COMMENTARY: Public health's share of the blame: US COVID-19 risk communication failures

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Editor's Note: *After 40+ years as a risk communication consultant, Dr. Sandman came out of retirement in January 2020 to try to help with pandemic risk communication. Following is an abridged form of a commentary published on his website Aug 4, 2020, with new material added.*

A reporter recently asked me what I consider "the single biggest communication failure" of public health experts and officials with regard to COVID-19. It took me a few weeks to think it through, but I now have a five-part answer to this question.

Let me state the obvious at the outset: Public health professionals are not single-handedly responsible for the dire COVID-19 situation in which the United States finds itself. If I had to specify a single culprit, I'd name the federal government, and especially President Trump. But I believe the public health profession bears a good deal more of the blame than it's getting.

Several public health professionals who gave me comments on an earlier version of this article said a lot of the failings I attribute to public health professionals are actually down to the President and the federal public health agencies that report to him. There's enough blame to go around. But I have spent the past 7 months reading and watching media, zeroing in especially on what experts and officials (especially those outside the federal government) were saying about COVID-19 in news stories, interviews, and op-eds. I don't have a formal content analysis of their messaging and how it morphed over time. But my strong impression, bordering on conviction, is that their messaging often misled the public, and the political leadership as well. How that happened is the subject of this article.

I want to look at the big picture. I'll ignore public health professionals' smallish risk communication failures, such as their abrupt about-face without an apology on the advisability of wearing masks and their absolution of antiracism protesters for gathering in large crowds. The story I want to tell focuses on how the public health profession drastically underreacted to COVID-19 at first and left us unprepared, then overreacted and sent us into lockdown, and then justified the lockdown by switching from a "flatten the curve" narrative to a "prevent infections at all costs" narrative instead of teaching us to balance priorities and "dance" with the SARS-CoV-2 virus.

Part 1: Public health over-reassures the public

The most obvious communication failure of most public health professionals vis-à-vis COVID-19 was their huge failure to warn governments, companies, and the rest of us to prepare in January, February, and into March.

Almost from the outset, it was apparent to most experts that COVID-19 would probably keep spreading—that it was much likelier than not to "go pandemic." But it wasn't apparent at first how severe the COVID-19 pandemic would be. So the right messaging would have addressed logistical and emotional preparedness for the hard times that might (or might not) be coming.

Public health experts and officials chose instead to reassure the public. Alas, to everyone's subsequent dismay, they succeeded. They were worried about public panic. So they validated the public's complacency—and with it, the complacency of government officials and corporate leaders—and left us incredibly unprepared.

Not content merely to reassure, some leaders went out of their way to attack the very idea of anyone being frightened about what the world might be facing. Here is what World Health Organization Director-General Tedros Adhanom Ghebreyesus tweeted on February 28:

> Together, we are powerful. Our greatest enemy right now is not the [coronavirus] itself. It's fear, rumours and stigma. And our greatest assets are facts, reason and solidarity.

Why did public health professionals downplay the danger of the SARS-CoV-2 virus? As the quotation from Tedros suggests, the root of the problem was what I have called "fear of fear"—especially experts' and officials' unjustified concern that vast numbers of people would freak out or even panic.

There was a more justified concern as well: experts' and officials' fear that they would be criticized for unduly frightening the public if COVID-19 fizzled or turned out to be mild. They had aggressively warned the world about a possibly disastrous bird flu pandemic in 2005 and it never happened; they had aggressively warned the world about a possibly disastrous swine flu pandemic in 2010 and it ended up less deadly than a typical flu season. In the wake of these two false alarms, this time they elected not to shout from the rooftops. Their warnings were sotto voce, easy to ignore. And their warnings stayed that way even after it was clear they were being ignored.

In those key early weeks, the main message from the public health establishment was that "the risk to people here in [wherever] is low." This was technically true, since there weren't yet a lot of COVID-19 cases in [wherever]. But public health professionals know that risk is often about the future. In any given October, before the start of the northern hemisphere's flu season but well into flu vaccination season, they would never say that the risk of flu is low. Focusing on the known current risk instead of the likely near-term future risk allowed public health professionals to keep saying the risk was low for far too long, inducing massive complacency in citizens and leaders alike.

