Center for Strategic and International Studies

TRANSCRIPT

The CommonHealth Live!
“Measles Outbreaks and Elimination in North America”

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FEATURING

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Katherine E. Bliss: Thanks to the introduction of effective vaccines in the 1960s, measles outbreaks had been relatively infrequent in North America, as a region, in recent decades. But in 2025, outbreaks in Canada, Mexico, and the United States led to thousands of cases and several deaths in each – in all three of the countries. In October, Canada lost its elimination status, certified as having eliminated measles, and Mexico and the United States could lose that status later this year. Today on The CommonHealth Live, I'll turn to three experts to break down what's happening in North America, why here, why now, and what this means for regional and global health security.

(From video) J. Stephen Morrison: This is the CommonHealth Podcast, a product of the CSIS Bipartisan Alliance for Global Health Security. We engage with diverse leaders on the question of how best to navigate this period of exceptional turmoil, reform, and uncertainty in U.S. leadership.

Dr. Bliss: So the last year has really seen an overall increase in measles outbreaks across the North America region. An outbreak initially reported in West Texas last January has spread north to Canada, South to Mexico, with additional outbreaks reported in states and provinces across all three countries. By the end of 2025, there had been more than 5,400 confirmed cases in Canada, nearly 2,300 in the United States, and more than 6,400 in Mexico, with deaths in all three nations as well. In October, Canada lost its certification as having eliminated measles transmission, and the United States and Mexico could lose that status later this year as cases continue to mount.

Given the widespread availability of highly effective measles vaccine in the North America region, it's important to ask, what's driving these outbreaks? Why here in North America? Why now? What is at stake when we talk about the loss of measles elimination certification, and how can a country get it back? And what do these outbreaks mean for health security in the broader Americas region and globally?

I'm Katherine Bliss with the CSIS Global Health Policy Center. And today I'm pleased to welcome to the CommonHealth Live three experts on measles, immunizations, and infectious diseases in North America. I'm pleased to welcome Natasha Crowcroft, vice president of the Infectious Diseases and Vaccinations Programs branch of the Public Health Agency of Canada, and the agency's acting chief public health officer; Bill Moss, professor and executive director of the International Vaccines Access Center at the Johns Hopkins Bloomberg School of Public Health; and Daniel Peraza Salas, executive manager of the comprehensive immunization special program at the Pan American Health Organization and former minister of health of Costa Rica. We will discuss the current

measles outbreaks and measles elimination, what happened in 2025, and what we should be looking out for in the coming year.

So Natasha, Bill, and Daniel, welcome to The CommonHealth Live. So I want to start by kind of setting the stage with respect to measles in the three countries and what factors are driving these outbreaks, you know, after such a long period of elimination and really, you know, kind of sporadic or infrequent outbreaks in many years.

You know, Natasha, can I start with you? You know, can you talk about what's happened, you know, in Canada over the last year? There was – there was a – there were a number of cases. It kind of seems like things have quieted down for the moment, but what was driving those numbers and what are you seeing as things move forward in 2026?

Natasha Crowcroft: So it's a very different outbreak to what we've seen in the past and the context is quite different. The outbreak started in Canada in 2024, and I think it's probably best to think of it as a multi-country outbreak in a(n) interconnected community across several countries, a very closely connected community.

We've now experienced more than five-and-a-half thousand cases in Canada. As you say, we lost our elimination status in the fall. The outbreak is now grumbling along, like we're – it's not over yet. We had a little bit of an increase recently.

The increases we're seeing are related to often events, like there was an agricultural fair which drove transmission, and, indeed, the very first beginning of the outbreak started with an event, a perfect storm of a case, somebody who was infectious arriving at a wedding full of people from all over Canada and that was a great place to spread measles, honestly, like, when people went back home with it.

So and it landed in a community that hasn't – traditionally is skeptical of vaccination and so a very highly, highly unimmunized community and it's really stayed in that community. Most of the cases in that – in that community or those communities across Canada not spreading to the general population, which indicates that it reflects the generally reasonably good immunization coverage, even better since the outbreak because there's nothing like an outbreak to get people caught up on their immunization. People sit up and listen when that happens.

So it's a unique outbreak, and I think what we are here is the victim of our success of measles elimination since 1998 in Canada where communities that didn't take up vaccination essentially stayed susceptible, and through this period of time, more than 25 years, have

grown – you know, people have grown up without ever catching measles.

And so the numbers of susceptible people clustered in these communities has been very, very high and, hence, the explosive takeoff of the outbreak as soon as a case arrived in that community.

Dr. Bliss: So it sounds like this is a situation where, in addition to, you know, very young children being vulnerable, perhaps, because they haven't had access to vaccination yet, there are adolescents and older adults who just have grown up in a context where it wasn't as visible. People just, you know, weren't aware of the dangers of measles in quite the same way.

