

The UN must get on with appointing its new science board

The decision to appoint a board of advisers is welcome – and urgent, given the twin challenges of COVID and climate change.

Scientists helped to create the United Nations system. Today, people look to UN agencies – such as the UN Environment Programme or the World Health Organization – for reliable data and evidence on, say, climate change or the pandemic. And yet, shockingly, the UN leader's office has not had a department for science advice for most of its 76-year history. That is about to change.

UN secretary-general António Guterres is planning to appoint a board of scientific advisers, reporting to his office. The decision was announced in September in Our Common Agenda (see go.nature.com/3y1g3hp), which lays out the organization's vision for the next 25 years, but few other details have been released.

Representatives of the scientific community are excited about the potential for science to have a position at the centre of the UN, but are rightly anxious for rapid action, given the twin challenges of COVID-19 and climate change, which should be urgent priorities for the board. The International Science Council (ISC), the Paris-based non-governmental body representing many of the world's scientists, recommended such a board in its own report on science and the intergovernmental system, published last week (see go.nature.com/3rjdjos). Council president Peter Gluckman, former chief science adviser to New Zealand's prime minister, has written to Guterres to say the ISC is ready to help.

But it's been more than two months since the announcement, and the UN has not yet revealed the names of the board members. *Nature* spoke to a number of serving and former UN science advisers who said they know little about the UN chief's plans. So far, there are no terms of reference and there is no timeline.

Nature understands that the idea is still being developed, and that Guterres is leaning towards creating a board that would draw on UN agencies' existing science networks. Guterres is also aware of the need to take into account that both the UN and the world have changed since the last such board was put in place. All the same, the UN chief needs to end the suspense and set out his plans. Time is of the essence.

Guterres's predecessor, Ban Ki-moon, had a science advisory board between 2014 and 2016. Its members were tasked with providing advice to the secretary-general on science, technology and innovation for sustainable development. But COVID-19 and climate change have pushed

science much higher up the international agenda. Moreover, global challenges are worsening – the pandemic has put back progress towards the UN's flagship Sustainable Development Goals (SDGs), a plan to end poverty and achieve sustainability by 2030. There is now widespread recognition that science has an important part to play in addressing these and other challenges.

Research underpins almost everything we know about the nature of the virus SARS-CoV-2 and the disease it causes. All countries have access to similar sets of findings, but many are coming to different decisions on how to act on those data – for example, when to mandate mask-wearing or introduce travel restrictions. The UN's central office needs advice that takes this socio-cultural-political dimension of science into account. It needs advice from experts who study how science is applied and perceived by different constituencies and in different regions.

Science advice from the heart of the UN system could also help with another problem highlighted by the pandemic – how to reinvigorate the idea that it is essential for countries to cooperate on solving global problems.

Climate change is one example. Advice given by the Intergovernmental Panel on Climate Change (IPCC) is being read and applied in most countries, albeit to varying degrees. But climate is also an area in which states are at odds. Despite Guterres's calls for solidarity, there were times during last month's climate conference in Glasgow when the atmosphere was combative. Science advisers could help the secretary-general's office to find innovative ways to encourage cooperation between countries in efforts to meet the targets of the 2015 Paris climate agreement.

The SDGs are also, to some extent, impeded by competition within the UN system. To tackle climate change, manage land and forests, and protect biodiversity, researchers and policymakers need to work collegially. But the UN's scientific bodies, such as the IPCC, are set up along disciplinary lines with their own objectives, work programmes and rules, all guided by their own institutional histories. The IPCC and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), for example, have only begun to collaborate in the past few years.

Independence will be key for an advisory role to be credible. Guterres needs to consider an organizational architecture through which UN agencies are represented, and funding could come from outside the UN. But all of those involved would have to accept that their contributions were for common goals – not to promote their own organization's interests.

Leadership matters, as do communication and support. Guterres should ensure that his scientific advisers are chosen carefully to represent individuals from diverse disciplines and across career stages, and to ensure good representation from low-income countries. The board needs to be well staffed and have a direct line to his office. And it will need a decent budget. Guterres should quickly publish the terms of reference so that the research community has time to provide input and critique.

At its most ambitious, a scientific advisory board to the secretary-general could help to break the culture of

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individualism that beleaguers efforts to reach collective, global goals, and bring some coherence to the current marketplace of disciplines, ideas and outcomes. This will be a monumental task, requiring significant resources and the will to change. But if the advisers succeed, there will also be valuable lessons for the practice of science, which, as we know all too well, still largely rewards individual effort.

