

The crisis of public health in the era of the COVID-19 pandemic: An interview with Arijit Chakravarty

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On May 16, 2026, the World Health Organization (WHO) declared a public health emergency of international concern over an outbreak of the Bundibugyo Ebola virus in the Democratic Republic of the Congo and Uganda. This is only the third Ebola PHEIC (Public Health Emergency of International Concern) in history and the first involving the Bundibugyo strain, for which no approved vaccine exists. Cases have been confirmed in Kinshasa and Kampala among individuals with no known epidemiological links to one another, signaling community spread in two of Africa's most densely populated capitals.

At the same time, the Andes hantavirus outbreak that began aboard the MV Hondius cruise ship has already affected multiple countries. Passengers disembarked and scattered globally before meaningful containment measures were applied, potentially spreading a pathogen that carries a case fatality rate of 38 to 40 percent and for which there is no approved treatment or vaccine. These emergencies unfold alongside an ongoing measles resurgence fueled by the collapse of vaccination infrastructure, continued H5N1 circulation in poultry flocks across the United States, and the unresolved COVID-19 pandemic, now in its seventh year.

None of this is accidental. The deliberate defunding of global disease surveillance programs, the gutting of the CDC's international operations, the withdrawal of US support from the WHO and the dismantling of USAID's pandemic preparedness infrastructure have systematically destroyed the capacity to detect and contain emerging threats. These are the concrete consequences of the "let it rip" policies that capitalist governments normalized during COVID-19—six years of conditioning the public to accept mass infection as unavoidable, while dismantling the institutions that might have prevented what is now unfolding.

To understand what these converging crises reveal about the state of global public health, the World Socialist Web Site spoke with Dr. Arijit Chakravarty. Dr. Chakravarty is the chief executive officer of Fractal Therapeutics, a Cambridge, Massachusetts-based company that applies mathematical modeling to drug discovery and development. Over the past six years, he has led an interdisciplinary team of volunteers that has published more than 20 peer-reviewed papers on COVID-19. Writing in Scientific American and other publications, Dr. Chakravarty has been a consistent and uncompromising voice for evidence-based public health, accurately predicting the failure of a vaccine-only strategy and repeatedly warning that managing the public's emotional response to a disease is not the same as managing the disease itself. In the following interview, he discusses the Andes hantavirus and Bundibugyo Ebola outbreaks, the structural collapse of pandemic preparedness and what a rational public health response would actually require.

Benjamin Mateus (BM): The World Health Organization has just declared the Ebola Bundibugyo strain a Public Health Emergency of

International Concern (PHEIC). This is a strain with only two previous outbreaks on record and no approved vaccine. There has also been a significant detection gap before this declaration. You said in 2024 that the COVID-19 pandemic showed us what failure looks like. Now, with this declaration now in front of us, what does that failure look like in concrete terms? *[A detection gap refers to the period between when a pathogen first begins circulating in a human population and when public health authorities formally identify and confirm its presence. During this interval, cases go unrecognized, contacts go untraced and the virus spreads without any containment measures in place. The longer the detection gap, the larger the head start the outbreak has before any response begins.]*

Arijit Chakravarty (AC): So, I'm not an epidemiologist. My frame of reference comes from six years of publishing papers on COVID-19. What we're dealing with now is the direct consequence of having failed at the COVID-19 pandemic and refusing to reckon with that failure. The WHO and every other public health authority simply went about their business as usual without ever conducting an honest assessment of their performance during the early days of the pandemic. As a result, nothing has been learned about how to respond to an emerging virus, nothing has been learned about how to limit transmission, and nothing has been learned about how to communicate honestly with the public. We are today in a substantially worse position than we were during the last big outbreak of Ebola in 2014 and 2015.

BM: Before we get to the specifics of the current Ebola PHEIC and what is happening in the DRC, I want to step back and ask you to frame the larger pattern. We are seeing hantavirus, Ebola, H5N1, measles, all mishandled in ways that rhyme with each other. What is the underlying dynamic that keeps repeating?

AC: Every one of these situations follows the same pattern, and we've seen it enough times that there is no excuse for not recognizing it. A zoonotic event occurs; a jump from an animal population to humans. That's true whether you are talking about SARS-CoV-2, plague or hantavirus. The virus that makes that jump has been evolving within its animal reservoir, so every time you see a new virus in humans, you have to treat it as genuinely new. You don't know its reproductive number. You don't know its potential for super-spreading. You don't know its infection fatality rate.

