern

The interdisciplinary research is also the result of a newly established collaboration between the ISPM and the Center for Space and Habitability (CSH) at the University of Bern. "This paper is an early demonstration of an unlikely realization we had several months ago: despite the stark differences in subject matter between epidemiology and astrophysics, the two disciplines draw upon the same foundation of methods including numerical modelling and statistics," says Kevin Heng, professor of astrophysics at the CSH. "Our intention is to build an interfaculty platform between the natural sciences and medicine on computational methods to further develop synergies between ISPM and CSH."

# No option for Switzerland at the moment

A number of European countries are currently lifting the first measures after their lockdowns, including Switzerland. A broad testing strategy with intensified contact tracing will now be important to prevent another increase in infections. "Ideally, these additional measures will compensate for the lifting of previous measures in the long-term, such that the number of new infections will continue to stay at a low level without a major impact on the economy and society", says [Christian Althaus, research group leader at the ISPM](#) and co-author of the study. "Hence, cyclic intervention strategies are currently not being considered in Switzerland." It remains to be seen whether this will be possible in all countries of the world. Until then, the cyclic strategies that are described in the study could offer a pragmatic solution - particularly for developing countries.

The project was supported by Horizon 2020, the European Union's research and innovation program.

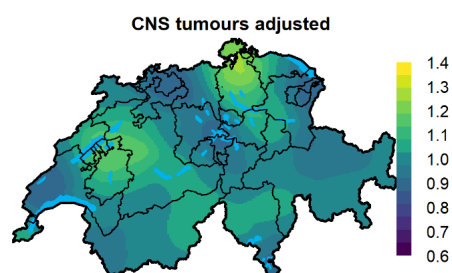
Publication information:

Chowdhury R, et al. Dynamic interventions to control COVID-19 pandemic: a multivariate prediction modeling study comparing 16 worldwide countries. Eur J Epidemiol 2020. DOI: 10.1007 / s10654-020-00649-w.

[Read the full publication](#)

[Media release by the University of Bern](#)

# The geography of childhood cancer in Switzerland



18.05.2020 – Researchers from the Institute of Social and Preventive Medicine at the University of Bern investigated the spatial distribution of childhood cancer risks in Switzerland for the period 1985-2015. They found evidence of increased risks in certain areas, particularly for brain tumors. The researchers conclude that the search for the causes of brain tumors in children be intensified.

While cancer is rare in children, it remains the second most common cause of death during childhood in Switzerland and other European countries. In Switzerland, about 250 children and adolescents under the age of 16 are diagnosed with cancer each year. Little is known about the causes of these diseases. Various environmental factors have come under suspicion including include low dose ionizing radiation (natural background radiation, medical diagnostic radiation), air pollution, electromagnetic fields or pesticides.

In a statistical model, the researchers compared the locations of residence of children who developed cancer at the age of 0-15 years during 1985-2015 (data from national Childhood Cancer Registry) with those of children from the general population (data from national censuses 1990, 2000 and 2010-15). Precisely geo-coded location data, so-called point data, were used for this purpose. In a previously published simulation study, the researchers showed the model using point data identifies areas of increased risk more accurately than other widely used models that rely on spatially aggregated data, such as the number of cases per community or district.

The analysis included 5,947 primary cancers, of which 1,880 (32%) were leukemias, 772 (13%) lymphomas, and 1,290 (22%) tumors of the central nervous system (CNS), i.e. tumors of the brain and spinal cord. The estimated local cancer rate deviated from the national average by up to -17% downwards and up to +13% upwards, depending on the location. The spatial variation was smaller for leukemias (-4% to +9%) and lymphomas (-10% to +13%), but larger for brain tumors (-18% to +23%).

The researchers found that the observed spatial variability could be partially accounted for by certain spatial indicators such as degree of urbanization or socio-economic position or by previously investigated environmental factors, namely traffic-related air pollution and natural background radiation. The factors considered accounted for 72% of the spatial variation observed for all cancers together, 81% and 82% for leukemias and lymphomas, and 64% for brain tumors.



A map displaying the results shows two regions with increased incidence of brain tumors, one in the north of the canton of Zurich (border area with the canton of Schaffhausen) and one in the so-called Seeland. The considered factors could not explain the increase rates of brain tumors observed in the two areas mentioned above. The researcher conclude that the search for environmental risk factors of brain tumors should be intensified and that various subgroups of brain tumors must be considered separately.

