



Covid-19: New insights into the causes, actions and consequences of the pandemic, and implications for science and health policy

Concept Note



The Background

The Plenary Session of the Pontifical Academy of Sciences in October 2020 on “Science and Survival – A focus on SARS-CoV-2” had concluded that COVID-19 has changed the world, and that the entire world is eagerly waiting for the scientific community to come up with approaches that curtail the spreading of viral infections, development of vaccines, therapies and prevention approaches to handle this pandemic. Furthermore, we noted that science during a pandemic is different in terms of opportunities and challenges. Science that matters in the short term has to have a higher priority than usual, but actionable science needs careful ethical consideration. Science must also consider and explore strategic, long-term consequences. Strengthening strategic science in the midst of a crisis is critical for evidence-informed preventive approaches.

An important research area we called attention to, is understanding the root causes and prevention of zoonotic diseases, i.e. infectious diseases caused by bacteria, viruses, or parasites that spread from animals to humans. Food-related animal production systems may need reshaping to reduce the risks of zoonotic breeding grounds.

Research on optimal management of the pandemic with public health, citizen information and contact reduction approaches, accompanied by health services – we stressed – must be prioritized

in view of the time it takes to develop, test, produce, and distribute vaccines. We also emphasized that innovations in diagnostics and testing and assessing alternatives under relevant circumstances is an urgent field of research.

We called attention to the need that health systems need to be much more inclusive of the poor and low-income countries. We recognize that science has made major breakthroughs. Researchers were able to develop COVID vaccines in record time. Nevertheless, as we pointed out during our Plenary Session, equal access to the vaccine must be assured regardless of income. What is missing, apart from equal distribution, is better communication to convince the general public of the benefits of vaccines. Perhaps not enough work has been done to develop a universal protocol for anti-COVID medicines, such as monoclonal antibodies, which seem to be effective therapy but is still scarcely distributed. While we must address the acute problems of the pandemic, we should also take a long-term view beyond the pandemic, building fairer and more resilient health systems serving all of society, in a global context where climate change is still unchecked and health is affected.

We called for multi-disciplinary science to address the COVID-19 crisis together with the medical profession. For example, physical scientists can be involved in theoretical models, data analysis and developing technologies for new therapies. Social scientists can investigate social impacts of the disease and propose policies and mechanisms for the betterment of everybody's life. There is no question about serious psychological impacts, and as these are questions of life, survival, and death, philosophy is important here too. Philosophy, including ethics, and the humanities need to engage in world health issues, and must figure more prominently on curricula of universities and colleges, so that our future scientists are able to make morally and ethically responsible decisions on world health problems, and that our politicians will value scientists in guiding them through future world health problems.

This Workshop

The Pontifical Academy of Sciences now invites to a workshop to revisit COVID-19-related science agendas. It is guided by the impressions that science entered a steep learning curve during the pandemic. *New insights from science and new experiences* with health policy actions are quickly accumulating. With this workshop we want to *take stock of lessons learned and identify implications for new science agendas and for science- and health policies that serve many people and are inclusive of the poor segments of societies.*

We had noted in 2020 that COVID-19 adversely impacts especially the poor, as Pope Francis mentioned in his message to our Academy on the occasion of the Plenary Session (Oct. 7, 2020). Solidarity is a key theme in the Encyclical Letter *Fratelli Tutti*.

While this workshop focusses on new scientific insights, we ask all presenters to connect their

deliberations where appropriate also to injustice, distributional effects, and implications for the poor.

We concluded in 2020 that sustainable pathways to manage existential threats like pandemics and climate change suggest *recovering our spiritual perspectives*, and this workshop shall revisit that as well.

The program is composed of two virtual session (by Zoom) from 14h to 16:30h CET (Rome time).