What public health authorities do every time, without fail, is assume they already know. They say, "That's hantavirus. We know what it's like because we saw the 2018 outbreak." But you should not count on getting the same reproductive number as 2018. That R0 is a function of population density, cultural responses, the measures taken in the initial days, all of which are different in the current context. In the Epuayén outbreak [in Argentina], R values as high as 6 were recorded at the outset,

dropping to 0.9 only after controls were put in place.

So what you get every time is dysfunctional communication rooted in false certainty. Authorities will say, “We know what this is because we had the Epuycn outbreak—R-naught of two, case fatality rate of 30 percent.” But that ignores the total infection fatality rate. There may be many people walking around with mild hantavirus. All of this mythologizing substitutes for the honest answer, which is that you don’t know what will happen to this virus, and you don’t know what its actual R0 is when someone boards a crowded airplane for eight hours.

There is also a genetic dimension that is being ignored. You cannot assume this is the same virus that circulated in Epuycn. The sequence data already shows significant divergence and multiple mutations. The 1918 influenza differed from its predecessors by only two nucleotides, and that was enough to drive catastrophic change. Depending on which mutations are present, even a small number of changes can produce radically different behavior in a pathogen.

The core failure, in every case, is that the entire focus is on managing the public’s emotional response rather than managing the disease. Martha Lincoln and I wrote a piece several years ago titled, “The Coronavirus Doesn’t Care About Your Feelings.” Our argument was precisely this: Managing the emotional response to a disease is not the same thing as managing the disease itself. The wrong lessons were drawn from COVID-19, and we are living through the consequences.

BM: What you are describing was on full display with hantavirus. Experts across the field—virologists, epidemiologists—were almost unanimously telling the public this is not SARS-CoV-2, as though that comparison settled the question of risk. Meanwhile, on a ship of roughly 150 passengers, at least 10 percent were infected before the WHO was even notified almost a month later.

There were almost certainly discussions between the ship and relevant stakeholders in which the decision was made to stay the course, because passengers had paid substantial sums for this expedition. The ship called at various islands, passengers disembarked and intermingled, new passengers boarded. Then a passenger collapsed in the Johannesburg airport. Given that the Andes virus has an incubation period of up to eight weeks and a serial interval of 21 days, the media’s framing of this situation was entirely inadequate. From your perspective, what should a competent public health response to the hantavirus outbreak have looked like?

AC: The hantavirus situation presents two possible approaches, and they could not be more different. The first is to say: We know this virus well, it does not spread easily between people, and our job is to keep the public calm. The second is to say: Here is a zoonotic event involving a pathogen we have not seen in an outbreak context in seven or eight years, and we should approach it with the precautionary principle. The contrast is between a public health response focused entirely on calm-mongering and a public health response focused on actually doing the job.

A professional response would have acknowledged the cone of uncertainty around this virus explicitly. The R0 from the 2018 outbreak cannot be assumed to automatically apply here. The context is different: People are flying internationally, the genetic sequence of the virus has diverged, and there are multiple reasons why the 2018 R0 should not be treated as a baseline. Most critically, we know this virus is transmitted efficiently. The landmark 2020 *New England Journal of Medicine* paper on the Epuycn outbreak documented a transmission event in which two individuals simply walked past each other and exchanged brief greetings. That is either aerosol transmission or extremely efficient short-range person-to-person spread. And given what that paper shows about the birthday party super-spreading event, aerosol transmission is the more plausible explanation.

The appropriate default position for any novel virus should therefore be to assume aerosol transmissibility from the outset and to put measures in

place immediately to limit the spread from the first known cases. That is not a radical position. It is common sense, and it is unconscionable that we are still having this argument six years after the COVID-19 fiasco.

