



Quality of Life
Crossborder Collaboration on
Public Health: The 2009 U.S.-
Mexico Response to H1N1

By Erik Lee



About the State of the Border Report

In 2013, the Wilson Center and its partners released the first edition of the [State of the Border Report](#). The report rejected views of the border as a simple dividing line and sought to provide a comprehensive yet accessible look at the state of border management and the border region, focusing on a more inclusive set of four core areas: trade and economic development, security, sustainability, and quality of life. Now, in 2020, the Wilson Center is working on a second edition of the report. Much has changed since 2013, and this edition will document many of those developments, but the need to present policymakers and the public with a multidimensional view of the border and the border region remains as important as ever. The 2020 State of the Border Report will cover the same four core areas while also delving deeper into some issues only briefly touched upon in the original report. The chapters will be released as individual papers throughout 2020 and put together as a volume at the end of the year.

The Mexico Institute is very happy to present the first component of the report, which, recognizing the context of COVID-19, analyzes the issue of quality of life in the border region through the very particular lens of public health and pandemic response. Erik Lee, a coauthor and editor of the original 2013 report, conducted a series of interviews with former policymakers from the United States and Mexico that were involved in the management of the H1N1 pandemic in 2009 and has drawn some important and relevant conclusions about emergency preparedness and pandemic response that he presents in the paper. Please enjoy his work and look for additional papers in this series on the [Mexico Institute webpage](#) throughout the year.

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Key Findings

- The United States, Mexico, and Canada had been formally planning for a possible pandemic originating in Asia since shortly after the 2003 SARS outbreak. The Security and Prosperity Partnership, begun in 2005 by the Bush, Fox, and Martin administrations, became the key forum to develop truly regional plans for pandemic response.
 - Although H1N1 developed into a pandemic and thus quickly superseded efforts at containment, years of collaborative efforts to track and address infectious diseases by federal, state, and local agencies along the U.S.-Mexico border helped communication and monitoring of the disease. As is the case with many pandemics, H1N1 developed and spread very quickly. As such, there was little time to develop new mechanisms or relationships. Officials had to rely on the prior planning where they could and improvise where there were no plans.
 - Addressing pandemics in the U.S.-Mexico requires close coordination across agencies and borders. Some of the international, bilateral, federal, state, and local agencies involved in addressing the 2009 H1N1 pandemic include The World Health Organization, the U.S.-Mexico Border Health Commission, the U.S. Department of Health and Human Services, U.S. Centers for Disease Controls and Prevention, CDC Division of Global Migration and Quarantine US/Mexico Unit, Secretariat of Health, Government of Mexico, U.S. state governments' border health offices, Mexican state health ministries, county health departments, and the Embassies of Mexico and the United States, to name a few.
 - Because of the rapid spread of H1N1 that surpassed border controls and the importance of crossborder U.S.-Mexico trade to both economies, a consensus developed in the spring of 2009 among U.S. and Mexican officials that closing the U.S.-Mexico border was neither desirable nor helpful.
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An Overview of the 2009 H1N1 Pandemic

- The earliest known human case of infection by the H1N1pdm09 virus was in the state of Veracruz in March 2009.
- The virus was first detected in the United States on April 21, 2009 with a case in California.
- The second U.S. case was discovered in Texas and announced on April 23, 2009.
- The World Health Organization (WHO) declared a Public Health Emergency of International Concern in late April and formally declared a pandemic on June 11.
- A vaccine was developed over the course of the year and made broadly available in December 2009.
- The WHO formally announced an end to the pandemic in August 2010.
- The Centers for Disease Control and Prevention estimate that the disease brought between 43 and 89 million cases, approximately 274,304 hospitalizations, and 12,469 deaths in the United States. Estimates of worldwide mortality from the (H1N1)pdm09 virus range between 151,700-575,400 (CDC).ⁱ

Overview

Quality of life in U.S.-Mexico border communities is built not only upon commerce, tourism, and a host of comparative advantages, but also on a network of diplomatic and epidemiological collaborative efforts to safeguard health at community, regional, and national scales.

The border region is one epidemiological region.

