



Beyond Boundaries: A global message from young scientists on COVID-19

The COVID-19 pandemic has disrupted the world. The virus will not be the last pandemic to wreak havoc on humanity if we continue to ignore links between infectious diseases and the destruction of the natural world. Global health and economies are both at serious risk without proper containment and mitigation measures in each country. Moreover, panic and xenophobia are already on the rise, both of which are being intensified by misinformation and “fake news”. In order to mitigate the transmission of the virus and to intervene in the course of this pandemic, the world needs to take rapid, synchronised international action. It is crucial that governments consider the best science available to make informed decisions that are internationally coordinated and supported by local evidence. The Global Young Academy (GYA) comprises 200 members and 258 alumni, all excellent and socially-committed young researchers from 86 countries with multidisciplinary expertise, and is connected to more than 40 National Young Academies worldwide. These young academies are well placed to bridge the gap between international science and policymakers, as well as to disseminate and translate knowledge to society. This GYA Statement delivers specific recommendations for governments, the public, and young researchers.

1. Governments

Pandemics have no borders. While governments across the world are taking action to mitigate the transmission of the virus, such as imposing quarantines or self-isolation, we need greater engagement with science to support decision-making that both directly and indirectly impacts health in the short, medium and long terms. To this end, we recommend the following:

Promote a shift from global health security to global health solidarity

Although we may need to temporarily close local, regional and national borders to contain the spread of COVID-19, in the long term we need to change the current framing of health security. Instead of believing that one can protect borders from the incursion of disease, one should build global partnerships that benefit our collective health. This can be achieved by strengthening international cross-border or regional corporations, and by facilitating an active learning and knowledge exchange, particularly between low- and middle-income and high-

income countries. Scaling up efforts in research and development (R&D), and mobilising R&D resources to relevant areas is essential, as is formulating sustainable science policy responses. This global pandemic – both during and after the necessary states of emergencies – is likely to impact how we live together in societies around the world, as well as our politics and respective cultures. We ask that decision-makers consider and include everyone in building more resilient societies so we can collectively determine common positive pathways for the future.

Open information exchange

Governments should exchange information about health and environmental crises immediately and openly. Governments should support permanent and robust science advice mechanisms that can reliably inform governments of the latest scientific insights. Even when diplomatic relations are strained, science diplomacy and scientific networks should be supported as these will be essential in times of emergency.

The current pandemic also underlines the need for governments to implement open science policies. Current pay-walled publication practices delay the sharing of information and prevent key stakeholders from accessing relevant scientific insights. It is laudable that publishers make research on COVID-19 available for free for a restricted period to help fight the virus, but this only underscores that scientific research is usually hampered by restricted information exchange, costly authoring or reading fees and artificial barriers. The free exchange of pre- and post-prints as well as scientific data – without embargo – should be supported, recognised as valuable contributions, and should have no negative consequences for researchers. We urgently need global consensus and action on open science, e.g. through the mediation of intergovernmental organizations like the UN and UNESCO.

Recognise the importance of different disciplines for decision-making

The science used to understand this pandemic is evolving rapidly, with new knowledge on the virus and disease being gathered and generated daily by researchers, physicians, and virologists across the globe. Therefore, effective and transparent communication with the scientific community in decision-making processes is vital, with an emphasis on what we know, what we do not know, and where there is uncertainty.

With that said, the pandemic presents wide-ranging social and economic challenges, and it is imperative that we harness the potential of knowledgeable researchers from diverse perspectives (i.e., across discipline, gender, ethnicity, country, and age) to quickly assess and contribute to government decision-making prior to implementation.

Further, in this rapidly changing situation, we need the advice of experts in an environment where full peer review is not always possible.

Young researchers are ideally placed to contribute insights and analysis of implications that can then help avoid unintended negative consequences. We call on governmental agencies to

seek, obtain, and consider input from their National Young Academies (which exist in >40 countries) and groups of leading young researchers who are committed to science in service of society.

Take into account the long-term impact

While at this stage there is a crucial focus on limiting the spread of the virus, we urge governments to include in their planning the long-term impact of the pandemic and the importance of prevention. The effects of physical isolation on mental and physical health are likely to be felt globally. We suggest a preventative approach to address mental and physical health by involving strategies, such as online platforms, during the time of isolation and afterwards to assist the most vulnerable in society (e.g., assistance in obtaining groceries and medicines, psychological counselling and consultation to address post-pandemic stress and mental health problems).