The COVID-19 public health failure

COVID-19 was a public health failure in every sense of the word. The role of public health agencies should not be to act as midwives for every emergent pathogen, gently shepherding the disease to endemicity while keeping the public calm. That is what failure looks like. COVID-19 should never have been allowed to become endemic. In February 2020, there were photographs circulating from China showing healthcare workers in full hazmat suits. At the same time, we saw pictures in the newspaper of the first American patients—in a facility in Washington state—being moved around by what looked like administrators, holding up a bedsheet for the patient’s privacy, some of them wearing surgical masks. When I saw that image, it was clear to me where this was headed. Our entire approach to infectious disease threat management was oriented around tangential concerns—HIPAA compliance, public perception—rather than preventing onward transmission.

With hantavirus, authorities have been discussing this outbreak in the past tense almost from the beginning, while simultaneously failing to implement any of the measures the situation required. The CDC started out with “encouraging” passengers from the infected cruise ship to isolate. A couple of days later, they significantly tightened their guidance, but those adjustments are meaningless once people have been circulating freely in public for any length of time. All clichés about barn doors and horses bolting apply, of course.

BM: The failures you are describing around the MV Hondius are precisely what make the concurrent Ebola PHEIC so alarming. With an incubation period of up to eight weeks, meaningful contact tracing for hantavirus would have been an extraordinary undertaking even under ideal conditions. Those conditions did not exist. The cat was out of the bag. What do you see as the likely trajectory from here?

AC: At this point, one of two outcomes is possible. Either the outbreak fizzles because the reproductive number is below one, or it fizzles due to chance even with a reproductive number above one. Our internal modeling suggests that the majority of outbreaks fizzle out stochastically, even for reasonably infectious diseases.

[In epidemiology, a stochastic outbreak is one governed by chance—Early in an outbreak, when the number of infected individuals is small, the disease may simply fizzle out through random variation even if the pathogen can spread. A deterministic outbreak is one that has reached a large enough scale that its trajectory becomes mathematically predictable: With a reproductive number above 1.0, each infected person infects more than one other, the disease will continue to grow and spread in a consistent, foreseeable pattern that can no longer be reversed by luck alone.]

In evolutionary terms, early-stage outbreaks operate under conditions analogous to genetic drift. They simply do not gather enough momentum to break through the stochastic barrier to establishment. But once the pool of infected cases grows large enough, the dynamics shift from stochastic to deterministic. At that point, even an R0 of 1.1 will sustain transmission indefinitely. Once a virus reaches that deterministic threshold, the situation becomes very difficult to reverse.

If we dodge this one, it will be entirely due to luck. That is the whole of our current strategy, and it is remarkable that there has been no serious postmortem of the failure of public health during the early stages of COVID-19. The WHO conducted an internal review that produced a list

of recommendations, but conspicuously absent from that list was airborne protections. If you look at their website on COVID-19 even today, they still talk about practicing “respiratory etiquette” by coughing into your elbow. Without an honest assessment of the role of airborne spread, there’s no commitment to treating the next zoonotic outbreak event as a potential pandemic threat requiring aerosol mitigations from day one.

The lack of an honest post-mortem explains why we are in this Groundhog Day situation, where every new outbreak triggers the same cycle: debate about whether transmission is really airborne, eventual acknowledgment that it may be, and then the implicit conclusion that because it’s airborne, nothing can be done. When a fire breaks out in your house, it’s not a good time for debate. You reach for the fire extinguisher.

The Ebola outbreak in Central Africa

BM: The Ebola PHEIC itself, one of the indicators driving the declaration, is exactly what you are describing on the deterministic side. Confirmed cases have appeared in Kampala and Kinshasa among individuals with no known epidemiological links to each other, which means community spread in two major urban centers. What is your read on this outbreak and on the WHO’s capacity to respond?

AC: Frankly, I’m at a point now where I scrutinize everything the WHO says for their angle rather than accepting it at face value. But on this particular call, I think they are correct. There is genuine cause for alarm, and I believe the WHO knows it. The real reason for concern is not simply that the virus has reached national capitals—It reached capital cities (Freetown and Conakry) during the 2014-2015 epidemic as well. Studies following that outbreak suggest that the official toll of roughly 30,000 infections and 11,000 deaths likely reflected somewhere between 30 and 85 percent of actual cases, meaning the true number of infections was probably closer to 100,000 or more. So that was a huge outbreak, if you think about it.