Bill, you know, in the – in the United States we've seen – you know, there was the outbreak in Texas last year. There have been, you know, a series of cases in Utah, in Ohio last year. Now we're seeing a concentration of cases in South Carolina and elsewhere.

Can you say, you know, a little bit about how some of the – you know, the – this – you know, what you've seen over the past few years? I know you and your colleagues are looking at some of the – both transmission but also some of the different ways in which the economics of dealing with cases and outbreaks has really kind of changed the way some of the states are looking at these issues.

William Moss: Yeah, certainly. Thank you, Katherine.

And, you know, this year we've seen a very steep increase in the – in the rate of new cases here in the United States in contrast to what you and Natasha were describing for Canada, and I'll just say, you know, here in the United States – if you look at 2025, where we had 2,281 cases, and look at the age distribution of those cases – about a quarter of those cases occurred in children younger than five. But just under half were in, you know, children and adolescents five to 19 years of age. And almost a third, you know, were adults 20 years or older. So this buildup of susceptibles, as we say, you know, really has taken place over many, many years, as Natasha described for Canada. And now the CDC just updated their numbers earlier today, 982 cases reported here in the United States in 2026. There has – we are seeing a slight shift in that age distribution. Still about a quarter of cases in children under five, but an increase in the proportion of cases in those five to 19 years of age, which I think is reflecting the school-based outbreaks that we're seeing in South Carolina and in Florida.

But my colleagues here at the International Vaccine Access Center, led by Bryan Patenaude, did an updated review of the cost of these outbreaks. And it's quite striking. Obviously, the cost of an outbreak depends upon its size, but on average over the past 20 years or so each measles outbreak cost, on average, $43,000. But I think, to me what is most striking, if you kind of take out those initial fixed costs for an outbreak investigation, each additional case costs about $16,000. For each additional case. And when you've got the numbers of cases that we have now, for example, in South Carolina and Florida, these are very expensive outbreaks. And hopefully this will help drive some of the desire to improve our vaccination coverage in some of these communities with traditionally low vaccine coverage.

Dr. Bliss: So that's an expensive outbreak. And really, yeah, each additional case really adds to it.

Daniel, PAHO is obviously working with countries across the Americas to both, you know, continue to focus on immunizations, but also to – you know, this was a region that had really achieved recognition as having eliminated measles throughout the hemisphere. Can you say a bit about what's – both what's been happening in Mexico and, like, what you're seeing in in some of the other countries throughout the region?

Daniel Salas Peraza: Yeah, sure. Thank you, Katherine.

And, actually, there is definitely the problem of not reaching, you know, high coverages. And that situation has been maintained, you know, throughout several years in the last decade. And of course, that's impacting, you know, the fact that we're accumulating pockets of unvaccinated. But, I mean, vaccination by itself, of course it's really important. And we need to continue working with countries to increase the coverage, to increase the capacity of their programs to reach out to the people that really are in need. I mean, the underserved communities. There are a lot of barriers to get there.

But definitely we need to strengthen, at the same time, the surveillance systems and rapid response capacity. Because it's a combination of factors that if you have those three pillars, those three components strengthened, I mean, it's not probably you're going to have a problem with measles, probably you're going to have an importation, or probably you're going to have some, like, limited transmission. But that situation it's not going to sustain, to convert, or, you know, to become a sustained transmission, you know, for months or even more than a year, which is the condition that a country – I mean, that's why.

When you sustain the transmission by the same chain, by the same, like, lineage or the same strain, is when you lose, you know, verification. So definitely this situation of having these pockets of unvaccinated, if you look, you know, at the trends of vaccination coverage, we need to have a 95 percent coverage for the first dose and the second dose. And if you see the regional numbers, I mean, last year we increased a little bit. I mean, 2024, the data available for regional, you know, chart is for 2024. And we increase the first dose, we reached 89 percent. And for the second dose, we are at 79 percent. And that's an increase, because we were down.

And, of course, the pandemic, you know, the COVID-19 pandemic, impacted a lot to have lower coverages even. But the Americas started to experience this decrease even before the pandemic. So it's a real – you know, a really concerning situation of how we need to really stratify the analysis in each country to know where those pockets of unvaccinated are, to work more on convincing people why vaccination is important, and at the same time to give the health-care workers that are working, you know, with populations so that they are convinced to convey the message of why vaccination is important. We sometimes are missing these opportunity because when you have in front of you a parent or a person that, you know, requires to have the vaccination, and you don't take advantage of that opportunity to convince that person that, I mean, they need to return to continue, you know, the second shot and the third shot, I mean, it's a matter of a missed opportunity.