In February 2020, if you were looking for it, you could find some public health messaging to the effect that the COVID-19 risk might not stay low. Perhaps the most visible exception to the over-reassurance messaging came from Nancy Messonnier, MD, of the US Centers for Disease Control and Prevention (CDC). In a February 25 media briefing she said bluntly that "disruption to everyday life may be severe." The stock market plummeted, the President was angered, and the CDC was rebuked.

Dr. Messonnier was back "on message" for her next briefing a few days later. This time she talked about the very few known US cases of local transmission. She repeatedly claimed that the risk of current, ongoing SARS-CoV-2 transmission was low in any community that had no positive test results (even though most communities had done no testing, and thus had no negative test results either). Jody Lanard and I wrote a website column critiquing this briefing. Our title says it all: "'Absence of evidence' portrayed as 'evidence of absence.'"

In February and well into March, COVID-19 warnings from US public health professionals were few and far between, a comparative whisper. The shouted message was that the (current) risk was low.

And the implication of that message was that preparations and precautions were unnecessary, maybe foolish and alarmist, maybe even hysterical and panicky. So go about your business, go celebrate the Lunar New Year in large crowds, don't worry about stockpiling medicines or food or toilet paper, don't get unnecessarily fussed about this thing that might not even be a pandemic, and for God's sake don't wear a mask.

Part 2: Public health panics and overreacts

New York City became a disaster area because its government grotesquely underreacted to the emerging crisis as cases doubled and doubled again. Weeks too late, it finally banned mass gatherings, closed schools, announced social distancing policies, and more. Precisely because it was so slow to react before the virus had spread out of control, New York City's government was wise to impose a near-total lockdown of the city, a radical solution to a disastrous situation. Governments in China and Italy were similarly wise to lock down Wuhan and later Milan. Wherever the SARS-CoV-2 virus was already widespread and expanding exponentially, local lockdowns made sense—to slow the spread, keep hospitals from being overwhelmed (or further overwhelmed), and buy time for urgent, belated preparations.

But does that mean lockdowns also made sense in places where the virus was not yet widespread? Most of the United States and much of Europe locked down at a time when more conventional, less extreme interventions might have sufficed.

Consider the measures that are now commonly utilized in places that are successfully managing the pandemic: social distancing, masks, cancelation of mass events and maybe of schools, handwashing, widespread testing, contact tracing and quarantine, expanded hospital capacity, expanded supplies of personal protective equipment (PPE), sequestration of especially vulnerable populations, special precautions for nursing homes and other congregate settings.

By the time New York City awoke to the COVID-19 danger, it was arguably too late for anything but lockdown. But wouldn't these lesser (and economically less devastating) measures have worked elsewhere—*instead* of lockdown rather than *after* lockdown? Maybe even just some of these measures, if a few of the most difficult ones (like contact tracing) weren't feasible?

Every pandemic plan I have worked on or looked at, starting in 2004, emphasized the importance of responding quickly with what the CDC has called "targeted and layered" local nonpharmaceutical interventions to slow the spread of the pathogen. The interventions the writers of these plans had in mind were the sorts of interventions I just listed. I never saw a plan that contemplated telling everyone to stay home, locking down entire states and countries.

Even now, I am at a loss to explain how the US public health profession suddenly came to the conclusion that a nearly national lockdown was the right response to SARS-CoV-2. China's apparent success in suppressing the virus by locking down much of the country obviously played a key role. But I distinctly remember how shocked and disapproving most public health people seemed to be, at first, about China's lockdown. Then came the disaster in northern Italy, with Milan following in the footsteps of Wuhan. New York City looked like it was following in the footsteps of Milan. And suddenly lockdown was deemed the appropriate response even in places that showed no signs of following in the footsteps of New York.

There were outliers within the public health profession—look here and here, for example—who said that such a widespread lockdown was an overreaction. What's amazing is that they *were* outliers. (And as outliers so often do, they tended to go to the opposite extreme, opposing not just lockdown but less extreme interventions as well.) Virtually the whole profession suddenly seemed to support widespread and apparently indiscriminate use of a measure that to my knowledge had never even been contemplated for places with seemingly very low levels of infection.

I know now—because they have told me so—that there were more dissenters among public health professionals than were visible at the time. What *was* visible at the time was an apparent consensus for nearly nationwide lockdown.

People are now saying that a number of southern and western states came out of lockdown too soon. Almost universally ignored is the possibility that these states went *into* lockdown too soon. If places with relatively little community transmission had tried more moderate interventions in March, maybe they wouldn't now face massive public lockdown fatigue as they decide whether to lock down again.

