

STUDYING HEALTH ISSUES “UPON THE PEOPLE”



THE NOVEL CORONAVIRUS PANDEMIC TOOK THE WORLD BY STORM, FORCING GOVERNMENTS TO TAKE UNPRECEDENTED MEASURES TO REDUCE THE IMPACT OF THE EPIDEMIC. NOW, AFTER LIFTING THE LOCKDOWN, IT IS TIME TO CLOSELY MONITOR THE EVOLUTION OF THE EPIDEMIC, AND TO CAPITALIZE THIS EXPERIENCE TO TACKLE AND RESPOND TO POSSIBLE NEW WAVES OF THE COVID-19 OR OF FUTURE EPIDEMICS.

BY **DIMITRI LORINGETT**



***Emiliano Albanese, MD PhD**

Full professor at the USI Faculty of Biomedical Sciences and Director of the Institute of Public Health. He is first, and foremost, an epidemiologist and a systematic reviewer and meta-analyst, with research and academic interests in three main, interlinked areas: dementia, aging, and global mental health. Among his many endeavours, Prof. **Albanese** was director of the WHO Collaborating Centre (CC) for Mental Health Research and Training in Geneva.

While research labs across the globe are racing against time to develop vaccines and treatments, a particular category of medical scientists – epidemiologists – are working hard to understand the impact of the epidemic and the public health measures required to best respond to it. Epidemiology, literally meaning “the study of what is upon the people”, is the cornerstone of public health, which informs and shapes policy decisions by identifying risk factors for disease and targets for health promotion, prevention, and healthcare. Epidemiologists rely on scientific disciplines, e.g. biology, chemistry, etc., to better understand disease processes, and statistics to make efficient use of the data and draw appropriate conclusions, as well as social sciences to identify causes. In May, the Swiss School of Public Health (SSPH+) launched “Corona Immunitas”, a nation-wide research programme for the collection of epidemiological data on immunity to SARS CoV-2, to determine risk factors for infection, and the impact of the Covid-19 outbreak on the population. The study will be conducted also in Ticino, involving USI and SUPSI, and other private and public actors in the region, including Ente Ospedaliero Cantonale, and Institute for Research in Biomedicine.

Prof. Albanese*, epidemiology is a relatively new concept for the general population. Could you explain its genuine meaning?

«A common etymological root, the Greek words “epi” and “demós”, relates epidemiology and epidemic meaning ‘upon the people’. Epidemiology investigates health issues and related determinants among the population as a whole, as opposed to clinical activity, which concerns the individual relationship with ill patients. The methods and approaches are therefore different, as are the goals. An epidemic is the spread of a disease in a given

time and space, with considerable numbers, or concentration, of cases over the given period. This manifestation occurs in the general population, with many more people becoming ill in a short period, which is precisely what we have experienced this year with the novel coronavirus. Epidemiology is a quantitative discipline, and answers questions like ‘How many people have the disease?’. Epidemiology also answers another question, of a more analytical nature, about what are the factors, the characteristics associated with the outbreak of a disease in the population, which we normally call risk and protective factors. Epidemiology is interested in risk and protective factors for two reasons. The first, to help trace the causes of a disease by providing clues useful for scientific investigation. The second, to identify the elements associated with the disease, which can help define the interventions to be undertaken, first of all those related to health promotion and prevention, but also those related to treatment and care».

What are the main challenges of the Corona Immunitas programme?

«An important aspect of an epidemic, namely the rapid spread of a disease caused by a virus, concerns all the consequences of the outbreak. Many of these consequences pertain to the disease caused by the virus, but others to the public health measures enforced to reduce the impact of the epidemic on individuals and the health systems. These include voluntary sheltering, quarantine, isolation of ill persons, social distancing, school closures, and hygiene and respiratory etiquettes etc. In the case of Covid-19 outbreak, most people have not fallen ill, but each and all of us have nevertheless experienced the consequences of the epidemic. The aim of the Corona Immunitas programme is to study the broad impact of Covid-19 across social, economic, psychological, and

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several other dimensions, and in both individuals and at the societal level. Through observation and valid assessments, we aim to determine the extent to which and the characteristics, as well as the mechanisms of the Covid-19 affect individuals, the population, and society. We want to understand whether there are different experiences, and different consequences in the subgroups of the population – e.g. by age, social class, etc. Although the occurrence of the infection in the Ticino population is a key measure of our study, with the epidemiological approach we look beyond the people who have fallen ill, and even beyond the presence or absence of the virus in individuals. This requires setting up a study in a large, representative sample of the general population. We will ask several thousand people to participate. This a study on the population, for the population and thus with the population».