#### Links

##### [Publication](#)

Konstantinoudis Garyfallos, Schuhmacher Dominic, Ammann Roland A., Diesch Tamara, Kuehni Claudia E., Spycher Ben D., for the Swiss Paediatric Oncology Group and the Swiss National Cohort Study Group. Bayesian spatial modelling of childhood cancer incidence in Switzerland using exact point data: a nationwide study during 1985–2015. Int J Health Geogr 2020 19:15

##### [Previous publication \(simulation study\)](#)

Garyfallos Konstantinoudis, Dominic Schuhmacher, Håvard Rue, Ben D. Spycher: Discrete versus continuous domain models for disease mapping, Science Direct, Volume 32, February 2020,

##### [Media release by the University of Bern](#)

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# Specially Designed Footwear Reduces Pain of Knee Osteoarthritis



15.05.2020 – First randomized clinical trial introduces new approach for treating the disease. Wearing shoes specifically designed with a novel sole (biomechanical footwear) significantly reduces the pain associated with knee osteoarthritis.

Knee osteoarthritis affects approximately 275 million people worldwide and in 2017 was estimated to account for 8.3 million years lived with disability. Acetaminophen, non-steroidal anti-inflammatory drugs and opioids are most commonly used drugs to treat pain but have limited effectiveness.

Researchers from the Institute of Social and Preventive Medicine, CTU and the Department of Rheumatology, Immunology and Allergology in Bern, Switzerland, Boston University School of Medicine and the University of Toronto studied 220 participants who suffered from painful knee osteoarthritis. Half wore the biomechanical footwear while the others wore the “control” shoes. After six months of wearing the shoes, the biomechanical group had a larger decrease in their pain score measured by the Western Ontario Osteoarthritis Index pain scale. There were no differences in reported adverse events between the biomechanical footwear and the control shoes.

Biomechanics plays an important role in the development of osteoarthritis of the knee, and this trial is the first with promising results regarding the successful alteration of the biomechanics of the lower limb. In addition, the treatment probably works also by re-educating and reconditioning muscles in the legs.

The authors caution that further research is needed to assess long-term efficacy and safety.

[These findings appear in JAMA](#)

# EU support for research to reduce the impact of coronavirus



17.04.2020 – As part of a European consortium, researchers from the University of Bern are investigating the spread of the coronavirus SARS-CoV-2, how dangerous it is and what measures are effective in containing the pandemic. The EU research framework programme «Horizon 2020» is supporting the consortium's EpiPose project with a total of three million euros.

[Coronavirus Disease 2019 \(COVID-19\) Resources page](#)

*Read the press release in german here:*

## Mit EU-Fördermitteln die Auswirkungen des Coronavirus vermindern

Im Rahmen eines europäischen Konsortiums untersuchen Forschende der Universität Bern, wie sich das Coronavirus ausbreitet, wie gefährlich es ist und welche Massnahmen zur Eindämmung der Pandemie wirksam sind. Das EU-Forschungsrahmenprogramm «Horizon 2020» unterstützt das Projekt des Konsortiums mit insgesamt drei Millionen Euro.

Die Ausbreitung von neu auftretenden Infektionskrankheiten ist das Spezialgebiet der Forschungsgruppe um den Epidemiologen Christian Althaus am Institut für Sozial- und Präventivmedizin (ISPM) der Universität Bern. «Wir haben zuvor zu Ebola und dem Mers-Coronavirus geforscht und bereits Anfang Jahr mit unseren Arbeiten zum neuen Coronavirus begonnen», sagt Christian Althaus. Die Ende Januar veröffentlichte Studie der Berner Forschenden war eine der ersten, die zeigte, dass es wahrscheinlich zu einer weltweiten Pandemie kommen würde. Als deshalb die EU-Kommission ankündigte, die dringend notwendige Forschung zum neuen Coronavirus zu fördern, machte sich Althaus gleich auf die Suche nach europäischen Partnern und kam schnell in Kontakt mit ebenfalls interessierten Kolleginnen und Kollegen.

## Drei Millionen Euro für sechs Partner

Es entstand ein Konsortium mit sechs Partnerinstitutionen, das unter der Leitung der belgischen Universität Hasselt innerhalb von zwei Wochen einen Forschungsantrag stellte, der nun bewilligt wurde. «EpiPose» heisst das europäische Projekt, das zum Ziel hat, die Auswirkungen von Covid-19 auf das Gesundheitswesen, die Wirtschaft und die Gesellschaft in Europa zu vermindern. Neben zwei belgischen Universitäten und der Universität Bern sind Institutionen in den Niederlanden, Grossbritannien und Italien an dem Projekt mit drei Jahren Laufzeit beteiligt. Insgesamt stellt das EU-Forschungsrahmenprogramm «Horizon 2020» dafür drei Millionen Euro zur Verfügung. Die Berner Forschenden erhalten rund eine halbe Million Euro.