And you need to have that health-care worker really, you know, able with the tools to transmit that level of trust in vaccines because, I mean, we know what is going on right now with social media. We know that the hesitancy is always going to be there. There are reluctant groups, as the ones that Natasha mentioned, that of course we need to work with them, but they're, like, sometimes even more radical to – against receiving vaccines. But we need to map exactly where they are. We need to know where they move, what at their patterns, you know, of movement. And we need to bring this shield of protection, you know, around these populations because in the case of Canada, for example, the outbreak hasn't spread all over the population because, you know, vaccination coverage are good in there. But if you start to find these pockets of unvaccinated in these kind of fragile, you know, communities where these people that are reluctant, these groups that are reluctant, that's the problem, that when the outbreaks start to, you know, spread and you have these problems.

And of course, if you have a surveillance system that is pretty sensitive to detect and then the rapid response is activated in a timely way, you're going to neutralize all, you know, the chances for the virus to continue

spreading. But if you don't have those peers, as I mentioned before, assembled in place and strengthened, the possibility of having these importations is going to remain. We eliminated measles – I mean, we were the unique region that eliminated measles in 2016, and then we recovered that in 2024. But unless we have eradication, which is the elimination all over the world, we're going to continue having this risk and this pressure of having importations of people that travel to, you know, other regions and of people that – I mean, that comes back with the virus, or people that are visiting a region that are – you know, carry the virus. And being, this virus, so transmissible as it is, I mean, it can, like infect from 12 to 18 people, you know, just one person infected. And just by talking, just by even, you know, breathing in a room and the virus can stay, like, two hours long in that room. I mean, it's pretty – it's the most transmissible virus that we have – virus that we have.

So, I mean, it's a situation of how to continue strengthening this progress on vaccination but at the same time the surveillance systems and the rapid response teams. That – if we don't take care of these, if we trust that the vaccination or these diseases are not going to come back, I mean, that's a problem. We can't settle down and just, I mean, wait for these outbreaks to appear again.

Dr. Bliss: So you've talked about the importance of building trust within different communities that may, you know, have – not have a lot of confidence either in the health system or in vaccines in particular. But you've also really outlined kind of the importance of three pieces, right – the immunizations, but also surveillance and an adequate response – for, you know, people to recognize what measles is.

Dr. Peraza: Exactly.

Dr. Bliss: Can you say a bit about the – you know, the process of certification of elimination? You mentioned the importance of, you know, kind of assessing the sustained transmission, but what's involved in being certified? And what happens when that certification is lost? How does a country kind of get it again? And what does it mean?

Dr. Peraza: Yeah. Sure. Well, for that we have – I mean, in each region of the world there is a regional commission for elimination and – I mean, monitoring and verification or reverification of the elimination, you know, of the transmission. So we are going to refer to that commission as RVC. That's, like, the acronym for that. And that RVC is a group of experts, you know, well-recognized, I mean, internationally. And those group – I mean, that group of experts receive each year, each annually a report from countries, that that report is prepared by the ministries of health. But we have a national committee in each country that is like that

counterpart of the regional commission that actually checks on the information that was prepared by the, you know, authorities so that they're going to eventually, you know, improve the quality of that report. And that report we have a framework, you know, that establishes all of the criteria, so that report should, you know, comply with the requirements or the – you know, the steps that this framework establishes. So we have, like, the rules set. And it's all – I mean, it's very clear what that report should contain.

That report, countries, of course, need to, you know, report how are the coverages, what actions are they doing to eventually increase coverages, what is going on with the surveillance systems? I mean, if they're timely detecting cases, and if they're – for example, the laboratory capacities. If the laboratory capacities are there, and how are they, like, you know, connecting to the network of laboratories. Because we are expecting each country to have all the laboratory capabilities on measles, but there is a network. And, of course, the rapid response. For example, the participation of communities is assessed as well. Communication – I mean, risk communication is assessed as well.

So there is several factors that are there in that framework. And that that annual report should know, like, comply. So that the RVC assessed the situation of each country. Once this annual meeting that usually happens here in November, you know, happens, then the RVC assess each country. It writes several – like, the gaps that were found for each country, and then some recommendations. But the final decision of if a country is going to change their status, I mean losing the status of elimination or recovering eventually, is going to go – I mean that that assessment is going to go to the director of the Pan American Health Organization. And it the director the one that gives the final word and the one that communicates officially to the ministers of health about their decision of these, like, importance.