I'm just a risk communication expert, not an epidemiologist. I am not entitled to a professional opinion about whether widespread lockdowns rather than less extreme, targeted measures were called for. But it looked to me in real time—and still looks to me today—like public health experts and officials panicked. They saw what happened in Wuhan, then Milan, then New York. They realized how badly they had underreacted to COVID-19. And very suddenly, without a lot of public explanation (much less public debate), they overreacted and prescribed universal lockdown.

I am a longtime opponent of diagnosing panic when people get frightened about some risk and start taking precautions, even excessive precautions. As I have written again and again, panic is "doing something harmful to yourself or others that you would never do if you were thinking straight, but you can't help yourself because of out-of-control emotions." By that definition, panic is an extremely uncommon response to crisis.

But by that definition, I think it is fair to say that in places without a lot of SARS-CoV-2 circulating, politicians and their public health advisors who ordered massive lockdowns panicked.

Please note again: My opinion that it was a mistake to lock down places with very little viral spread is a nonprofessional opinion. Similarly, I have no professional opinion on whether or where lockdowns are needed now. What I can confidently say as a professional, though, is that the spring 2020 lockdowns got shockingly little public debate. There weren't a lot of op-eds by public health experts pointing out that broad-based lockdowns were a deviation from all prior pandemic planning and wondering aloud if they were wise. There weren't even a lot of op-eds explaining why an emerging consensus of public health professionals believed they were, in fact, wise.

Whether or not locking down most of the country was a public health mistake, certainly doing so with very little public discussion of the pros and cons—and with no sustainable rationale—was a risk communication mistake.

Part 3: Public health flubs the rationale for lockdowns

I can see two rationales for lockdowns.

The first: The virus is exploding already and we need to throw everything we've got at it right now. That was true in New York City but false in many other places that were locked down anyway.

The second: The virus will get here sooner or later. It might even be here already but not be visible yet, with so little test capacity. Lockdown is the best way to buy time so we can prepare for what's coming. Unfortunately, in many places the lockdowns remained in effect for months but the authorities frittered away that time, not doing nearly enough to prepare (or to ramp up testing capacity). They were thus almost as unprepared to cope with explosive spread post-lockdown as they were pre-lockdown.

So how could public health professionals make the near-universal lockdowns not seem like they were a horrible mistake, devastating millions of lives to no purpose? *Offer a third rationale*: The lockdowns prevented infections and thereby saved lives.

Public health professionals moved largely to this third rationale. Were they consciously trying to protect their reputations? Unconsciously ginning up a *post hoc* rationale for their panicky overreaction? I don't know what was going on psychologically. What I do know is this: In the midst of nearly nationwide lockdowns that arguably weren't needed and indisputably weren't well used, public health professionals found something about the lockdowns they could honestly praise—the fact that the lockdowns reduced COVID-19 case counts. They sounded increasingly absolutist about the importance of minimizing the number of cases at all costs, and thus increasingly skeptical about the wisdom of moving

from lockdown to some kind of New Normal.

In doing so, they pointed the public away from the goal of living with the virus, toward the goal of beating the virus. That change from a pandemic *management* narrative to a pandemic *suppression* narrative continues to have profound policy implications.

The question of whether, when, and how to reopen schools is a good example of the management versus suppression choice. Managing the pandemic means balancing the infection risks of letting kids go to school versus schools' educational, health, emotional, and economic benefits. Suppressing the pandemic means deciding that the goal of maximum infection control trumps these other considerations. Whether or not to reopen schools is a tough, tough question if we're balancing competing priorities. If we're minimizing transmission at all costs, on the other hand, the answer is easy: Don't open the schools until it is "safe" to do so. That's the answer many parents and school boards have heard from public health professionals. The minority who claim the issue is at least arguable are likely to face vicious attacks as callous and uncaring.

One of the most useful early commentaries on COVID-19 response was written by someone from outside the public health profession, Tomás Pueyo, an engineer and business executive. Entitled "Coronavirus: the hammer and the dance," it was posted March 19 and quickly went viral. Pueyo accepted that for a brief period it might be necessary in some places to take very extreme, lockdown-like measures against the virus (the *hammer*). But thereafter, he said, the trick is to balance infection control with other priorities such as economic viability (the *dance*). When transmission levels are low, you raise the hammer, but not so high that hospitals are overwhelmed. If transmission levels creep up beyond the optimal balance you're trying to maintain, you lower the hammer a bit, just low enough to restore the balance but hopefully not so low that New Normal life comes to a stop again. Raising and lowering the hammer in small increments is the dance. The increments, of course, are measures like opening or closing various kinds of businesses and getting stricter or laxer in mask and social distancing requirements.