## Kurzfristige Prognosen als Entscheidungsgrundlage

«Unsere Aufgabe ist es, den Verlauf der Epidemie zu beschreiben», erklärt Althaus. «Wie breitet sich das Virus in verschiedenen Ländern aus? Wie hoch ist die Sterblichkeit?», seien Fragen, beantwortet werden sollen. Dazu führt sein Team statistische Analysen der vorhandenen Daten durch und erstellt Modelle, mit denen in Computersimulationen mögliche Szenarien berechnet werden. Zurzeit arbeiten die Forschenden an einer Echtzeitanalyse der Daten, mit der sie versuchen, die Situation in der Schweiz für die folgenden zwei bis vier Wochen zu prognostizieren. Diese Analyse soll unter anderem zeigen, wann man einen Rückgang der Fallzahlen der Covid-19-Erkrankungen erwarten kann oder wann mit einem weiteren Anstieg der Infizierten zu rechnen ist – Erkenntnisse, aufgrund deren die Behörden die Massnahmen zur Eindämmung lockern können oder wieder verstärken müssen.

«Diese kurzfristigen Prognosen werden wohl noch lange wichtige Entscheidungsgrundlagen sein, sowohl für die Schweiz als auch die anderen europäischen Staaten», urteilt Althaus, der nicht damit rechnet, dass das Virus so bald verschwinden wird. Neben den Analysen zum Verlauf der Epidemie verwendet das ISPM einen Teil der EU-Fördermittel zum Aufbau einer automatisierten Datenbank, in der die aktuellen Forschungsergebnisse zum Coronavirus abrufbar sind.

Diese Arbeit, im Fachjargon «Living Evidence» genannt, wird von der Epidemiologin Nicola Low geleitet. Ihr Team hat bereits während des Ausbruchs des Zikavirus 2016 erstmals eine solche Datenbank entwickelt. «Noch nie gab es so viele Veröffentlichungen zu einer neuen Krankheit wie bei Covid-19», sagt Nicola Low: «In einem automatisierten Prozess sammeln wir die Publikationen täglich und machen sie so schnell wie möglich auf einer offenen Plattform für alle verfügbar.» Die Datenbank enthält neben publizierten Arbeiten auch sogenannte Preprints, welche die Forschenden auf einen Server hochladen, noch bevor sie diese bei einer Fachzeitschrift eingereicht haben.

## Wie wirksam sind Home-Office oder Schulschliessungen?

Partner des «EpiPose»-Konsortiums in Belgien und den Niederlanden führen Studien durch, bei denen sie ausgewählte Gruppen auf Antikörper gegen das Coronavirus im Blut testen, um herauszufinden, wie hoch die Rate der Infizierten tatsächlich ist. Teams in Grossbritannien und Belgien erforschen, welche Massnahmen zur

Eindämmung der Epidemie wirksam sind: Wie gut können Social Distancing, Home-Office oder Schulschliessungen die Ausbreitung des Coronavirus stoppen? Die italienische Partnerinstitution steuert wichtige Fachkenntnisse bei der Analyse von Social-Media-Daten bei, während das britische Forschungsteam auch untersucht, wie sich die soziale Kontaktstruktur auf die Ausbreitung des Virus auswirkt. Eine zweite belgische Gruppe analysiert die wirtschaftlichen Auswirkungen des Virus und der getroffenen Eindämmungsmassnahmen.

«Langfristig geht es unserem europäischen Konsortium darum, Synergien zwischen den verschiedenen Forschungsbereichen effizient zu nutzen», sagt Christian Althaus: «Wir möchten die Epidemie gesamthaft beschreiben, so dass wir in ein oder zwei Jahren wirklich gut verstehen, was passiert ist und was noch geschehen könnte, und wir nicht weiter im Dunklen tappen, wie wir dies jetzt – zumindest teilweise – noch tun.»