How to recover. How to recover, once the country has lost the elimination. Well, of course, if a country has lost the elimination it is expected that that country should prepare an action plan so that those gaps that were detected in that meeting, and the RVC detected, that those gaps are going to be addressed. And, you know, the RVC, and, of course, PAHO, the secretariat, gives follow up to the actions that should be – you know, take place in this action plan. And once that, of course, we have, like, one year of not having, you know, outbreaks, not having that transmission, and the country is able to prove that that has been the case, then, I mean, the RVC is going to recommend to the director that the country can recover, you know, the previous status. But it takes one year of, you know, having this kind of interruption.

Dr. Bliss: OK. So the first step, then, is an action plan to kind of begin to address some of the issues that were raised.

Dr. Peraza: Exactly.

Dr. Bliss: Well, Natasha, let me turn back to you then to – you know, the status was lost in October. What are health agencies, both at the national and the provincial levels, doing to kind of think about how to kind of take, you know, this next 12 month period to recover elimination – or, recover the status?

Dr. Crowcroft: Yeah. So the clock doesn't start – the 12 months that Daniel referred to is – it starts – the clock starts ticking once we have interrupted transmission. So we're working on a plan, but we don't start working towards regaining our elimination until we have a period of no cases, and we can say, OK, the outbreak is over. When we declare it over, then we can start. We're doing all the things that Daniel mentioned. We're very focused on improving immunization coverage, on strengthening our surveillance system, on making sure our response is as good as it can be.

And then another piece that we haven't spoken about as much as about community engagement. We spend a lot of time reaching out to communities to try and get good information out to the public and to specific – so tailored for specific communities. And also, because I work at the federal government level, so really we try and get – we try and work through partners, trusted partners. I mean, at an individual level, that's the individual pediatrician, like Bill, is somebody that – you know, your patients will trust you much more than they'll trust me, because I'm a government employee. (Laughs.) So, you know, we're very conscious of who do people trust.

And then in specific communities, we go to the community leaders. We work with a multifaith group that represents different faith-based communities across Canada, who help support us, get messages, sometimes in the right language. It depends on the community. And that – building that trust with communities is – that that's a very local piece of work. And that's something that our colleagues at local level in Canada have done amazing work. In fact, some of the staff who work in public health units are from the communities that have been affected by the outbreak. And that helps a lot in terms of actions that the communities will take.

I mean, even if there are individuals who don't want to accept vaccination, there are other things they can do to reduce the burden for them and for the health system. Simple things, like calling ahead if

you're going into a hospital with a sick child so that you don't have a situation of an infectious child sitting in the emergency department with no infection control measures because no one knew they were coming. You know, that that kind of thing. So there's a lot – there's we can do to help reduce spread, even when we don't have vaccine as a tool. And we have an action plan that's in development. And it'll be going to PAHO for their input as well, once we're a bit further along with it. But it covers all these sort – all these sorts of elements in trying to really get on top of the situation and prepare us for the future.

I think there's a piece of it that we can't control, which is the global context. And every country in the world has signed up for measles elimination. Every country in the world has measles vaccine. And every region of the world has a measles elimination target. PAHO is the only region to have succeeded so far. But as long as – as Daniel said – as long as there's measles anywhere in the world, big increases in Europe right now with countries losing their elimination status, that places everyone else at risk. So this is really a global issue as well. So we can only go so far with our national action plan. We really do rely on getting measles control back on track everywhere, so that we have fewer importations. Because it's that, you know, constant flow of cases from other countries where there are outbreaks that makes it very hard to keep ahead of the virus.

Ms. Bliss: So, Bill, Natasha has talked about the importance of community engagement, but also the diversity of approaches that are taken, you know, perhaps, between the federal, the provincial, and the local level. Of course, here in the United States the 50 states, you know, each have their own approaches to, you know, perhaps public health funding, but also vaccine mandates, and reporting, and all of these issues. We've seen the – you know, the numbers of nonmedical vaccine exemptions really kind of rising, I think, to 3.6 or, you know, maybe higher, you know, percentage, depending on the state, in recent years. You know, can you say a little bit about the implications of this policy diversity kind of across this country, and what that might mean for some of the regional collaborations that Daniel and Natasha have been talking about?

Dr. Moss: Yes. So, first, I'll say that school vaccination requirements here in the United States were really a critical component of our measles elimination strategy, and were key to the United States achieving its measles elimination status in the year 2000, which we've been able to maintain now for a quarter century but are at high risk of losing when PAHO discusses this and judges, as Daniel said, on April 13th. So I'd say, you know, first of all, school vaccination requirements, as you said, Katherine, are, you know, set at the at the state level. There may be

some benefits of that, meaning that it can't be set at the federal level, but it does create enormous heterogeneity across the states.