Maybe New York City needed to lower the hammer all the way before it could progress to the dance, but most other places might still have been early enough in their local outbreaks to just dance. If some of those other places were unsuccessful in their dance attempts and saw explosive transmission of the virus, they might need their own hammering later. But sooner or later we must all learn to dance.

Dancing is pandemic management, of course. Suppression means a hammering that doesn't end until the pandemic ends—lockdown for the duration. And since suppression/lockdown/hammer is devastating to normal life, it's a strategy that makes sense only if it probably won't have to last long—that is, only if you confidently anticipate amazingly effective vaccines or medicines within months.

Conventional wisdom says it takes years to develop new vaccines and medicines against a previously unknown pathogen—and even then, the remedies are likely to be only modestly effective, better at managing than suppressing a pandemic. When President Trump first said we could have a game-changing vaccine ready to deploy before the end of the year, most public health professionals considered the claim wildly optimistic, arguably dishonest. But now there are public health professionals (not to mention pharmaceutical executives) on television making roughly the same claim.

If the pandemic really might be nearly over early next year, suppression would be the right narrative. But if the pandemic is going to be with us for at least another year or two, suppression is a pipedream. The only sensible way to manage a long-term pandemic is to learn to dance with the virus.

Some European and Asian countries today are dancing pretty successfully. When their case counts are very low, it may look like these countries have successfully suppressed the pandemic virus—until the next outbreak shows that's just part of the dance. But for countries like the US that haven't yet learned to dance and are still enduring disastrous case counts in many places, the dilemma is excruciating. Should we try to stay locked down or nearly locked down in hopes of a pharmaceutical miracle sooner rather than later? Or should we try to learn to dance?

I don't think most US public health professionals really believe we will have miraculously effective vaccines and medicines in a few months. I suspect some of them sound optimistic about vaccines and medicines in part because they want to make a case for suppression. And I suspect some of them favor the suppression narrative in part because that's the only way to avoid admitting that widespread lockdowns may have been a horrible mistake.

From time to time, a public health expert or even a public health official has tried to explain the post-lockdown need to balance infection control against other priorities—that is, the importance of learning to dance. San Mateo County (California) Health Officer Scott Morrow, an excellent risk communicator, posted this message on May 4:

> We are entering the period of trade-offs…. This period will require gut-wrenching decisions, both by policy makers as well as individuals and families, as we slowly reopen certain segments of society. This is a balancing act of the most unprecedented kind. You will have to make your own decisions as to the level of risk you and your family are willing to take on as the restrictions loosen…. The decisions I need to make about the slow reopening are based on public health considerations balanced by many other competing interests. These decisions allow activities that, while allowing the spread of the virus, are specifically designed to slow spread in the population and therefore reduce the chance of an uncontrollable and unmanageable surge.

"[T]radeoffs ... gut-wrenching decisions ... balancing act ... public health considerations balanced by many other competing interests ... allowing the spread of the virus." This is what the dance narrative sounds like. It isn't what we have usually heard from public health professionals throughout the COVID-19 pandemic.

Part 4: Public health abandons "Flatten the Curve"

In the early weeks of lockdown, public health professionals talked a lot about flattening the curve. *Curves*, really—there are at least four relevant epidemic curves that need to be flattened—cases, hospitalizations, intensive care admissions, and deaths.

The basic concept behind flattening the curve(s) is this: An unmanaged pandemic can infect so many people so quickly that hospitals are overwhelmed. As a result, people die who could have been saved in a functioning healthcare system—not just people with COVID-19 but also people with cancer, heart attacks, car crash injuries, and other conditions. Flattening the curve doesn't necessarily reduce how many people are infected. It just spreads out their infections. That keeps the healthcare system functioning, which saves lives.

For a while in the early weeks of lockdown, some version of the flattening-the-curve graph was everywhere you looked: a horizontal dotted line to indicate hospital capacity, a curve that went up higher than the dotted line, and a flattened curve that spread out the same number of cases so the dotted line wasn't exceeded.

Then the use of the phrase waned, and the explanations pretty much disappeared, as did the graph. Just a few weeks into lockdown, US public health professionals stopped talking much about flattening the curve and moved toward a suppression narrative instead, partly to defend the case that near-nationwide lockdown hadn't been a horrible mistake.