#### EU-Forschungsprojekte zum Coronavirus

«Horizon 2020» ist das Forschungsrahmenprogramm der EU mit einem Budget von insgesamt 77 Milliarden Euro für den Zeitraum 2014 bis 2020. Um die Coronaforchung schnell voranzutreiben, startete die EU-Kommission am 30. Januar 2020 einen dringlichen Aufruf für neue «Horizon 2020»-Projekte zu Covid-19. Ursprünglich waren dafür zehn Millionen Euro vorgesehen; dieser Betrag wurde auf 48.5 Millionen Euro aufgestockt. Mit diesen Fördermitteln werden 18 Projekte unterstützt, an sechs der Vorhaben sind Schweizer Forschungsinstitutionen beteiligt, darunter die Universität Bern. Insgesamt arbeiten an den Projekten 140 Forschungsteams aus der gesamten EU und darüber hinaus.

[https://ec.europa.eu/info/sites/info/files/research\\_and\\_innovation/research\\_by\\_area/documents/ec\\_rtd\\_cv-projects.pdf](https://ec.europa.eu/info/sites/info/files/research_and_innovation/research_by_area/documents/ec_rtd_cv-projects.pdf)

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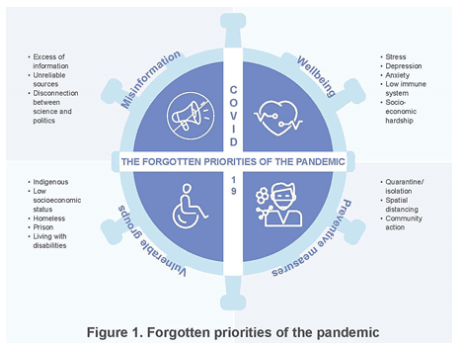
E-Mail-Adresse [nicola.low@ispm.unibe.ch](mailto:nicola.low@ispm.unibe.ch)

#### Links

[Press release of the University of Bern](#)

[Coronavirus Disease 2019 \(COVID-19\) Resources page](#)

# COVID-19: The forgotten priorities of the pandemic



15.04.2020 – Researchers from the Institute of Social and Preventive Medicine (ISPM) in Bern, Switzerland and Pontificia Universidad Javeriana in Bogota, Colombia, highlight four key aspects that currently might not be in the top list of priorities regarding the pandemic of COVID-19 but that need special attention: side effects of social distancing and isolation, misinformation, attention to specific vulnerable populations and individuals' wellbeing.

Social distancing or isolation can have serious negative consequences for psychological wellbeing. Researchers emphasize the importance of social interaction and the value of social capital in challenging times and, consequently suggest to use the term "spatial distancing" instead.

Just as the spread of the virus has grown exponentially, so has the amount of information. Misinformation can arise from both inaccuracy of information and excess of it. Uncertainty, isolation and mobility restrictions can cause anxiety and stress that can impair quality of life, trigger the onset of mental disorders and affect the immune system. Miscommunication between researchers, academia and policymakers impairs the process of adopting timely and evidence-based measures. This highlights the need of facilitating the access to evidence-based information provided by central sources and the role that specialists can play in providing access to this information and acting as communication agents.

As the pandemic reaches low- and middle- income countries, weaker healthcare systems and limited resources make halting the pandemic extremely challenging. Particularly vulnerable are: elderly, healthcare personnel, indigenous populations, homeless people, migrants and persons who live with disabilities. Special support should be given to healthcare workers, who besides being at high risk of acquiring COVID-19, might present symptoms of psychological distress.

Strategies to care for the wellbeing of our citizens need to include preventive measures in mental public health and should reach especially vulnerable populations and other groups frequently neglected.

The authors call upon the relevance of the social features of the pandemic, concerning all societal groups and reiterate that only through cooperation and solidarity will long-term solutions to the pandemic and its consequences be achieved.

Corresponding author: [Cristina Mesa Vieira](#)

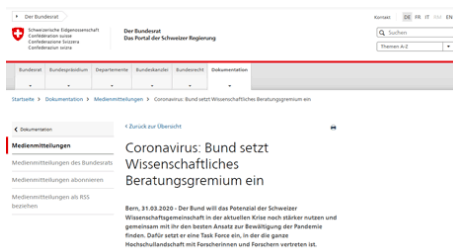
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[Read the full paper](#)

# Swiss National COVID-19 Task Force



03.04.2020 – Coronavirus: The federal government has set up a scientific advisory board, chaired by [Prof. Matthias Egger](#), President of the [National Research Council of the SNSF](#) and [research group head at ISPM](#).

The Confederation intends to make even greater use of the potential of the Swiss scientific community in the current crisis and to work with it to find the best approach to dealing with the pandemic. To this end, it is setting up a task force of researchers from across the entire university landscape.