The global response to Omicron is making things worse

The COVID-19 pandemic will not end while vaccine equity keeps getting pushed to the margins.

The arrival of Omicron – a newly discovered, highly mutated coronavirus variant that seems to be highly transmissible – is creating unease, uncertainty and disruption. The response from world leaders, especially those from high-income countries, is making things worse.

Travel restrictions are back, even though some have questionable efficacy when transmission of the virus is high (see page 199). Countries with many fully vaccinated people are placing new vaccine orders – but only 6% of people in low-income countries have had one dose. Tulio de Oliveira at South Africa's Centre for Epidemic Response and Innovation in Stellenbosch, who leads the team that alerted the world to Omicron, tweeted that African researchers had shared their COVID-19 data. Vaccines and diagnostics will come, but high-income countries will be the first to benefit.

Scientists know that this cycle will prolong the pandemic – but world leaders are still failing to choose the fastest path out. European Union member states are instead focusing their energies on drafting a new international accord, or possibly a legally binding treaty. It would create rules to facilitate cooperation between countries during a pandemic, so that the next crisis can be better handled and no country will be left behind when it comes to diagnostics and treatment. That project passed a huge milestone last week: the World Health Assembly, a meeting of health ministers from around the world, formally agreed to begin talks.

The World Health Organization (WHO) has voiced its strong support for a treaty, accord or other international instrument that might push leaders to follow the organization's public-health recommendations on sharing data and vaccines. But in the timeline laid out at the assembly, this pact wouldn't be up for adoption until 2024 – and its passing is not a given.

That is why more than 100 countries (including both China and the United States) and hundreds of

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The pandemic might not end until 2023 or even 2024, so long as wealthy nations buy up vaccine stock.”

organizations, including *Nature*, are supporting a campaign, led by India and South Africa and backed by the WHO, to temporarily waive intellectual-property (IP) rights to COVID-19 vaccines and drugs. The design and development of such therapies is concentrated in a relatively small number of companies that hold key patents, along with the US government. IP scholars such as Luke McDonagh at the London School of Economics and Political Science say IP relief for the duration of the pandemic will kick-start vaccine manufacturing around the world. But the EU is resisting, partly because of the strength of opposition from European pharmaceutical companies that fear they will lose their market share if their competitors are allowed to use their designs. But another way is possible.

The COVID-19 Vaccines Global Access (COVAX) scheme for providing vaccines to low-income countries needs a shot in the arm. When donor countries, philanthropic foundations and the WHO established COVAX at the start of the pandemic, they had a vision captured in the slogan “no one is safe until everyone is safe”. The plan was for the world to be vaccinated step by step, starting with the most vulnerable populations.

This never happened. Donor governments promised vaccines to COVAX while conducting parallel negotiations with companies, in some cases ordering many more doses than they needed. COVAX was not the priority, and it showed: the scheme had promised to provide 2 billion doses by the end of this year, but by July it had delivered only 95 million.

With populations in high-income nations largely vaccinated, COVAX looks to be turning a corner and will have delivered around 600 million vaccines by the end of the month. But these green shoots could be short-lived now that Omicron is prompting high-income nations to once more place large vaccine orders, especially for Omicron-specific vaccines based on messenger RNA. So long as this cycle continues, low- and lower-middle-income countries will always be at the back of the vaccines queue.

David Heymann, a long-standing science adviser to the WHO, says COVAX needs a high-profile global figure – someone of the stature of a leader of one of the G7 group of wealthy nations – to head it. Someone with the contacts, heft, star power and skills to knock heads together to hammer out a global solution to vaccinating the world, including compelling pharmaceutical company executives to agree that IP has to be shared, as happened with HIV drugs. This is not a criticism of COVAX's present leadership, Heymann emphasized – but adjustments are needed.

For a short while this year, researchers were optimistic that the pandemic might end at the end of 2022. But Andrea Taylor, who leads a COVID-19 data team at the Duke Global Health Innovation Center in Durham, North Carolina, says that will be pushed back until 2023 or even 2024, so long as wealthy nations insist on buying up most of the available vaccine stock without agreeing to provide more manufacturing capacity, and as new variants such as Omicron continue to arise. “We are taking the least efficient pathway out of the pandemic,” she laments.

It's an inescapable reality and an almost iron-clad law: the pandemic will not end while vaccine equity is pushed to the margins.