It is also important to have an approach to address the strain on the physical and mental health of all the healthcare and other personnel working in the frontlines of the outbreak (extensive working hours, pressure and stress, exposure to the virus and other illnesses, as well as being separated from family). While some measures have already been implemented in hard-hit areas, additional structures and support will be required for less developed and rural areas. After the worst of the pandemic has passed, governments at all levels should reflect on collaborative strategies to prevent and reduce the risk of future pandemics through action across sectors (beyond the health sector) that influence health, including universal health coverage.

2. The public

The rapid spread of COVID-19 requires concerted action from the public to prevent the exponential spread of the virus, and accurate information is the key. A few simple actions can help us all to reduce the impact of fear and “fake news”.

Be a responsible citizen

First and foremost, we should take precautions to avoid the spread of COVID-19. We can all play an active role in controlling the pandemic by taking individual responsibility for ourselves and our loved ones, and acting in a way that is best for our community. This includes following the precautions advised by the World Health Organization (WHO), sharing resources and goods sensibly, observing the regulations during a Movement Control Order (or Restriction of Movement Order) or during lockdown periods such as staying at home, not stockpiling, and protecting our most vulnerable citizens.

Do not spread misinformation

We should be responsible in our sharing of information on social media and elsewhere, and learn to distinguish fear-based from fact-based information to avoid rumours and “fake news”. We should verify information before sharing it, communicate openly and allow those with relevant expertise to provide guidance.

Seek expert opinion or guidance

Seek *expert* opinion and guidance about our local situations. Follow the recommendations of the WHO and its regional and national agencies. The WHO mediates a unified response that provides reliable information based on scientific advice, and is therefore best placed to show the latest trends or information in the global context.

3. Scientific community

Scientists across disciplines worldwide are part of the solution. As the global response to COVID-19 is likely to redefine the policy agenda, as well as political and societal priorities for years to come, the active participation of *young researchers* in particular is crucial. Recommendations for the scientific community include:

Sharing knowledge on global platforms

National Young Academy (NYA) members are connected to other NYAs globally as well as to the GYA. Giving these young experts a platform to share and exchange information and experiences can help provide local news outlets with information that is based on science. Even researchers not working in health-related fields have academic knowledge and expertise that can help to filter out “fake news”, to ensure sources are well-validated, and to communicate effectively across different disciplines and countries.

Young researchers are perhaps also best-placed to rapidly adjust to new challenges caused by the required measures to contain COVID-19, particularly in sharing best-practices on the use of social media and global platforms. Sharing carefully selected information on how to maintain health under isolation, how to work effectively from home, online engagement for teaching and learning, and pre-empting major issues could be an important role for researchers outside health related field.

Translating science communication to the local languages

Researchers can play an active role in interpreting complex information for the general public and in adapting the message to local contexts. Together we can use our global network to provide lay-person summaries and translations of important advice and information.

Bridging the gap between science and policy

Researchers can help to bridge the gap between science and policy, playing a crucial role in thinking through implications and providing pre-emptive solutions. We can take the initiative to approach governments to provide insights and offer help. As scientific knowledge rapidly advances, young researchers are well-placed to understand these changes and adapt. In particular, the global network of young scientists provides much-needed global *and* local expertise. We can approach our governments or local health authorities if we have relevant expertise, be this in direct health-related fields or more broadly, for example, in psychology, social sciences, or science communication.

Advising and promoting good practices

Researchers can play an active role in promoting good practices and advising the people around them. By getting the right information and sharing it with communities (both online and offline), we can help stop the spread of misinformation, and emphasise the importance of considering the source and verifying our information.

Researchers can help establish strong connections across various stakeholders, including the government and public, and emphasise the role of science. This new pandemic, which will not be the last, could be the first step towards establishing strong real-time collaboration between health professionals, scientific researchers, policy makers and entrepreneurs to achieve better and faster responses against similar crises.

Members of the Global Young Academy will stand with scientists world-wide in promoting the importance of long-term strategies to prevent similar future scenarios.

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