This Swiss National COVID-19 Task Force, headed by the President of the National Research Council of the Swiss National Science Foundation (SNSF), epidemiologist Matthias Egger, will provide advisory support to the Federal Council as a whole and the head of the Federal Department of Home Affairs, and other relevant federal and cantonal authorities. The members of the task force are not institutional representatives, but experts from the Swiss university and research landscape who are recognised in their fields.

- [Press release «Coronavirus: Confederation appoints scientific advisory board»](#)
- [Swiss National COVID-19 Task Force website](#)



# Sex-disaggregation of epi data to better understand the epidemic



03.04.2020 – CNN reports that men appear to be at much higher risk of dying of COVID-19. Why do more men seem to be dying from the novel coronavirus than women? Different rates of smoking, drinking, and general poor health could be involved in the disparity.

ISPM's [Nicola Low](#) is one of the researchers working on identifying the causes of different COVID-19 infection and mortality rates for men and women in different countries. The research is being led by the project Global Health 5050 at University College London.

Further reading:

[CNN Health: Here's why the coronavirus may be killing more men than women](#)

# ESTHER Alliance for Global Health Partnerships: Webinars about COVID-19



23.03.2020 – Every Friday at 1:00 pm, GMT, the ESTHER Alliance for Global Health Partnerships organizes a webinar about COVID-19. This series of webinars hosts Global Health experts from different parts of the world to discuss aspects of COVID-19. The webinars are being prepared on behalf of ESTHER Alliance for Global Health Partnerships, ESTHER Ireland and Irish Global Health Network.

Topics will include:

1. Essential preparations for individual work in global health
2. How to assess the risks related to travel and international meetings
3. How to collaborate and support your partners
4. How to protect your staff
5. Donor related issues

Each webinar will conclude with a questions and answers session for attendees.

The first webinar took place on Friday, March 20<sup>th</sup> covering the following question: How to facilitate and continue your work in global health in the context of the COVID-19 pandemic?

If you are interested, please sign up for the newsletter: <http://eepurl.com/gV5-4r>

Also, if you would like to join as a speaker and can reflect on or answer questions regarding any aspect of COVID-19, please do get in touch: [doerte.petit@ispm.unibe.ch](mailto:doerte.petit@ispm.unibe.ch)

## WEBINAR SERIES: WEEK THREE

ESTHER Alliance for Global Health Partnerships & Irish Global Health Network

[Join via Zoom HERE](#)

(Recordings are also available afterwards on this page: <https://globalhealth.ie/weekly-webinar-series/>)

Friday, April 3<sup>rd</sup>: North-South Health Partnerships in the context of COVID-19: How Best to Respond

Time: 14.00 CEST

Hosts: Hala Ali, ESTHER Alliance, Coordinator  
Nadine Ferris France, Executive Director,  
Irish Global Health Network/ESTHER Ireland

Webinar Anchor: Ruairi Brugha, Professor Emeritus, a Former Head of the  
Department of Public Health & Epidemiology at the Royal College of Surgeons in  
Ireland

Panelists:

1. Ben Simms: Chief Executive, THET Partnership for Global Health
2. Dr Shams Syed: Quality Team Lead at the World Health Organization. He currently directly oversees WHO work on twinning partnerships for improvement and has led WHO work in this arena since 2009. He is also responsible for the WHO national quality policy and strategy initiative.
3. Arley Gomez, Columbia Arley Gomez, Research Director, Fundación Universitaria de Ciencias de la Salud, Columbia
4. Dr Mwenya Kasonde, Assistant Director for Global Health responsible for health partnerships, Zambia
5. David Weakliam: Former Chair of ESTHER Alliance, Leader of Global Health Programme in the HSE

[JOIN THE CONVERSATION](#)

# ISPM researchers granted CHF 500'000 for understanding the role of noncaloric sweeteners on microbiome and cardiometabolic risk in women undergoing menopause



20.03.2020 – [Professor Oscar Franco](#), Director of ISPM and [Dr. Taulant Muka](#), leader of the Cardiometabolic Research Group at ISPM, were awarded a «Spirit Grant» by the Swiss National Science Foundation to run a 3-year joint project with Dr. Amin Salehi-Abargouei, associate professor of nutritional sciences at Shahid Sadoughi University of Medical Sciences in Iran.

The aim of this joint project is to investigate the effect of different noncaloric sweeteners on the human gut microbiome, obesity, and cardiometabolic health in women undergoing menopause transition.