The 2013 edition of *The State of the Border Report* approached quality of life from both a conceptual and empirical standpoint.ⁱⁱ The chapter argued that quality of life comprises four dimensions: economic opportunity, community life, education and culture, and health. In addition, the chapter focused on key quality of life indicators, including demographics (i.e. the region's relatively rapid demographic growth compared to the rest of the United States and Mexico), educational attainment, and poverty levels, among others.

Instead of attempting to define and assess broad concepts, this edition of the report concentrates on a smaller set of pressing issues. Our approach to quality of life in the border region focuses solely on public health, a key component of the region's quality of life. Among its many challenges, health in the border region stands out as a particularly worrisome factor. Chronic diseases such as diabetes and obesity and ongoing challenges with access to healthcare are especially concerning.

Yet we turn our attention to *infectious* disease by focusing on the bilateral response to the 2009 H1N1 pandemic. There are three principal reasons for this. To begin with, the enormity of the COVID-19 outbreak, its impact on public health and the economy in 2020, and the ensuing North American response (of which a partial border closure has been a key policy lever) inevitably draws attention to the 2009 H1N1 pandemic for lessons learned. Another reason is that a region with such broad and deep health challenges as the U.S.-Mexico border region faces particular danger from pandemics, which often arise suddenly and prey on populations with underlying health issues. Finally, the bilateral response to the 2009 H1N1 pandemic stands out as a particularly well-defined example of cross-border U.S.-Mexico cooperation on an urgent public issue, like pandemic response. Bilateral cooperation to address issues at the complex and misunderstood U.S.-Mexico border region lies at the heart of *The State of the Border Report* in 2013 and now again in 2020.

We take a qualitative approach to the issue of pandemics and their impact on the U.S.-Mexico border region. This chapter comprises a set of interviews with key actors from 2009 who saw the diplomatic, operational, technical, and other dimensions from a particularly strategic position. These actors include:

- **Ambassador Leslie Bassett.** Former Acting Ambassador at the U.S. Embassy in Mexico City during the 2009 H1N1 pandemic.
- **Ambassador Arturo Sarukhan.** Former Mexican Ambassador to the United States (2007-2013).
- **Robert Guerrero.** Director, Border Health Office, Arizona Department of Health Services.
- **Dr. R.J. Dutton.** Former Director, Border Health Office, Texas Department of Health Services.
- **Dr. Gerardo Alvarez Hernández.** Director of Disease Control and Prevention, Ministry of Health, State of Sonora.

Their recollections of a unique moment of urgency in North American and cross-border collaboration show us the value of preparation, confidence-building, collaboration, coordination, and institution-building across multiple federal, state, and local agencies in North America.

The 2009 H1N1 Pandemic

The 2009 H1N1 influenza pandemic arrived quickly but did not catch the United States, Mexico and Canada completely unprepared. National security, homeland security, health, and emergency management officials in all three countries were keenly aware of the potential for pandemics, demonstrated by the Security and Prosperity Partnership, a trilateral effort launched by the U.S., Mexico and Canada in 2005 to address a variety of threats to North America's security and economy. A trilateral, interagency effort also resulted in the North American Plan for Avian and Pandemic Influenza of 2007, an innovative effort that laid out protocols for dealing with a pandemics originating from outside of North America, such as the avian flu (H5N1) virus, which reemerged in Asia in 2003.ⁱⁱⁱ

Originating in rural Veracruz in March 2009, the H1N1 pandemic lasted much of 2009 and 2010. It was characterized by robust immunity among older populations—which had lived through an earlier outbreak of a particular subtype of the H1N1 virus—and relatively weak immunity among younger populations.

The timing and location of the outbreak were of particular concern to both the United States and Mexico. Spring break at U.S. colleges and universities typically sends many thousands of students (and potential virus carriers) to beaches on both Mexican coasts. Tourist destinations in Mexico also see millions of Mexican vacationers during the traditional Holy Week break between Palm Sunday and Easter. Additionally, President Obama's visit to Mexico in April created the potential for H1N1 infections at the highest levels of U.S. government.