Not many commentaries have noted the decline of the flatten-the-curve narrative. One exception is RealClear Politics senior elections analyst Sean Trende on May 3:

> [I]n the meantime, there seems to have been a subtle shift in the discourse…. [A]nalysts have subtly moved from "bend the curve" to what we might call "crush the curve." Under the latter approach, rather than looking to keep hospitals from becoming overwhelmed, which raises the fatality rate, we should look to avoid all fatalities.

About a week later at a Senate hearing, Sen. Tim Scott (R, SC) called it moving the goalposts:

> [W]hen we set out to flatten the curve by taking aggressive unprecedented measures, like staying at home orders and mass small business closures, we didn't set out with the goal of preventing 100 percent fatalities. That would be unrealistic. It is impossible.
>
> And we didn't set out to keep quarantines in place until we found a safe and effective vaccine. That would take too long….
>
> And the whole point … was to make sure that we did not exceed hospital capacity…. We've seen the goalpost around flattening the curve move. And I think that's unfortunate, because at the same time we're doing that, businesses have collapsed, mental and physical health have declined, depths of despair escalate, educational outcomes nosedive, as we wait in our living rooms praying for some good news around therapies and around vaccines.

A successful lockdown flattens the curve just fine, whether or not the curve in a particular place really needed such a radical flattening. But when you come out of lockdown and start to resurrect your economy, the curve necessarily rises. The challenge is to flatten it again, at a level that's higher than suppression/lockdown but still low enough for healthcare systems to stay functional.

Why higher than suppression/lockdown? Because societies can't stay locked down forever. Flattening the curve doesn't mean flattening it as low as possible. The goal is to balance infection control against all your other priorities like jobs and education.

In short, flattening the curve isn't an alternative to the dance. It's a set of ground rules for *how* to dance:

1. You want to get the curve as close to horizontal as you can get it. One key error to avoid is exponential spread—a curve that shoots upward like a rocket.
2. There are going to be peaks and valleys. You want to keep them small and gentle. Steep peaks are disruptive and risk exponential spread. Deep valleys are unnecessary and unsustainable.
3. You don't need to get the curve (ideally a fairly horizontal line, remember) down to zero cases—or even close to zero. That would be suppression, which is not a viable long-term goal in a huge, porous country.
4. You do need to keep the curve below the capacity of your healthcare system, plus a cushion to make sure. That limit should rise as capacity improves—more beds, more personnel, more PPE, shorter hospital stays.
5. The toughest question is how low or high a curve to try to maintain. Lower means preventing (or at least postponing) illnesses and deaths. So the lower the better. Except that higher means a stronger economy and a more normal life; higher also means more progress toward eventual herd immunity. So the higher the better, too.

6. Science can help you figure out how to get your curve (ideally horizontal) to the level you want and how to keep it that way. But science cannot tell you how to balance priorities to decide how low or high a curve to aim for. That's about values, not science.

Pueyo's dance metaphor was fairly widespread in the early weeks of lockdown, and the flatten-the-curve concept was omnipresent. Then they went missing. The dominant narrative switched from dancing and flattening the curve to suppression.

At the most basic level, the battle between these two narratives is the battle between optimism and pessimism. (Those who are skeptical about the prospect of an imminent pharmaceutical miracle see it as the battle between self-deception and realism.)

The optimistic (self-deceptive?) narrative is suppression = containment = prioritize infection control over everything else = crush the curve. I call it optimistic because it is grounded in the unspoken assumption that it's economically and emotionally feasible to suppress the pandemic and keep it suppressed until, somehow, the crisis is over.

The pessimistic (realistic?) narrative is flatten the curve = dance = balance infection control against other priorities = manage local outbreaks in order to manage the pandemic. It, too, is grounded in an unspoken assumption: that this pandemic entails a great deal of unavoidable suffering, that misguided efforts to minimize infections at all costs will only exacerbate the suffering, and that we must balance fighting the pandemic against sustaining everything else we hold dear as we ride out the next few very bad years.

The optimistic narrative reflects a weird kind of optimism. I believe it is unrealistically optimistic for public health professionals to suppose that we can suppress the pandemic virus and keep suppressing it until the crisis is over. The messaging that supports that optimistic supposition is explicitly optimistic about the prospects for effective vaccines and medicines in a very short time. But public health messaging is anything but optimistic about most other aspects of COVID-19—especially the prospects for getting the SARS-CoV-2 virus under control unless we all take every prescribed precaution to heart.