The real difference this time is the absence of US capacity. During the 2014-2015 outbreak, CDC scientists were on the ground managing biocontainment facilities. During the Tom Frieden era, the CDC was the premier disease control institution in the world. That infrastructure, that institutional capacity and that willingness to engage directly; all of it is gone. The affected countries do not have the resources to independently construct field hospitals with biocontainment capability. The WHO knows it is going to have to manage this outbreak largely alone, and that is why it has issued the PHEIC.

What is equally troubling is how much we don’t know about this strain. We don’t know how efficiently the Bundibugyo virus spreads by the aerosol route. We don’t know the extent of asymptomatic transmission. We don’t know what fractions of cases are mild even though mild Ebola does exist. There is no diagnostic test, no treatment and no vaccine. And this is a pathogen with a case fatality rate of 30 to 50 percent. Both the hantavirus and Ebola outbreaks deserve to be treated with maximum seriousness.

BM: The parallel that concerns me is also procedural. How the MV Hondius situation was handled—the delayed notification, the disembarkation of passengers without adequate screening, people being brought in for evaluation and then sent home—is now the model through which we must view the Ebola response. If the past week is any guide to the present, we should be asking if there are airport controls in place? Where have exposed individuals traveled? What contact tracing infrastructure actually exists? Overlaying the hantavirus mismanagement onto a disease with a 30 to 50 percent fatality rate spreading in densely populated, resource-limited cities presents a genuinely alarming picture.

AC: Yeah, exactly! With respect to the hantavirus response, if this was a work of fiction, it would be rejected by any editor as implausible. Why would a public health agency disembark all passengers from a vessel with a confirmed outbreak and simply allow them to disperse? Why would individuals brought to a quarantine unit for evaluation be told they were free to go home? The level of institutional failure is almost beyond satire. And you’re absolutely right: When you layer that track record over what is now unfolding in Kinshasa, we have a serious problem.

What makes this moment different from 2014 and 2015 is not just the absence of US institutional capacity. There has been a broader cultural shift, driven in no small part by the messaging of agencies like the WHO and CDC over the past six years, in what the public and governments are willing to accept. Quarantine laws have been weakened in multiple US states. Contact tracing infrastructure has been systematically dismantled. Our modeling work, published a couple of years ago, showed that during the early COVID-19 pandemic, only about 1 percent of onward transmissions were being detected through contact tracing. When contact tracing is conducted voluntarily, when it relies on symptomatic presentation, and when it depends on rapid antigen testing, the vast majority of cases become invisible. The CDC reported with evident satisfaction in the MMWR that only seven to 10 COVID-19 cases were linked to the Sturgis motorcycle rally in South Dakota, which drew approximately 700,000 attendees. There are two possible explanations: Either motorcyclists are uniquely immune to respiratory viruses, or the contact tracing infrastructure was broken. A broken contact tracing system is an effective tool for dampening perceived concern, because it is very easy to close a case you never opened. We called that paper “looking under the lamp post,” by the way, because it sort of exemplifies public health’s approach to infection control these days.

COVID-19 was the kind of pandemic where a deeply dysfunctional public health apparatus could fail at its core mission while still avoiding societal collapse, because the pathogen, for all its devastation, had characteristics that permitted that outcome. One million Americans died in the first two years—a toll that was treated as an acceptable cost. The next pandemic may extract 30 million. We are not equipped for that outcome, and we have done nothing in the intervening years to become equipped for it. Public health mandates should be controlling the spread of pathogens, not managing the spread of concern. Until that fundamental reorientation happens, we will keep returning to this same crisis.

On Ebola specifically, there’s one thing about this that’s different from previous outbreaks. It is very difficult to calm-monger a disease that produces hemorrhagic fever. Everyone has seen the images. No one is indifferent to a 30 to 50 percent fatality rate. Ryan Gregory and I wrote a blog post on the logic of calm-mongering as a systematic public health strategy. The playbook begins with “more information is needed,” progresses to emotional management, and ends with making risk discussion itself undiscussable. The minute anyone raises the question of mitigation they are accused of fearmongering. It is as though every time you reach for a fire extinguisher, someone stops you to debate whether a fire could realistically break out in this particular kitchen. Ebola will test whether that playbook can survive contact with a visibly catastrophic disease.

A convergence of crises

BM: We are dealing with this convergence of crises—COVID-19 still ongoing, H5N1, Mpox, hantavirus, Ebola and now a measles resurgence driven by the systematic dismantling of vaccination infrastructure and the deliberate reframing of public health as a matter of individual choice. This

is not a calamity approaching. It is already underway.