All states allow for medical exemptions for vaccinations. And there are certain medical conditions where, for example, attenuated vaccines, like a measles vaccine, should not be given, children who are particularly immunocompromised. But where the heterogeneity lies are in the nonmedical exemptions. We do have four states here in the U.S. that do not allow nonmedical exemptions, but most states do. Including religious exemptions and some personal exemptions. And, you know, in addition to whether or not states allow nonmedical exemptions, the process for attaining a nonmedical exemption varies tremendously across states. Where in some states it can be very simple, just a parent has to sign a form, but in other states it's more laborious and onerous to get a nonmedical exemption. And that can be a good thing, and it just – so it's not so simple.

So, for example, some states will require online that a caregiver take an online educational module, for example, or even more so where the non-medical exemption form is – requires notarization or a consultation with a health care provider. So there is great heterogeneity across the states in the non-medical exemptions and this creates heterogeneity in the proportion of children within each state that have non-medical exemptions.

I will say, you know, I still believe firmly that most parents in the United States believe in vaccination and want to protect their children with vaccines. But as you said, Katherine, we have seen this kind of slow uptick, particularly since the COVID pandemic, in non-medical exemptions.

The best data we have are from the Centers for Disease Control and Prevention annual surveys of kindergarten students and the last number we have for non-medical exemptions across these kindergarten students is 3.6 percent nationally for the 2024-2025 school year.

But this varies widely across states. In Idaho, for example, it's as high as 15 percent of non-medical exemptions, and concurrent with that we've seen a slow decrease in the proportion of kindergarten students who are receiving two doses of the measles, mumps, and rubella vaccine where it's dipped down now to below 93 percent, just below 92.5 percent in the last survey.

And, you know, this – these trends I'm afraid are going to continue as we see more legislation introduced into states to not only kind of potentially get rid of school entry vaccination requirements, as has been

proposed in Florida or Arizona, but also in those states that allow – you know, have non-medical exemptions to ease the process.

So for example, we're seeing that in Utah where there's state legislation that has been proposed to eliminate the need for an online educational module and a parent caregiver can just sign a form to just make that process easier.

This proposed legislation that we're seeing in states will further lead to higher proportions of children receiving the non-medical exemptions and a lower measles, mumps, and rubella vaccination coverage among these students, and then a higher risk for the outbreaks that we're seeing among schools right now in South Carolina and in Florida.

Dr. Bliss: So it sounds like there's, as you said, a lot of heterogeneity and not just between the states but even at the county level and within localities and schools, kind of depending on a number of different factors.

So it's late February right now. We're kind of wrapping up the Winter Olympics but, you know, the next – on the horizon, of course, we've got the FIFA World Cup, you know, coming here to North America and coming to cities, you know, in all three countries, in Mexico, the United States, and Canada.

And so I wanted to, you know, ask each of you to, you know, just say a little bit about, you know, the extent to which these gatherings like the wedding, Natasha, that you mentioned or some of these other kinds of mass events – you know, we've even got Spring Break, you know, coming up in a few weeks where people will be traveling all over the region.

What do these, you know, big sort of gatherings or movements of people, you know, kind of suggest about the vulnerability of this region either to imported cases or to, you know, kind of further spread? And what can – what are some of the steps that officials could be taking now to try to prevent any kind of a challenge?

Daniel, maybe I'll start with you.

Dr. Peraza: Yeah. Sure. Well, the first thing is that we need to accept this – I mean, events are going to continue happening. I mean, the mass gatherings, concerts, or religious movements –

Dr. Bliss: People want to get together. (Laughs.) Yes.

Dr. Peraza: – the World Cup, I mean, whatever, Olympics, it's part of – you know, of our dynamics as a society. So it's something that we need to accept. It's a reality.

Of course, that's why we need to continue working on convincing people to get, you know, timely vaccination, because, I mean, if those activities happen but you have people vaccinated there or most of them are vaccinated, I mean, it's highly unlikely. And if the people that are, like, living around them are vaccinated, it's highly unlikely that that's going to turn into a situation of sustained transmission. So definitely, I mean, that work of continuously working on convincing people the importance of vaccination, even though they are not seeing the effects on many of these outbreaks, probably that's part of, you know – of why we are – we are failing, because in the past when we had these large outbreaks of measles everywhere it was very common to see, you know, children and even adults hospitalized because of a pneumonia, because of an encephalitis.

