"Every infected person is a chance for a new variant to arise"

Boston University epidemiologist Dr. Eleanor Murray speaks on COVID-19 and endemia

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This is the second of a two-part interview debunking the claims that COVID-19 has become endemic. Part one can be read here.

Dr. Eleanor (Ellie) Murray is an Assistant Professor of Epidemiology at Boston University School of Public Health who focuses on improving methods for evidence-based decision-making and human-data interaction. Her work concerns public health and clinical epidemiology applications, including applications to HIV, HPV, cancer, cardiovascular disease, psychiatric disorders, musculoskeletal disorders, social and environmental epidemiology, and maternal and adolescent health. She also conducts meta-research evaluating bias in existing research. During the COVID-19 pandemic, Dr. Murray has been working on improving science communication about epidemiology, and is an Associate Editor for Social Media at the American Journal of Epidemiology.

She has written commentaries for the Washington Post on the pandemic and given many interviews on the topic. More recently, she has been critical of the call to declare COVID-19 endemic, citing misuse of the scientific term and opposing politicizing it for opportunist policy maneuvers. She was kind enough to accept our request for an interview.

BM: The term endemic has been politicized even by international health bodies. We see this in the World Health Organization (WHO) leadership, where Europe’s regional director, Dr. Hans Kluge, suggested that Omicron is bringing Europe to the endgame of the pandemic. This position was countered by the WHO’s Director-General Tedros, saying this was a dangerous proposition and declaring that the pandemic remains a public health emergency of international concern. This dichotomy in the leading global health body is striking. Similarly, we see the White House and CDC taking an equally rosy view of the situation.

Maybe you can speak to this.

EM: One of the significant challenges in this pandemic was that we missed a critical window of getting COVID globally under control in January and February 2020.

A big part of missing that critical window was the issues that the US had with defective test kits or limiting testing to people who had travel histories instead of admitting that COVID was already here in the US.

We don’t hear people admit that the US has been one of the most significant contributors to cases in this pandemic. And that lack of early control in the US contributed to an ongoing crisis that is still unresolved. And so, I think one aspect is that it’s difficult to admit that the problem is still ongoing if you don’t want to acknowledge that you played a role in it happening. We’ve very rarely heard people say, “You know what, that was the wrong approach, and let’s try something new.” We seldom evaluate how well things worked or didn’t work because an assessment might reveal how things didn’t work.

We see people constantly writing op-eds in the New York Times or sitting for interviews on CNN or other networks, saying again and again, “Two more weeks and this is over!” And they have been saying that for two years, and there’s no accountability on that. Why bother changing that message if that’s the message people [media corporations] want to pay you to put forward. There are many incentives to put such a message out and absolutely no real motivation to do the right thing.

Counter to all this, there is an unambiguous message coming from pundits and special interest groups that you will be attacked if you attempt to bring COVID under control despite the inconveniences to the public. So, most people, including political leaders and elected officials, find it easier not to do anything. And if the government is washing its hands of the pandemic and letting people die, then that is something we should hold them responsible for, but we are not seeing that happen.

BM: I’d like to discuss the Biden White House’s vaccine-only policy, which means that if you are vaccinated, you can essentially do anything you want without any real restrictions placed on you. The question is, can this policy work against the SARS-CoV-2 virus? In other words, can we abandon all the ABCs of public health and rely solely on vaccines?

And before you answer, I wanted to say that since the vaccines have been made publicly available, we’ve seen COVID deaths surge globally. Not because the vaccines aren’t effective, but that mitigations and restrictions like mask mandates and school closures were ended simultaneously. We never really brought infections under control before vaccinating even a tiny portion of the global population. Even WHO scientists warned at the time that vaccination campaigns without infection control would lead to new variants, which has proven correct.

EM: I think the biggest flaw in the vaccine-only policy is that it completely ignored what these vaccines were not intended to do—they don’t completely stop infections.

When the vaccine makers, Pfizer, Moderna and other companies, put their plans for testing their vaccines, they explicitly chose to tackle how effective they were against death, severe disease and hospitalization. And before you answer, I wanted to say that since the vaccines have been made publicly available, we’ve seen COVID deaths surge globally. Not because the vaccines aren’t effective, but that mitigations and restrictions like mask mandates and school closures were ended simultaneously. We never really brought infections under control before vaccinating even a tiny portion of the global population. Even WHO scientists warned at the time that vaccination campaigns without infection control would lead to new variants, which has proven correct.