AC: Absolutely, I couldn't have said it better! To your point, the COVID-19 public health failure seeded all of this in three distinct ways, and it's worth being precise about each one.

The first is institutional. Governments and international bodies have concluded that they can manage any infectious disease outbreak through communication alone or that talking the public through a crisis is equivalent to controlling it. In a very real sense, institutionalized public health now works to undermine actual public health. Agencies spread misinformation. They make it harder for individuals to protect themselves. The explicit demonization of masking is the clearest example. When the chief public health officer of British Columbia describes the PPEs (personal protective equipment) as "that word that we all dread to hear," that is just a straight-up abdication of the most basic professional responsibility.

The second is immunological. Repeated COVID-19 infections are producing population-level immune impairment. The "airborne AIDS" framing is a straw man; it does not require that level of devastation to matter. It's well established at this point that COVID-19 infections cause lymphocytopenia (white blood cell loss). People who don't take precautions for COVID-19 can expect to get it once or twice every two years or so. Every infection takes a bite out of your white blood cell population, and recovery can take six months or more. A transiently weakened immune response across a large section of the population creates exactly the conditions of vulnerability that pathogens exploit. The combination of recurring COVID-19 reinfection and collapsing vaccination coverage means we are entering these new outbreaks with a population whose baseline immune competence is lower than it was in 2019.

The third is behavioral. The deliberate mismanagement of COVID-19 has produced a public that is substantially less willing to mask, less willing to take quarantine seriously, and less willing to recognize the social obligation not to infect others. The MV *Hondius* situation illustrated this with extraordinary clarity. One passenger fled the ship and transited through four major international airports to reach Pitcairn Island before being located and isolated. Another flew to Hanoi to attend an extreme travelers conference, an event populated by people whose defining characteristic is that they travel the entire globe continuously. If this were submitted as a plot point in a novel, it would be rejected as unbelievable. This is the behavioral landscape in which we are now trying to contain both hantavirus and Ebola.

BM: There is another dimension that compounds all of this: the relationship between armed conflict and infectious disease. We are seeing polio reestablish in Gaza and resurface in the United States. Ebola is now spreading in the DRC, an active conflict zone with resource-rich territory and desperately poor access to those resources for its civilian population. History is unambiguous on this point; 1918 influenza and World War I are canonical examples. We are in a period of perpetual wars, where political and economic impasses are managed by armed conflict.

AC: I agree. War and disease are fellow travelers. That historical parallel is entirely apt, and the current geopolitical situation is worse in terms of active conflicts than anything we faced 10 years ago. The implications are direct and serious. We addressed this in a *Scientific American* piece on H5N1. The consistent message has been that the precautionary principle is not optional. The claim that "we dodged the bullet" on bird flu is simply false. H5N1 continues to circulate in poultry flocks across the United States, and zoonotic spillover events are ongoing.

The history of 1918 influenza is instructive here. That virus smoldered in swine herds and poultry flocks for approximately a decade before it produced a pandemic. Because influenza has a segmented genome, the large pools of genetic variation circulating in animal reservoirs provided

the raw material for increased transmissibility in swine, which in turn generated the mutations that combined with existing human seasonal influenza to produce the 1918 strain. The final pandemic-capable variant emerged as essentially a single-step jump, but that jump was only possible because of the vast genetic diversity that had accumulated over years compounded by the fire set by the war effort. What we are doing by tolerating H5N1's continued spread in animal reservoirs is allowing the virus to take unlimited potshots at the human population. Relying on luck is a strategy—if you can call it that—with a mathematically guaranteed endpoint: If you wait long enough, your luck will run out.

The structural problem underlying all of this is the consistent abandonment of the precautionary principle. Early containment of an emergent pandemic is extraordinarily low-cost relative to what follows once containment fails. We no longer have a meaningful contact-tracing infrastructure. The COVID-19 experience demonstrated definitively that once a pathogen escapes the initial containment window, contact tracing at the population level becomes impossible. And the communication framework remains entirely wrong. Describing hantavirus to the public as something you only need to worry about if you are inhaling rodent feces is misinformation. The Andes strain transmits human to human, which is a fact, and the official messaging contradicted it from the outset. Calling an infectious disease "rare" is not a scientific statement. It is a policy choice. A disease will be rare or not rare depending on the decisions a public health agency makes about containment.