What have we learned so far from the Covid-19 pandemic, in terms of the public health and policy measures taken and, looking ahead, of healthcare policy?

«In Europe, the main policy and public health measures taken and enforced are part of the so-called ‘mitigation strategy’, i.e. to reduce the impact of the epidemic, and of the disease as such, on the healthcare system. The approach was relatively simple, we asked everybody to stay at home to avoid physical contacts as an extreme precaution to drastically reduce conta-

gions. However, these are rather general – and unprecedented – measures, which were introduced because very little was known about the disease caused by the novel coronavirus. For instance, we still do not know much about the ‘incubation period’, the period during which a person shows no symptoms and does not appear ill, but can be contagious, and contribute to spreading the disease. Different from the suppression strategy, which aims at stopping the circulation of the virus and thus of the disease, the mitigation strategy is primarily aimed at reducing the impact of the epidemic on the healthcare system, not on the individuals. Flattening the curve refers to the deferral of cases over a longer period, not necessarily to the reduction of the number of cases. This is very important, because if the healthcare system fails, there will be a major socio-economic disruption, and dreadful consequences on the public health beyond those related to the Covid-19. What we have learned so far, though, is that strategies are not implemented in the same way everywhere, also because cultural, societal and contextual factors vary significantly across nations and regions, and must be adequately accounted for. For example, in the Chinese province of Wuhan a suppression strategy was enforced through stricter measures than those adopted in Europe. Millions of people were in full isolation, not simply in voluntary sheltering. Basic needs, including food and medications, were

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provided through community services, and sick people were promptly removed from their households and placed in shelters to reduce contagion to family members. In recent months, we have also learned a great deal about the disease itself, which is why we are now talking about phase 2, during which mitigation measures will be relaxed, in the hope that the impact on the healthcare system can be controlled by also combining containment measures – through testing and isolating cases, and tracing and placing contacts in quarantine at a large scale. We also expect that physical distancing and hand hygiene, respiratory etiquette, protective masks, disinfection and other behaviours will be enacted by many, and contribute to reduce contagion».

With the Covid-19 pandemic, the attention to other illnesses has dwindled, like dementia, which is one of your main scientific interests. What are your plans in this field of study?

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understand how many people have Alzheimer’s, an incurable disease that cannot be treated. Dementia is an insidious disease, with a progressive and degenerative course. The impact of dementia is enormous on not only those who are affected, but also on their family, and the community they live in. The risk of dementia increases steadily with age. Therefore, the number of cases is expected to increment sharply in the coming years because of the demographic aging and increased life expectancy in all world regions.

To date, at least one in three people over the age of 80 suffer from dementia. Epidemiology is concerned not only with sizing up the occurrence of dementia, but also with measuring its impact, including the direct and indirect costs. The Covid-19 outbreak has indeed taken the spotlight away from all other diseases, which nevertheless have not disappeared, and will not either. It is therefore important to continue dealing with ageing, dementia or mental health in general in the elderly, but also to combine what is happening in this demographic, which is enormously affected by the Covid-19 pandemic. There can be a detrimental and pernicious interaction between Covid-19, dementia and mental health in older adults. We want to shed light on



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that. This is why the Corona Immunitas programme, on the Covid-19 epidemic, and SwissDEM, an ongoing study on the impact of dementia in Ticino, Geneva, and Zurich, will come together. As said, we rely on the participation of the population, and we have worked with and for older adults in the past year to build a community engagement and awareness campaign, which we have called “100 percent”, with the ambition to to attain the highest participation possible». [u](https://www.corona-immunitas.ch)

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