

When is a pandemic ‘over’?

World Health Organization prepares to confront thorny decision

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A woman in Madrid sheds her mask last month, after pandemic restrictions there were eased. CÉZARO DE LUCA/EUROPA PRESS VIA AP

Every 3 months since January 2020, when it first named the SARS-CoV-2 outbreak an international public health emergency, a [committee of expert advisers](#) to the World Health Organization (WHO) has convened to assess whether the pandemic still merits that label. And every 3 months, most recently in January, the advisers have unanimously agreed it does, and WHO Director-General Tedros Adhanom Ghebreyesus has accepted their verdict. When the committee meets again next month, it is likely to reach the same conclusion—and Tedros is again likely to accept it.

But at some point—estimates range from months to years from now—WHO will make a different call. Already, nations such as Denmark, the Netherlands, and the United Kingdom have functionally declared an end to the pandemic in their countries, lifting almost all health restrictions even as New Zealand and Hong Kong struggle with record-breaking surges. Deciding when to sound the all-clear is “not

an enviable task,” says Yonatan Grad, an infectious disease epidemiologist at the Harvard T.H. Chan School of Public Health (HSPH). “Do you call it over when there might still be a wave in one part of the world but it’s a small part?”

“SARS-CoV-2 has caused such hardship and economic challenges that there will be a temptation to call it as over sooner rather than later,” says Salim Abdool Karim, an epidemiologist who is the South African government’s chief COVID-19 scientist. The prospect worries him. WHO’s formal declaration of a [Public Health Emergency of International Concern](#) (PHEIC) legally binds 196 signatories to follow WHO’s recommendations during the emergency. Drugmakers have also signed contracts agreeing to make anti-SARS-CoV-2 pills more affordable until the PHEIC is reversed. Other big, cooperative efforts “that were put in place to make diagnostics, vaccines [affordable and to distribute them worldwide], all of those things ... will fall away. And those are the mechanisms that are needed by the poor countries,” says Karim, who also runs the Centre for the AIDS Programme of Research in South Africa. “Getting it wrong will carry a high price.”

To many outside China, where COVID-19 struck first, a statement by Tedros 2 years ago this week describing SARS-CoV-2 as a global pandemic marked its official start. But his 11 March 2020 comments triggered no public health requirements. Rather, the declaration with practical implications was the 30 January 2020 PHEIC announcement.

The regulations governing the PHEIC require signatory nations to report suspect outbreaks to WHO and to support its responses, although WHO has no way to enforce those rules. The expert committee that recommends whether to continue the PHEIC also lists, with each renewal, actions that nations should take, such as improving variant surveillance and expanding each nation’s vaccination coverage. At the start of this year, for instance, the emergency committee added a new recommendation: Monitor and share data on cases and evolution in animals.

The decision to end a PHEIC has financial implications, too. Moderna [has pledged](#) not to enforce patents on its messenger RNA vaccine until the pandemic ends, although a company spokesperson declined to say this week how it will identify that moment. Pfizer has not made a similar vaccine pledge, but it and Merck have agreed to allow generic drugmakers to make their drugs targeting SARS-CoV-2 until WHO declares the PHEIC is over. Dozens of companies have now signed up to make [Merck’s molnupiravir](#) and [Pfizer’s Paxlovid](#) for a long list of mostly low- and lower-middle-income countries.

Ending the PHEIC will also impact major pandemic-related programs such as the COVID-19 Vaccines Global Access (COVAX) Facility and its parent, the Access to COVID-19 Tools (ACT) Accelerator—cooperative global networks that aim to acquire and distribute affordable drugs, diagnostics, and vaccines. “The emergency

operations of COVAX and ACT-A will go away—it’s hard to keep that up,” says Seth Berkley, CEO of GAVI, the Vaccine Alliance, which is integrally involved with both efforts. “The hope is that the core innovations—the ways of working all of that—will be kept warm” for the future.



At a March 11, 2020, press briefing by the World Health Organization, Director-General Tedros Adhanom Ghebreyesus (center) publicly described the coronavirus outbreak as a pandemic for the first time. FABRICE COFFRINI/AFP VIA GETTY IMAGES

WHO’s 18-member committee uses three criteria to decide when to declare a PHEIC and when to lift it. A public health event must be “serious, sudden, unusual or unexpected”; likely to spread internationally; and likely to require immediate international action. When unwinding an emergency, the committee considers such metrics as vaccinations and case numbers. But the criteria are more social and political than scientific, says Caroline Buckee, an infectious disease epidemiologist at HSPH. “There’s not going to be a scientific threshold. There’s going to be an opinion-based consensus,” she says.

Complicating the decision is the prospect of further harmful variants arising, including, potentially, from some 20 animal species now known to host the virus. “I don’t know how it ends,” says Michael Osterholm, an infectious disease epidemiologist at the University of Minnesota, Twin Cities.

Karim says the real end of the pandemic won’t come until the arrival of a “final variant [that] even if it mutates, can’t do better ... than the previous version” in spreading and in escaping immunity. “If I was a betting man, I would say probably in about 2, 3 years we will get to that point.”

WHO was conservative in lifting previous PHEIC declarations—there have been six including SARS-CoV-2 since the regulations took effect in 2007—says Horace Cox, director of vector-borne diseases at the Ministry of Public Health in Guyana, and he expects the same with SARS-CoV-2. Individual countries have been less gingerly

signaling a return to normal, however. Several European countries have lifted restrictions already. And the U.S. Centers for Disease Control and Prevention last week eased masking recommendations for some 70% of the United States. In Congress, Republicans are this week trying to block additional pandemic funding, and some have introduced a bill to end the federal emergency declared in March 2020.

“The expectation is that the United Kingdom and the U.S. will be well ahead in terms of advancing to the stage where they say: ‘We don’t think this is an issue anymore. We’re making our own decision,’” Cox says. “[But] the WHO [must] consider what is good for the entire world.”

Still, he is cautiously optimistic that a WHO determination that the PHEIC is over may not be too distant. “If I were to make an educated guess, I would say that perhaps by late second and third quarter [2022],” if another deleterious variant doesn’t emerge.

But Osterholm is making no predictions. “If there was ever a time for humility among scientists and policymakers with this virus, it’s now,” he says. “We are in totally uncharted territory from the perspective of understanding what a pandemic is, how it starts, how it unfolds and how it ends.”