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When the vaccine makers, Pfizer, Moderna and other companies, put their plans for testing their vaccines, they explicitly chose to tackle how effective they were against death, severe disease and hospitalization. And they expressly decided not to include infection as a critical outcome.

Back when they started their trials, stopping infections was not a priority. They weren’t even looking to see whether the vaccine would prevent infections. They were trying to stop the real crisis that was overwhelming the health care system. They said, “Let’s just save lives first, and then we can start to control the infection.” But somewhere along the line, the message got twisted around.

If we could get a vaccine that prevents 60 percent of deaths, people thought that that would be a huge success. And then, the results of the trials came out—95 percent effective against severe infection. That was so amazing, and it happened so quickly. The vaccines worked so well to control deaths and severe COVID, they let their enthusiasm carry them past all of the things that they should have known, which is that the vaccines don’t necessarily stop infections. It’s not an infection control
EM: We’re seeing what appears to be a fair amount of immune evasion with Omicron. I think there’s questions about how much of that is people’s immune response waning and how much of it is Omicron doing something slightly different. And I think the best minds that I follow are saying it’s probably some mix of both of those. If that’s true, we have been really lucky so far because of how much disease is out there.

Every infected person is a chance for a new variant to arise, and we have so much infection right now there is no reason that there couldn’t be a complete immune escape variant. There’s no reason we couldn’t have something twice as severe as Delta. All this talk about “Omicron is mild” when it’s just less severe than Delta, but the same severity as the initial strain.

But we could have had an Omicron more severe than Delta. We could have had an Omicron with Delta’s severity. It’s just luck that we didn’t have that. It’s not any sort of rule of the world [that the variants have to evolve toward more mild strains].

BM: Dr. Ashish Jha, the dean of the Brown University School of Public Health, has been an outspoken promoter of the White House COVID policy and the easing of restrictions. He recently compared the surges of infections to rainstorms. I will quote him—“I’ve been saying for weeks that as cases recede, we can soon relax public health restrictions. I think of this like the weather. When it is bucketing rain, umbrella, raincoat, boots are all essential. When the storm turns into a drizzle, those become less critical.”

I find this metaphor entirely inappropriate. So many people have suffered during the pandemic, not to mention the 900,000 that have died across the country and then the millions more that have lost their lives across the globe. This includes 700,000 people over the age of 65. It is insulting to their memories.

And there is Dr. Monica Gandhi, who has repeatedly made predictions that the pandemic is on its way out, constantly downplaying the severity of the infections.

What are your thoughts about this sort of messaging, and what should a public health servant’s role in this regard be during the pandemic?

EM: Public health officials with the capacity to do something have a responsibility to the public and must inure themselves against these kinds of voices. Many of them are not even part of the response. They’re doing other things. They’re paid to do other things, and they’re just opening.

They are very much downplaying the seriousness of the pandemic. And despite the fact that I did use a tornado metaphor earlier, I don’t think weather metaphors are a really good comparison for COVID. At least with a tornado, it ends. And then, I guess, there is the next tornado season, but you’ve got a nice big chunk of breathing room.

But if you compare COVID to rain, it should be the monsoon. And maybe you need to think about a scenario where a country experiences monsoons twice a year and all the things you would need to do to adapt to that. We regularly hear about natural disasters caused by flooding and damage from monsoons because our systems can’t control them and can’t handle that much water. We need better systems.

And so, in more developed parts of the world, we might see better responses to monsoons, whereas in other less developed and lower-income countries, these storms cause massive death and damage to communities. But to tell people to get an umbrella... It’s not a sprinkle, it’s a blizzard, it’s a monsoon and it’s not over. And it’s coming back every year, and it’s killing people every year. And if we do nothing, that’s what’s going to happen every year.

BM: If I may, I want to continue this thought behind the rain analogy because there’s something even more sinister in Dr. Jha’s metaphor.