And there is a recent, you know, discovery – I would say more recent of the immune amnesia, for example. Immune amnesia happen very frequently with infections in unvaccinated people, you know, with – when they are infected with measles. And it turns out that this is, like, more than 50 percent of people that got infected. And people are not, like, seeing that the hospitalizations, the complications of having a resetting of many of the, you know, defenses, the antibodies, the lymphocytes, or the cells, you know, are defending our body against these, I mean, different bacteria and viruses. And there are – I mean, there is, like, 38 percent more hospitalization in the month after a mild, eventually, or any infection because of measles – 38 percent the less month because of other causes. And that's something that I think we need – it is not to promote fear or to, you know, say, people, if you don't do this, you're – but it's part of how viruses work. And this particular virus is very transmissible and it's the only one that can cause this immune amnesia that, you know – I mean, it's something that, you know, parents should be more concerned – or even themselves, because the complications are more frequent in children less than five years and in adults older than 20. So it's something that we need to call to attention.

Even, you know, seven or 10 years after the – an episode of a measles infection, it can happen – an encephalitis – that most of them – of these cases are, you know, going to be that – I mean, it's something that it's a fatal condition, that definitely we need to continue spreading the message. Health-care workers, as Natasha was mentioning, work with communities, religious leaders. It's this part of community engagement. Of course, you know, the health-care workers still continue to be a – the

number-one reference for, you know, public in terms of health. But now that we have social media and misinformation is spreading as a virus, it is important to work at a community level so that, I mean, this importance of vaccination is there, is positioned everywhere. We need to get the governors, you know, the leaders in the community, the private sector. I mean, it's a matter of building this trust, you know, towards vaccination and vaccines again, because we somehow have lost this.

And of course, the barriers that I was mentioning before – because, for example, for indigenous population that, unfortunately, they are the ones that are suffering more in terms of deaths in this current outbreak, I mean, we know that sometimes they're underserved; I mean, that the visits or the access that they have to, you know, health-care centers is very limited or unexistent (sic). So it –

Dr. Bliss: Well, it's not just immunizations but the broader access to primary health care and other services.

Dr. Peraza: Exactly. And one thing that we have forgotten to do is to have qualitative investigation at the local level. We need to ask, you know, people what are their perceptions towards vaccination. Why are not they receiving – they receiving, you know, the vaccines? It is because they don't trust vaccines? It is because, you know, the nearest center to get vaccinated is really, you know, like, far away? Or is it because they don't understand? I mean, there is, like, these language barriers that also exist. Or the cosmovision, the way that they perceive things like the – you know?

So we need to combine, you know, having the vaccines available, the services ready to, you know – with the vaccine, but at the same time to understand why people are not receiving vaccines. Because, as Bill mentioned, most of parents, most of people are still, you know, willing to accept the vaccines. It's not a – it's not a predominant matter of hesitancy or reluctancy. I mean, that exists and it's part of the problem, but definitely we need to understand which are the barriers and adapt services. Because sometimes we're waiting for people to get, you know, to the services; sometimes we need to reach out, you know, to them to – for –

Dr. Bliss: Be proactive.

Dr. Peraza: Yeah. And then not waiting the arms to get to the vaccine, but the vaccines to get to the arms and thighs. I mean, it's a matter of how to rethink the configuration of primary health care many times, and of course considering these alliances with health sector, for example, to

promote, you know, the vaccination when the kids are entering into school or the – I mean, it's a combination of factors, but we need to understand.

And this qualitative, you know, approach is definitely something that we need to do and understand the context, because it is very different, for example, what happens in Mexico than what could be happening in Argentina or in Canada. I mean, we need to understand the context. And that's, like, that, you know, like, recipe of combining different approaches.

Dr. Bliss: So tailored, qualitative research to really understand attitudes and how they may be changing and different among different populations.

Natasha, Bill, like, thoughts on or recommendations as FIFA kind of gets underway?

Dr. Crowcroft: Yeah. I could say a little bit about that because it's from a public health systems perspective where this is another mass gathering and this is kind of routine business. It's nothing unusual for – we know what to do. We put in in-house surveillance. We encourage vaccine. And we put out information – recommendations for travelers, reminders for local folk to make sure they're protected. And countries that are – and other countries will give their citizens advice. Like, if you're going to the World Cup, remember there's a measles outbreak going on in the States, in Canada, in Mexico, wherever they're going.

So that is a very well-trodden path, and it's worked well in the past we've had. We had the Pan-Am Games in Canada. We had – you know, the Olympics have happened in the U.S. We had the World Cup in Brazil; there was a huge outbreak of measles in Ukraine at the time and there was no issue with measles during that FIFA World Cup. So I think we know what to do for these mass gatherings.

You also mentioned spring break. That's actually probably more likely to bring issues in that you get people from all over the world coming together. We had a Disneyland outbreak several years ago because of people coming – if I remember correctly, it was actually from Wales, and that spread to many other countries. So that's a tricky situation when people go on holiday because often there are younger kids and – who are playing together in holiday destinations. In 2011, we had a big outbreak in Canada, in Quebec, and that was linked to an outbreak going on in Europe at the time. So, you know, I have been out in the media recently encouraging people to get vaccinated before they travel from Canada for spring break specifically because we are concerned that they

may come back with measles, which is not what they want, not really what we want to happen either if they bring back measles to Canada.