Lessons from COVID-19

BM: As we close, I want to give you space to address something I think is essential for readers: Not only what has gone wrong, but what a world that had learned the right lessons from COVID-19 would actually look like right now. What structural and institutional changes would have made a difference?

AC: The right lessons from COVID-19 were identifiable from very early in the pandemic, and none of them were learned. The first was to improve indoor air quality (IAQ) as a permanent infrastructure investment and not a crisis response. The baseline analogy to this public health standard is equivalent to the history behind access to clean public water. By my estimate, you could upgrade indoor air quality in every public building in the United States, to the point where airborne transmission was significantly mitigated, for roughly cost of a single aircraft carrier. Six years later, not only has that not been done, we haven't even had a public conversation about the cost-benefit of better IAQ in public spaces. The second was to communicate honestly and precisely about risk and not to manage emotional responses but to give the public accurate information and the tools to act on it. The third was to establish, as a standing protocol, that every new zoonotic outbreak event is to be treated as a potential aerosol-transmissible threat until proven otherwise. That default doesn't require certainty. It requires only that we stop assuming the best case. There's a reason you're not supposed to play with roadkill—It's not because if you do, you will pick up an infection. It's because you might. And that "might" is enough to stop most people.

Beyond those principles, the critical operational failure in both the hantavirus and Ebola responses has been the sequencing of priorities. In the early days of any outbreak, public health's first obligation is to establish testing and get contact tracing operational or to put a ring around the initial cases before anything else happens. Instead, what we have seen repeatedly is an immediate pivot to press conferences and public messaging, with contact tracing and isolation protocols backfilled weeks later when they can no longer accomplish anything. It is outlandish to be

debating the basics of containment protocol a month into an outbreak. These frameworks should have been designed, tested and institutionalized years ago.

The deeper consequence of refusing to learn from COVID-19 is that the public has been led to believe that the problem with the COVID-19 response was that any mitigation measures existed at all. That is precisely the inversion of the truth. The problem was that mitigation measures were deployed too slowly, abandoned too quickly, and never given the institutional backing that would have made them effective. Until there is genuine accountability for what went wrong—not public relations exercises but honest institutional reckoning—we will continue cycling through these emergencies with the same tools, the same assumptions and the same outcomes.

That disproportion between the cost of prevention and the cost of failure extends to the broadest possible frame. We are at a demographic and epidemiological inflection point that is not well understood. For more than a century, humanity has steadily reduced the burden of infectious disease, the primary predator of our species for most of recorded history. Walk through any old cemetery in the Northeastern United States and you will find a children’s section, full of graves of two- and three-year-olds taken by infectious disease. The suppression of that mortality has been one of the central drivers of population growth. We have built a civilization premised on the assumption that we have won against infectious disease.

We have not. What we have done is create the conditions for a fresh wave of pathogens to encounter an enormous, globally connected, immunologically vulnerable population. The analogy to water sanitation is precise: Cleaning the water supply allowed us to eliminate cholera and other waterborne diseases as mass killers. Addressing airborne transmission with equivalent seriousness is the next necessary step, because the pandemic-potential pathogens we are now facing are overwhelmingly airborne. The systematic refusal to acknowledge this—the insistence among some epidemiologists that “airborne” means only measles-level transmissibility—is not a scientific position. It is a liability management strategy. And it cannot be sustained indefinitely without catastrophic consequences.

You asked me for a closing comment, so I would put it this way. Public health in the 21st century has one paramount obligation: to prevent new infectious diseases from establishing themselves in the human population. Every pathogen that succeeds in making that transition to endemicity, as COVID-19 unfortunately did, weakens our collective defenses against the next one. If we let measles re-establish, it causes immune amnesia, where your immune system becomes weaker, for several years. Each new disease establishing itself in the human population makes the population less healthy, more vulnerable to other diseases. The whole game, properly understood, is to reduce the total burden of infectious disease. Everything else that public health does—wellness campaigns, screen-time guidance, lifestyle interventions—they can skip. It’s right of the decimal point. If they fail at that primary obligation, none of the rest of it matters.



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