The comparison of pandemic waves to rainfalls also inserts into the messaging the erroneous idea that these massive numbers of infections are simply a byproduct of a natural phenomenon. Meaning as unfortunate as COVID has been on the population, it was inevitable and intrinsic to the nature of the virus. That’s the idea that Dr. Jha is inserting into his metaphor. But we know that the devastating consequences have been a byproduct of a deliberate political strategy.

As you noted, countries like Australia, Vietnam, New Zealand, South Korea, and foremost, China, have implemented rigorous infection controls. They have been able to keep cases very low and deaths exceptionally low by comparison to the US and Europe.

Life expectancy in those countries following a Zero COVID strategy has remained stable or even risen. Meanwhile, they have dropped significantly in the US and Russia, even Canada.

So, Dr. Jha’s comments that it is a natural process are entirely inappropriate. In my opinion, that a public health official of his stature is saying it is remarkably callous and malicious. It attempts to absolve the political leadership of any responsibility to protect the population and blame the people. Your thoughts?

EM: I think that this is precisely the other problem with the weather metaphor is it makes people think there isn’t much anybody can do, but that’s not true.

Another fascinating thing we saw during this pandemic was the disappearance of the flu. We thought we were doing the best we could against it for many decades. And then last year, only one pediatric flu death compared to typically several hundred during previous flu seasons.

BM: If we went back to 2019, would it be fair to say that no one would have said that the flu could be stopped?

EM: If you had told me in 2019 that we wouldn’t have any children die in the next flu season, I would have laughed at you. We had no idea that was something we could do, and we thought we were doing everything we could. Nobody wants another 2020-like year every year, but there are some lessons we can learn from that experience and not just controlling COVID but also preventing the flu. And one lesson we should take from that is that the flu is a lot easier to manage than COVID because we still had a lot of COVID deaths, and we had almost no flu deaths.

Things like decreases in the flu and the respiratory syncytial virus probably impact the increasing life expectancy in countries that did reasonable infectious disease control against COVID, and by proxy, against other respiratory pathogens.

BM: As we speak about COVID and the flu, the 1918 influenza pandemic comes to mind, where more than 600,000 people died in the US. The present scale of COVID death is astounding and unprecedented. We’ve had more than 900,000 official COVID deaths, but excess deaths are upwards of 1.2 million.

If we correct for the differences in population sizes, the 1918 pandemic would have killed upwards of 2.1 million people today. Despite all our current scientific understanding, therapeutics and technology, the scale of death is extraordinary and comparable to the influenza pandemic 100 years ago.

EM: I think the most interesting thing about comparing the 1918 flu and COVID-19 is that in 1918, the scientific community had not yet even discovered viruses, so the whole response relied on much less science.

In contrast, we were able to identify the SARS-CoV-2 virus that causes
COVID-19 within roughly a week of the first reports and had vaccine candidates in development within the month. But despite that, the public discourse around masks, closures and vaccine uptake is almost entirely unchanged compared to how people talked about these in 1918.

You can find old letters to the editor from people angry about masks in 1918 that could have been written today, and the things people bring up as fears about vaccination are the same as they have been since the 1800s or before. I think that part of this problem is that even as science has moved forward in giant leaps, we have failed to keep up in terms of public education.

In particular, no public health education occurs at any point in K-12 schooling, and even undergraduate public health programs are new and rare. We’ve had hardly any public health messaging or public education campaigns around COVID-19—maybe I missed something. Still, I haven’t seen any posters, billboards, web ads or commercials to give people the essential information they need.

And despite this, the government is relying almost exclusively on individuals making their own risk assessments and choosing their own risk mitigation measures without having anywhere near the information that they need to make informed choices.

I think that there are a couple of things. I think the government has failed to implement the necessary response during the pandemic. The existing pandemic response infrastructure continues to be underfunded, and our stockpiles were all empty when COVID landed. And all of the people who had previously been in place to respond to pandemics were no longer there to do it as their positions were cut and made obsolete.

And so, indeed, there’s a government responsibility piece. But I also think there is a societal education component. People haven’t learned anything more about respiratory diseases than they knew back in 1918. And that’s why we’re seeing so many of the same arguments against precautions that people made in 1918. And scientists now know a lot about viruses, but a lot of the general public doesn’t know the difference between a virus and a bacteria.