Dr. Bliss: Not a very pleasant vacation, I would guess. (Laughs.)

Dr. Crowcroft: No. (Laughs.)

Dr. Bliss: So I know – I think all of you have worked together in different ways on measles eradication at the global level, at the regional level, and you know, really, you know, looking at this, you know, what was really kind of a promising movement but now, you know, especially since the pandemic and kind of lower levels of coverage, you know, really now we're seeing outbreaks – more outbreaks in Europe and other parts of the world. As you – as you think about, you know, kind of that quest for really achieving eradication – you know, elimination in all the different regions – what are some of the – you know, the lessons that this region can offer? And you know, what are – what are some of the opportunities from other regions that we could consider adopting here? Bill, maybe I'll start with you.

Dr. Moss: Yes. Thanks, Katherine.

And, yes, Natasha and I back in 2019 were working together and thinking about the path forward toward measles eradication, and that has obviously been tabled in first part because of the COVID pandemic. But I'll say, you know, one of the – one of the big motivators for that discussion was what I think the region of the Americas is demonstrating, and that is that elimination is a fragile state. It's easy to lose a measles elimination status if you don't keep your coverage up very high really across communities. And so, you know, I think, you know, for me the first lesson, you know, if – you know, to have these three countries in North America that certainly have the resources to maintain high measles vaccine coverage and maintain their elimination status, if they're struggling to do so that sends a signal, I think, to other countries in the world that don't have the resources that we have that this is a hard thing to do.

And again, this point that elimination is a fragile state and can be lost was really one of the motivating factors for our discussions around eradication, because once measles is eradicated and there's no more measles virus circulating, then we're at – then the risk goes down. But at a regional level, a country level, there is constant threat of importations. And if you have these pockets, you know, these communities where vaccine coverage is low, as we've seen here in the United States and in Canada and in Mexico, you get – and you get outbreaks there. And that can reestablish endemic transmission.

So, you know, there are a number of messages here. And I'll just put out some, and we can hear from Natasha and Daniel. But, you know, I think Daniel already highlighted the value of surveillance and really improving our surveillance strategy. But I'll also say, sharing the data and sharing data across counties, across states, across countries and regions, sharing our measles surveillance data so that we have this situational awareness of what's happening around the world, and can put in preventive measures to both reduce the number and the size of our outbreaks.

Dr. Bliss: Daniel, you know, thinking about the – you know, what Bill has said, you know, in terms of, you know, really marrying – and you too – I mean, you know, the immunizations with surveillance and, you know, the fragility of elimination, what are some of the lessons that that you see, you know, this broader region really kind of taking and sharing with other, you know, regions of the world?

Dr. Peraza: Yeah. Well, you know, we have eliminated several vaccine-preventable diseases that no other region has eliminated. But, of course, measles is the most transmissible. And probably, that's why we're seeing the reemergence of transmission in our region. But definitely the highest commitment, political commitment, because we have the – you know, our member states of PAHO, they gather annually to have the directing council. And there they agree on resolutions, you know, to eliminate, for example, diseases. And for measles, it was the case – I mean, in the '90s there was that high-level commitment of, you know, all the countries to work together towards elimination. So if you have that agreement, if everybody is working towards the same goal, it's easier.

Of course, we now have a lot of different, you know, like, diseases, and priorities. And, I mean, the world has changed. But if you find this kind of highest level of commitment, it's easier, definitely. I think that what worked in the past, for example, of having strong programs on immunization, strong managers, you know, leading these programs, very good communication, as was mentioned in the communication among different countries, among different even states, I mean, that's part of what we need, to have this shared information being available, being transparent, being timely, you know, like shared. And definitely what worked in the past, it's not necessarily what's going to work now.

And why am I saying this? Because we're living in 2026. And we have several countries that now they have an electronic immunization registry where they can easily track where the, you know, unvaccinated ones are, or the sub-vaccinated ones are. But the thing is that many countries don't have that. I mean, we need to continue working on that.

And the ones that have this electronic immunization registry that, you know, the quality of the data is not enough, or there is not enough interoperability, you know, sub-nationally. I mean, that's part of what we need to continue doing.

For example, micro planning. I mean, to have a good tool of micro planning to detect the pockets of unvaccinated, it's key. If you don't have micro planning when you're, you know, working on your routine immunization or the follow up campaigns, you're losing ground. And of course, now we have geolocation tools. So if you combine, for example, having the birth registry linked to the electronic immunization registry linked, or using these geolocation tools, link to this kind of the profile of why a specific community is not having high coverages with this qualitative approach, linked to engagement in all the levels, at the community level. I mean, it's something that definitely is going to work.