Women undergoing menopause are at high risk of gaining body weight, which can lead to further adverse metabolic changes including changes in the microbiome. Noncaloric sweeteners are consumed worldwide as sugar substitutes to reduce or maintain body weight, yet their impact on cardiometabolic health is controversial, especially in women. The research team will recruit 160 obese women in menopausal transition without chronic conditions in Iran and run a 3-month, 4-arm, triple-blind randomized clinical trial. The control group will receive sucrose, whereas the intervention groups will receive the same bottle that is instead sweetened with aspartame, saccharin, or steviol glucosides. Blood, stool, and 24-hour urine samples will be collected at baseline and endline. Researchers will examine the association between noncaloric sweeteners and changes in the microbiome at the operational taxonomic unit level, and outcomes related to glucose homeostasis, body weight and composition, sex hormones, and other cardiometabolic markers. This will be the first trial assessing the long-term impact of multiple noncaloric sweeteners on the human microbiome in a large sample of women. It will assist understanding whether consumption of noncaloric sweeteners have an impact on metabolic outcomes.

Two young researchers, a postdoctoral fellow, Dr. Angeline Chatelan, and an Iranian PhD student, Hamidreza Raeisi-Dehkordi, will be employed to work on this project. The expected date for starting the project is 01.08.2020.

# Coronavirus: Colombia, a tres semanas de Italia. Todavía hay tiempo de actuar!!

Gráfica 1. Tasas de mortalidad y uso de recursos hospitalarios a abril 18 de 2020 de acuerdo a las medidas tomadas en Colombia en marzo 18 de 2020.



18.03.2020 – Berna, Bogotá y Medellín, 18 de marzo de 2020. Epidemiólogos colombianos del Instituto de Medicina Social y Preventiva (ISPM) de la Universidad de Berna, en Suiza, de la Universidad de Antioquia, de la Fundación Universitaria de Ciencias de la Salud (FUCS) y de la Universidad Javeriana de Bogotá, liderados por el Director del ISPM, el Profesor Oscar Franco utilizan los más recientes métodos matemáticos disponibles para predecir el curso del COVID-19 en Colombia.

Siguiendo la misma metodología empleada que los análisis usados para asesorar los gobiernos en Europa y de los Estados Unidos en su toma de decisiones, su intención es informar de manera científica e independiente el impacto del Coronavirus en la población colombiana y facilitar la toma de decisiones del gobierno con el fin de proteger al máximo a la población.

Hasta la fecha, y luego de tan solo tres meses desde su inicio, se han confirmado más de 219.000 casos de COVID-19 en el mundo. Casi 9.000 personas han muerto por causa de la enfermedad, sin que aún se tengan disponibles vacunas ni medicamentos específicos para combatirla. Esto hace que las medidas de salud pública orientadas a la contención epidemiológica sean actualmente las de más relevancia e impacto para afrontar esta pandemia. Para la sociedad es indispensable entender que las firmes políticas de salud soportadas por la evidencia epidemiológica, requieren el compromiso férreo de las comunidades y cada uno de sus integrantes con su debido cumplimiento.

Se conoce, con base en la información analizada del comportamiento del virus en otros países, que el índice  $R_0$ , que mide el número de personas que es capaz de contagiar directamente cada paciente, es de aproximadamente 2.5. Por lo tanto, en un periodo de un mes, una sola persona podría ser responsable del contagio indirecto de un total de 244 personas. Dados los casos actualmente diagnosticados en Colombia (93 casos a marzo 18), en el peor de los escenarios posibles, si no se aplica ninguna medida de aislamiento, para el 18 de abril el país tendría un total de 613.037 casos. Teniendo en cuenta que un 20% de los casos requerirán algún tipo de atención intrahospitalaria y un 6% requerirán ser tratados en una Unidad de Cuidados Intensivos (UCI), en este escenario catastrófico de más de medio millón de casos, la cantidad de camas hospitalarias y de UCI requeridas serán 122.607 y 36.782 respectivamente. Ya que el país cuenta actualmente con aproximadamente 5.600 camas de UCI, el déficit de camas (31.182) podría dejar sin atención oportuna y eficaz a seis de cada siete pacientes. Este escenario es desesperanzador en un país donde el

número de casos reportados aumenta día a día desde el primero reportado el 6 de marzo. Sin embargo, es altamente esperanzador saber que las medidas que logran reducir la tasa de contagio ( $R_0$ ), disminuyen drásticamente el número de pacientes contagiados y, por lo tanto, el número de pacientes que requerirán cuidados intensivos (gráfica 1).