The first cases in the United States were reported in California on April 21, 2009 and then in Texas on April 23. The World Health Organization (WHO) raised alert levels in late April, but only formally declared a pandemic on June 11. Vaccine development resulted in clinical trials in July, vaccine approval in September, and broad availability of a vaccine in December 2009. The Centers for Disease Control and Prevention (CDC) estimates that the disease caused between 43 and 89 million cases, approximately 274,304 hospitalizations, and 12,469 deaths in the United States. Estimates of worldwide mortality from the (H1N1)pdm09 virus ranged between 151,700-575,400 (CDC).^{iv} The WHO declared an end to the pandemic in August 2010.^v

For the United States and Mexico, the pandemic arrived at a unique time. It followed the collapse of the U.S. financial system in 2008 and the onset of the Great Recession. President Barack Obama had just entered office in January 2009, and U.S. Ambassador Antonio Garza had left his post in Mexico City while Acting Ambassador Leslie Bassett and Embassy staff awaited the arrival of new Ambassador Carlos Pascual. Mexico was gearing up for midterm elections in 2009 and had just finished another season of Spring Break—a critically important annual event for Mexico's tourism industry—while the federal government was deeply involved in addressing worsening violence from transnational criminal organizations in several key states, including Baja California and Michoacán. Mexico's Ambassador to the United States Arturo Sarukhan had served at his post since 2007. The Security and Prosperity Partnership structure was replaced by the North American Leaders Summit, which took place in Mexico in April 2009 just as the outbreak was coming into focus for the U.S., Mexico and the international community.

Expert Perspectives on the 2009 H1N1 Pandemic

In March 2020, we conducted interviews with several key officials who had a front-row seat to the international response to the 2009 pandemic. While basic information regarding the pandemic is in the public domain, these officials’ perspectives are a valuable part of the public record regarding how the United States and Mexico handled the pandemic at a time of political transition and considerable international and domestic diplomatic, political, financial, and social turmoil. We chose officials at both the federal and state levels, and we believe that this tells an interesting story of both the federal and local responses: while officials at the federal level must contend with getting enormous bureaucracies to move quickly, global pandemics can impact local healthcare infrastructure quite profoundly. Border state public health officials in particular have long experience with both chronic and infectious disease in a region beset by chronic health challenges and therefore have a privileged vantage point between the macro (federal) and micro (local) viewpoints. The interviews are edited for length and clarity.

Table 1. Institutions Addressing Border Health Mentioned in this Chapter

U.S. Department of Health and Human Services
U.S.-Mexico Border Health Commission
U.S. Centers for Disease Controls and Prevention
CDC Division of Global Migration and Quarantine US/Mexico Unit
Secretariat of Health, Government of Mexico
U.S. state governments’ border health offices
Mexican state health ministries
County health departments
Embassy of the United States in Mexico
Embassy of Mexico in the United States

Ambassador Leslie Bassett

At the outset of the H1N1 pandemic in 2009, Leslie Bassett was Acting Ambassador at the U.S. Embassy in Mexico, where she served from 2004-2009. Her tenure as Acting Ambassador followed that of Ambassador Anthony Garza (appointed by President George W. Bush in 2002) and preceded Ambassador Carlos Pascual (appointed by President Barack Obama in 2009). Over the course of her 35-year career at the State Department, she served in sensitive posts such as South Korea, the Philippines and elsewhere across Asia, Latin America, and Africa, working on diverse topics including free trade, military cooperation and cooperation against organized crime networks. Ambassador Bassett also had broad experience in coordinating crisis response, including pandemics, earthquakes, fires, typhoons, hurricanes, and criminal acts. She served as U.S. Ambassador to Paraguay from 2015 until her retirement from the State Department in 2017.

Tell me a bit about the historical antecedents to your work that year, including the main institutions and personalities that you worked with.

The United States was coming out of the George W. Bush years in which we had launched the Mérida Initiative. The Mérida Initiative was an across-the-board law enforcement and judicial

collaboration to reduce drug demand on the U.S. side and drug supply on the Mexico side, with concomitant efforts to deal with traditional issues, police operations, governance, and other issues.

NAFTA was still in place and very active, so a lot of phytosanitary and other cooperation related to the flow of goods, including animals, across the border, were institutional collaborations that were well-established and monitored by the Embassy, and many partners and stakeholders across various industries and productive fields. On the health side, there was a lot of binational cooperation that was institutionalized in various border organizations and fortified by academic relationships and personal relationships, so everybody in our contact lists who was necessary and important in a situation like H1N1 generally already knew each other, already could reach out to one another, and already had credibility with one another.