But we need this kind of commitment. We need the resources to be there. We need the flexibility of the healthcare, you know, systems to be adaptable and to understand that sometimes having the vaccine available from 7:00 a.m. to 1:00 p.m. twice a week is not going to work. Because, I mean, in Latin America we have a lot of – and in the Caribbean – we have a lot of people working in the informal sector. They are not allowed, you know, to go to a healthcare center during the weekdays to receive the shot. Or, I mean, when to extend – what happened, for example, in the COVID-19 pandemic. Extend the vaccination hours, or even to in the – in the weekends. I mean, or having festivals or different activities where you can, like, you know, offer the vaccine to people. It's something that you need to understand and have your planned, you know, activities in place according to the reality of each population. And that's the recipe.

I mean, if we would like to, you know, show that example again to the rest of the world, that that example is there, we need to actually, you know, modernize and update our strategies. And, of course, the commitment, it's something key. And, for example, taking advantage of social media, you know, like positive influencers, I mean, it's part of what is needed now. Before we didn't have social media. Now we have that. And it's part of what we need to take advantage of. Not just waiting for the misinformation to spread there, but to take advantage of that, you know, the tools to convince people, because it's a matter of convincing. If people are really convinced that they need – you know, that their kids need the vaccines, I mean, they're going to look for it. But if we don't have that level of, you know, convincement, we're not going to have, you know, that high coverage that we need.

Dr. Bliss: So, Natasha, I'm going to turn to you with maybe the last word here, or the last words. (Laughs.) But, you know, we've – as, you know, we think about, like, the goal of eradication, or certainly regional elimination in different areas, you know, we've heard about the importance of political will, political commitments, building trust, community engagement. Several of you have talked about that. But also just the importance of flexibility, meaning, you know, addressing different kinds of communities' needs and desires, but also just the fact that this elimination agenda can be very fragile from one year to the next, depending on many different trends. Things can change.

I know you're currently working at the federal level, but you have looked at some of these issues at the global level as well. And you've talked about, you know, some of the – just the, you know, importance of travel and migration, and, you know, connections between so many different parts of the world. So as you think about, you know, kind of the year ahead, and some of the lessons that that can be shared across regions, what will you be kind of thinking about or focusing on?

Dr. Crowcroft: So there's tremendous commonality amongst the regions in terms of their wanting, their desire to achieve elimination, but huge differences between their ability to do that. So this is going back to my previous role working at WHO. I am in favor of there being a global goal. That's not currently policy, but I think it's – what we do need is a plan for how we're going to get from where we are now, totally recognizing elimination is a fragile state. I think one of the lessons of these outbreaks is that if a region like the Americas achieves elimination, it's then hanging on, waiting for everyone else to catch up. Waiting for the – you know, one case arrived in Canada and we lost our elimination status with more than 5,500 cases. So something needs to be driving progress.

And right now there's massive inequity because most of the deaths from measles are happening in two regions in the world, which are not the Americas. And we're not – we haven't really got to push on to make progress in that direction. And the U.S. was a huge player in driving in that direction in the past. So, you know, we're in a new – we're in a new world now, as Daniel said. So we have to find a new path, because we're not going to have the same support. I think – so I think we do need some kind of global direction here. I also wonder if we can revisit traveling in general as new technology arises. Well, maybe we can get more partners to help us so that people don't travel with measles, or they – if they have been exposed, they can get access to post-exposure vaccination even, which does – you know, if it's quick enough, can be quite effective.

So because, again, if we can't – we're not going to get rid of measles overnight in much of the world, but maybe we could try and slow its spread somehow. So I think we should be creative about looking for new ways forward, new technology. We haven't talked about patch vaccines. That might be a good way of – you know, you could slap them on people at the airport, you know? (Laughter.) They can self-administer them. There's new things coming on all the time. So let's think creatively of a way forward that helps all countries make progress, and raises the countries that are – that are – actually have the greatest burden.

Dr. Bliss: Well, I want to thank all of you for joining me this afternoon to talk about what was a challenging year for this region, last year, and it started out a little bit rocky. But it sounds like there are lots of opportunities for renewed collaboration, and really, you know, engaging with communities, building trust, and, you know, rethinking how to – how to communicate, both about infectious disease and health and wellness more generally. So Daniel Salas, Natasha Crowcroft, and Bill Moss, thank you all for joining me this afternoon. And we'll look forward to seeing how things develop over the course of the next ten months. So thank you.

Dr. Moss: Thank you.

Dr. Crowcroft: Thank you.

Dr. Peraza: Thank you.

(END.)