We’ve seen that for decades and the fact that people take antibiotics for viral diseases and the associated risks of developing antibiotic-resistant bacteria. People don’t know the difference between endemic and herd immunity or even pandemic. There is so much the public needs to learn about community health. And so there’s this substantial educational gap between what people would need to know to make informed, intuitive decisions about managing risk and the level of risk management where the government is asking people to make.

BM: Since we are nearing the end of our discussion, I wanted to touch on a couple of additional topics.

Despite attempts to constantly downplay the role of COVID and children, in the last few months, we’ve seen infections among children soar and, with it, hospital admissions. In January alone, there were more than 3.5 million infections among children, and CDC estimates have placed the death toll among children over 1,200. When we compare it to the flu fatalities, COVID kills children at almost two to three times the rate. This means that COVID-19 is two to three times more deadly than the flu for this age group. From your perspective, is COVID dangerous to children?

EM: Yes, it is dangerous to children. It’s clear that children are being hospitalized and dying, and we are seeing multi-system inflammatory syndrome and various complications. So, yes, it can pose a danger to children. And I think the more complicated question is, has something changed with Omicron, or was this always the case?

That’s a little harder to answer because we were doing many things earlier to limit the types of contacts that children had. And, as you know, we saw fewer infections in children earlier in the pandemic and fewer hospitalizations in children.

But we weren’t doing a great job of testing children either. And we know children seem more likely to have the asymptomatic disease than adults. Therefore, symptom-based testing is not great for understanding the scope of infection in children.

So, it remains somewhat unclear whether there is any difference in the likelihood of children getting infected if they came in contact with someone today versus in previous waves. Or if it’s just that children had fewer contacts earlier in the pandemic, and now that they are going back to school in droves and in contact with so many other children, that’s why they’re getting sick?

But the severity question in terms of leading to more hospitalization is again a little hard to compare because now some schools are doing more surveillance-based testing. That will find some asymptomatic cases and make it a little bit harder to tell on the severity.

The critical takeaway is that kids can end up in the hospital, kids can end up with chronic health problems, and kids can die from COVID. And more kids are dying from COVID than died from the flu.

In Western society, over the decades, we have done so much to reduce childhood mortality that people almost don’t believe it’s a thing that can happen. They aren’t really afraid of it and don’t absorb a COVID infection’s consequences. Unless the chance of dying is high and they hear their friends are dying, they don’t think it will happen to them even though it can happen to someone else.

We need to push back against that instinct of people to say, “My child dying is something that is so unfathomably horrible that I’m just going to assume that it cannot happen to mine.” It is unfathomably horrible, but it can happen. And so, we need to make sure that we’re protecting kids and the best way to protect kids is by limiting COVID in communities.

We have to get COVID rates down in adults. We have to get everyone vaccinated. The idea that bars and restaurants were open when schools were closed was ridiculous. But we also need to be flexible on schools. If COVID is rising in schools, we need to shut it down to get COVID controlled in the community. Schools are connected to communities, and communities are connected to schools. It all feeds into each other.

BM: In discussions with colleagues and health experts, are they concerned that COVID will lead to rising rates of chronic diseases in the population?

EM: That’s an important question, but we haven’t really spent the time and effort to understand what’s likely. We have a lot of signals in the data we are collecting suggesting that there are chronic conditions that COVID can trigger. There are chronic sequela to COVID and chronic consequences of having COVID infection. It seems some of the people infected in the first wave are still experiencing those. For some people, it seems these things can persist.

We’re seeing indications that COVID may trigger the onset of diabetes in children. If that’s happening, then that will be a lifelong condition. We’re seeing people where COVID seems to be triggering heart attacks. And, we must get a better sense of what’s going on there, especially in those who have diabetes and have heart attacks.

These people are at a much higher risk of severe outcomes if they get a COVID infection. And if people develop chronic conditions after COVID, reinfection could potentially be much worse than their first COVID experience.

And then who knows what other long-term health conditions repeat infections could trigger. We don’t have enough information yet to know, but we have enough information to know that we should be looking carefully.

BM: Dr. Murray, thank you for all your time. It has been a critical discussion, and it is very much appreciated.

EM: It was great talking with you. If you have any follow-up questions, please feel free to email.