Así, una reducción de mitigación de tan solo un 10% en el  $R_0$  (2.2 casos por persona en vez de 2.5) genera una reducción del 50% del número de casos. Sin embargo, a este nivel de mitigación, a pesar de reducirse los casos a la mitad, todavía habría un déficit en el número de camas requeridas y sólo uno de cada dos pacientes tendría acceso a dicho recurso. Con medidas de mitigación más exigentes para lograr reducir el  $R_0$  en un 40% (1.5 casos nuevos por persona infectada, contagio indirecto de 146), el escenario resultante sería de 1.716 camas requeridas de UCI, para un total de 28.600 casos en el territorio nacional. Los comportamientos de alta interacción social, el cohabitar con múltiples personas y los patrones de desplazamiento diario aceleraron el brote en Italia, país que, al igual que Colombia, se caracteriza por estrechos contactos intergeneracionales, alto grado de proximidad residencial entre los hijos adultos y sus padres y una vida social activa por fuera del lugar de residencia. Por lo anterior, el aislamiento social es fundamental para lograr proteger a la población más susceptible, los adultos mayores y las personas que sufren de enfermedades crónicas como el cáncer y las enfermedades del corazón. “El aislamiento social es la medida más efectiva para reducir la tasa de contagio” dice la primera autora de este reporte, la Dra. Valentina González Jaramillo de la Universidad de Berna. Aunque desde un abordaje matemático, idealmente la tasa de contagio  $R_0$  debería poder reducirse a 0 para erradicar la pandemia, este enfoque puramente cuantitativo implicaría la suspensión total de las actividades del país, afectaría gravemente el tejido social y golpearía aún más fuerte la economía y la calidad de vida de los millones de habitantes del país. “Colombia, a tres semanas de Italia, sigue el ejemplo de mitigación exitoso que han puesto en marcha países como Estados Unidos y Reino Unido. La población debe comprometerse a cumplir con las medidas requeridas. Sólo esto podrá reducir el impacto de la enfermedad en nuestro país y en el mundo” concluye González Jaramillo.

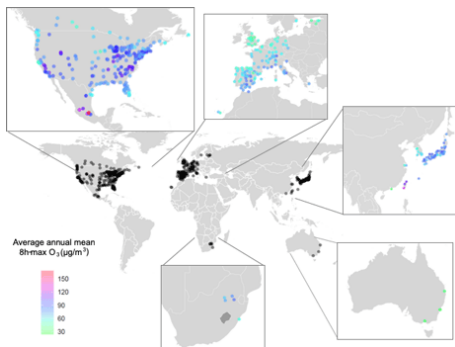
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# Daily exposure to ozone pollution associated to increased risk of death



11.02.2020 – An international study confirms the link between daily exposure to ground level ozone and mortality risk worldwide. This new study [published in The BMJ](#) represents the largest investigation of its kind, assessing almost 50 million deaths from over 400 cities in 20 countries across the world, in which Switzerland is included.

Authors found that, on average, a 10 microgr/m<sup>3</sup> increase in ozone is associated with an increase in mortality of 0.18%. This equates to 6,262 extra deaths each year (or 0.2% of total mortality) in the 406 cities that would have been avoided if countries had implemented stricter air quality standards in line with the WHO guideline. What's more, smaller but still substantial mortality impacts were found even for ozone concentrations below WHO guideline levels, supporting the WHO initiative of encouraging countries to revisit current air quality guidelines and enforcing stronger emission restrictions to meet these recommendations. «Ozone-related mortality is largely preventable, and here we confirm that clean air policies with the implementation of strict air quality standards are key public health tools to reduce the health burden associated to air pollution» said Ana M Vicedo-Cabrera, head of the Research Group of Climate Change and Health at ISPM, and first author of the publication. The study included data on 8 Swiss cities (Basel, Bern, Zurich, Lugano, Luzern, St Gallen, Geneva, Lausanne) between 1995 and 2013, and found 0.23% excess mortality attributed to ozone levels above WHO guideline.

The study was performed within the Multi-Country Multi-City (MCC) Collaborative Research Network (<http://mccstudy.lshtm.ac.uk>), an international collaboration studying the association between environmental stressors, climate change and health. Among more than 60 institutions, the University of Bern is currently part of the MCC with Ana M. Vicedo-Cabrera (ISPM) one of the members of its scientific committee and co-representative of the Swiss data.