U.S. Embassy Mexico H1N1 team, April 2009. Photo courtesy of Ambassador Leslie Bassett.

What other details do you remember leading up to the pandemic?

President Obama had been there the week before. A presidential visit is a major undertaking and he had chosen to have the visit in Mexico City, which was, for security and other logistical reasons, even more of a daunting task. While it was historic and tremendously successful, afterward I had an embassy full of tired people who were still shipping out plane loads of presidential equipment.

One morning in late April 2009, I sent my 10-year old daughter down the stairs to get onto the school bus. Five minutes later she walked in the front door and I was like, “What the heck, you missed the bus!” She handed me a note that said all the schools are closed. And that was the first indication I had that anything untoward was going to happen.

So, the Administration wasn't concerned enough to postpone the visit?

Transparency helped develop the necessary confidence to do things like keep borders open.

It wasn't yet really well-defined as an outbreak. In my memory, there had been reports of an unusually virulent flu that was fatal in an unusual demographic – not the young and the old, but people in the middle. That had been in the papers off and on. Then, two days before Obama came into town and two days after, all the news was about Obama, and what we later knew to be H1N1 kind of fell off the radar. It was never an issue in visit planning.

President Calderón, the president of Mexico at the time, to give him credit, was incredibly transparent from the minute they started taking measures, and that transparency helped develop the necessary confidence to do things like keep borders open. Keep in mind, this was just after spring break, so tens of thousands of Americans of various ages had already come and gone from Cancún and many other places. While it wasn't clear the flu was present in those areas, it seemed reasonable to expect that a certain percentage of them had been exposed. Mexico City alone has something like 70 direct flights a day to the United States, so there was a sense that by the time they had realized that they had something more than a serious flu on their hands, the horse was already out of the barn.

What were the events that you remember during the pandemic and measures that that the Embassy took in response to the pandemic?

The Embassy team that was no longer working on visas and public services became dedicated entirely to supporting different cohorts of medical experts as they began helping the Mexicans deal with this, what became a pandemic.

A series of bombshells went off that made me realize that the world that I knew was not going to be the world that I would be working with in the future. When my daughter came back with the note saying schools were indefinitely closed, that immediately translated into a community-wide problem, because we had a lot of American and Mexican staff, all of whom had kids at school. If kids are not in school, all of a sudden childcare is an issue.

So, I went to the Embassy, and the first phone call I got was from the nurse who said, “You should suspend all public services.” And I'm like, “Why?” At this point, there wasn't a lot of official dialogue with the government yet. I hadn't had a phone call that said, “Dear Acting Ambassador, this is what's happening.” Different people in different parts of the Embassy were picking up from their counterparts what was happening, including the CDC, whose experts were already in contact with Mexican officials.

Within the next three hours (we had an appointment system for visa) people showed up. We proceeded with visas for that day, but we gave out gloves and masks to our interviewing officers. After that, we were open only to American citizens and only in emergency situations. We gave liberal leave to everybody who had childcare issues or transportation issues. Mexico enforced what we're now calling social distancing: shutting down the metro, movie theaters, everything but grocery stores and pharmacies, basically. They started in Mexico City, then extended it to other regions as events warranted.

We also had a community of expatriate Americans who were very concerned over the situation, for their health, for their children's education. At the same time within three days, teams of CDC officials started arriving and they came on such short notice that they didn't even have suitcases. They came from vacations, they came from wherever they were at the Government of Mexico's invitation, but without any kind of language skills, support or anything else.

On the health side, there was a lot of binational cooperation that was institutionalized in various border organizations and fortified by academic relationships and personal relationships, so everybody in our contact lists who was necessary and important in a situation like H1N1 already knew each other, already could reach out to one another, and already had credibility with one another.

The Embassy team that was no longer working on visas, public services, and bilateral programs became dedicated entirely to supporting different cohorts of medical experts as they began collaborating with Mexicans to confront what eventually became a pandemic. There were conference calls with Washington every three hours, and there was kind of constant churn of activity that involved getting people places and giving them the time to do their job, make findings, report those findings back, and compare them against everybody else's findings. It was a very iterative process.