The optimism of the political right is much more straightforward (and straightforwardly self-deceptive): "We can quickly and safely rebuild our economy and open our schools and bars and everything else. Pandemic? What pandemic?"

I'm happy to say my impression of public health messaging is beginning to shift. Toward the end of July I started seeing a few more public health professionals than before acknowledging that we need to learn to live with the virus, not keep destroying our economy trying to suppress infections. An encouraging August 5 *Washington Post* editorial ended, "Let's suppose it is summer of 2022, and there is still no vaccine. What would we wish we had done today? Let's do it."

Paradoxically, the shift from a suppression narrative back toward living with the virus may have been nurtured by the fact that several states seem *not* to have learned to live with the virus. That has freed some public health professionals to say, yes, living with the virus without overwhelming hospitals is the goal—and when a state blows that goal, the state may just have to back up and lock down again at least partway, then try for a better balance next time.

The suppression mantra still dominates, especially in discussions of school reopening. But some public health professionals are starting to try to teach us how to dance.

Part 5: Public health insists it should be in charge

Public health professionals' prioritization of infection control over everything else wouldn't matter so much if they were just one important voice among several.

But for the most part, public health professionals have also insisted that their advice should prevail in government and individual decision-making. They aren't saying, "We're focused exclusively on COVID-19, but of course you have a broader view and must balance our advice against other priorities." Instead they are saying, in essence, "We're focused exclusively on COVID-19 and you must be too."

The widespread adoption of the suppression narrative over the flattening-the-curve narrative is persuasive evidence that public health professionals are winning this battle on behalf of prioritizing infection control over everything else (except perhaps protest marches they support). So is the frequency with which government officials insist that they are "listening to the experts" and "following the science," even when they are not.

Of course a government official who doesn't carefully consider public health advice is irresponsible. But so is an official who follows that advice slavishly, without balancing it against other priorities.

I hate it when officials claim to be adhering strictly to The Science. COVID-19 science keeps changing and is hotly debated. Moreover, the key pandemic management questions go far beyond science. "How safe is safe enough?" isn't a scientific question. Neither is how best to balance saving the most lives versus saving the most of our way of life. These are political questions in the best sense of the word—questions officials need to answer with due deference to the interests and even the opinions of the body politic (that is, the public).

Officials should pay close attention to scientists, but they shouldn't give scientists their proxy. And if they're not giving scientists their proxy, if they're quite properly doing their best to balance infection control against other priorities, they shouldn't evade accountability for their balancing efforts by pretending that they're always simply "following the experts."

In recent weeks I have watched President Trump voice heated disagreements with some of his key scientific advisors with regard to COVID-19. Not surprisingly, public health professionals have lined up behind the advisors. They're right to mistrust both the President's ability to hear what his scientific advisors are telling him and his ability to balance that advice against other priorities. At the same time, the President isn't wrong that the advice he gets from federal public health officials has sometimes seemed more geared to suppression than to dancing with the virus. Not that I think he has a sophisticated analysis of the choice. But his March 22 tweet (the original in solid caps) that "we cannot let the cure be worse than the problem itself" pretty neatly encapsulated the dilemma.

Like nearly everything else in our country today, pandemic response has become polarized. All too often, those on the left want to give public health professionals their proxy, joining in the suppression narrative and shrugging off its dire implications for economic revival. And all too often, those on the right adopt the opposite extreme, rejecting even commonsense infection control recommendations with negligible economic downsides, such as mask-wearing.

The United States is far behind much of Europe and Asia in learning to manage local SARS-CoV-2 outbreaks and epidemics—in Pueyo's terms, learning to dance with the virus. I am hopeful that we will get there eventually. Maybe public health professionals will abandon the suppression narrative and revert to flattening the curve. Maybe political leaders will learn to listen attentively to public health professionals and then balance public health priorities against other priorities. Maybe the general public will listen to both sides and find its own balance—or *stop* listening to both sides and find its own balance. One way or another, we will learn to dance with the virus. We have to; it isn't going away any time soon. Either that, or the optimists will be proven right, we'll soon have spectacularly effective vaccines and medicines, and we won't need to dance after all.

Dr. Sandman invites feedback on the evolving thinking in this article. Write him at peter@psandman.com.