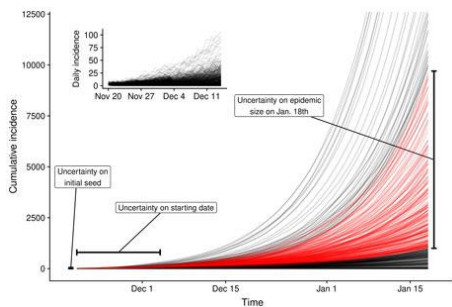
Ground level ozone is a highly reactive gas commonly found in urban and suburban environments, formed when pollutants, mostly related to traffic and industrial sources, react in sunlight. «More than 6 thousand deaths each year is only the tip of the iceberg» says Dr Vicedo-Cabrera. Previous studies showed that ozone can be associated to increased cardiovascular and respiratory morbidity, such embolism, ischemic heart disease and asthma exacerbations. As in the case of the other air

pollutants, patients whose health status is already compromised are particularly vulnerable.

Authors conclude that these findings have important implications for the design of future public health actions, in particular to reduce the impacts of global warming, as ozone is expected to increase according to current climate change projections.



# Coronavirus outbreak in China



24.01.2020 – ISPM researchers used computer simulations to analyze the early transmission pattern of the novel coronavirus (2019-nCoV) outbreak in Wuhan, China. The findings indicate the potential for sustained human-to-human transmission.

On December 31, 2019, the World Health Organization (WHO) was notified about a cluster of pneumonia of unknown origin in the city of Wuhan, China. Chinese authorities later identified a new coronavirus (2019-nCoV) as the causative agent of the outbreak. As of January 24, 2020, 911 cases have been confirmed in China and several other countries.

At this early stage of the outbreak, it is critically important to analyze the observed transmission pattern and the potential for sustained human-to-human transmission of 2019-nCoV. A better understanding of the transmissibility of the virus will help coordinate current screening and containment strategies, support decision making on whether the outbreak constitutes a public health emergency of international concern (PHEIC), and is key for anticipating the risk of pandemic spread of 2019-nCoV.

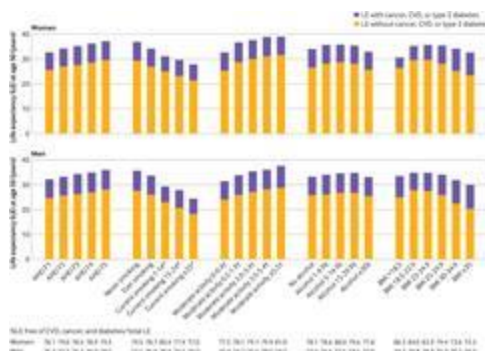
[Julien Riou](#) and [Christian Althaus](#), infectious disease modelers at ISPM, rapidly performed stochastic simulations of early outbreak trajectories on the high performance computing cluster at the University of Bern. They estimated the basic reproduction number  $R_0$ , which describes the average number of secondary cases generated by an infectious index case, at around 2.2 (90% high density interval 1.4-3.8), indicating the potential for sustained human-to-human transmission. The transmission characteristics and the potential for superspreading events appear to be similar to what was observed during the outbreak of severe acute respiratory syndrome-related coronavirus (SARS-CoV) in 2003, but are also consistent with what has been observed for influenza.

Given the current uncertainty around the case fatality rate, the findings of ISPM's researchers highlight the importance of heightened screening, surveillance and control efforts, particularly at airports and other transportation hubs, in order to prevent further international spread of 2019-nCoV.

Further details on ISPM's study on the coronavirus outbreak can be found here: <https://github.com/jriou/wcov>

The WHO provides regular updates and situation report about the ongoing outbreak: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

# Healthy habits extend our lives



10.01.2020 – Healthy habits extend our lives. People with five healthy habits – persons who never smoke, have a normal body weight, a healthy diet, and low alcohol consumption, and who exercise regularly – live longer. And as a study by an international team of researchers from the US, China, the Netherlands, and Switzerland that was just [published in \*BMJ\*](#) shows, they also live better.

The Director of the Institute of Social and Preventive Medicine, Oscar H. Franco, who is one of the study's authors, notes that «This is the first study to demonstrate how healthy lifestyle dramatically increases the proportion of remaining lifetime that persons with healthy habits can expect to live free of type 2 diabetes, cardiovascular disease, and cancer. A healthy lifestyle add years to your life and life to those extra years.»

The study used data from nearly 112,000 men and women in the US. They found that at age 50 women with healthy habits can expect to live in health without chronic disease nearly half again as long as women without healthy habits. At this same age, men who have healthy habits can expect good health to last nearly one-third longer than can men without healthy habits.

And it doesn't stop there. Healthy habits improve the survival of men and women who are diagnosed with one of those chronic diseases.

[Read the full publication here](#)