During that fact-finding process, the CDC made no predictions. They wouldn't say, "This is likely to last a few weeks." They would instead say, "We don't make predictions, every pandemic is different." For a community, this is not heartening news to hear, so I had a lot of responsibility managing community reactions, which were increasingly concerned as initial media reports focused more on mortality rates.

Americans, including family members of Embassy employees, were of course concerned. Some returned to the United States but there was no massive repatriations as the borders and airports stayed open. The United States had also declared a public emergency with some measures in place in affected areas, so they found they were also subject to what was essentially quarantine in the U.S. as well.

To ensure open communication and transparency, we piloted virtual town halls, which were partially successful.

Meanwhile Mexico, like the United States today, *completely* changed. You went from crowded streets and people giving *abrazos* to everyone wearing masks, nobody wearing ties.

They shut down schools, movie theaters, everything. Businesses, trade, exchanges, cultural events – everything was ultimately affected. Mexico took a hit of billions of dollars in tourism alone. President Calderón demonstrated tremendous political courage by insisting "This is what the World Health Organization's standards are, this is what we're doing," and they did it.

What you're describing is a kind of first run at social distancing pioneered by the Mexicans and at a time when...did anybody work from home in 2009?

We didn't have that kind of flexibility in our computer system, but we did have Blackberries, so people could Blackberry all over the place and that's as far as we could really go. So people who were home could call in for phone calls, but they weren't working on documents like you can do now.

On the Mexican side, one major concern was that we were going to shut the border. My recollection of phone calls with Washington was that the virus was already present in the U.S. and medical experts suggested it wasn't essential to close borders or stop travelers.

There's a family photo of myself, my wife, and our two daughters, who were very little at the time on a flight to Mexico City, it must have been that summer, maybe June, and we were all wearing masks. There wasn't that same level of concern as there is now and so, does that sound feasible, did we really do that?

Yes, it sounds feasible. I'm not sure how long the Mexicans required face masks, but people also took measures for their own comfort. Mexico took your temperature on arrival at the airport using infrared thermometers. When you got off a plane, your temperature was immediately taken and if you had any kind of indication they noted your seat number so there was a possibility of tracking individuals who later presented with the flu.

When my daughter went to school until the end of the year, her temperature was taken every morning. If any child had any kind of fever, they were sent home immediately. The whole thing was mind blowing, because everything changed with very little notice and with very little hesitation on the part of officials. It was as all-consuming as the presidential visit had been in terms of Embassy resources and personnel.

As much as appropriate we tried to keep trade and other operations going. Inevitably, conference after conference, visitor after visitor cancelled for months into the future. The ramifications continued well past the crisis period.

How did you manage the interagency aspect?

Generally speaking, interagency cooperation in the field is much easier than in Washington. Embassy Mexico City had a terrific set of interagency representatives, who were incredibly collegial, hard-working, and committed to the mission of the moment, which suddenly became this crisis. Likewise, our Mexican colleagues were incredibly collegial.

We came together at least once a day, to have conference calls, primarily, so that as many people had the most recent information as possible and could provide positive, accurate messaging. In this instance,

Washington was a well-coordinated machine. There was not a lot of interagency tension that was visible to us; the medical experts clearly had precedence. My experience was that Washington was focused and helpful and supportive and committed as an interagency team.

There was a lot of interagency coordination in Washington, and I will also say that while on Mexico issues Washington was often a ferocious beast, in this instance Washington was a well-coordinated machine that was working towards understanding and supporting as much as possible. There was not a lot of interagency tension on the Washington side either, at least that was visible to us; the medical experts clearly had precedence over decision-making and there was very little second-guessing of what their decision-making was.

Circling back to something you mentioned earlier regarding the border, it was recognized early on that shutting down the border was not going to have much of an impact. To your recollection, how did the border figure into any of your conversations or your planning that late spring?

It was obvious to me that there would be a conversation about the border in Washington. I offered post recommendations after consulting with my team and with our medical team. My one absolute was that, if they were going to close down the border, they tell us first and let us give the Mexicans some warning.

I had repeated assurances that if there was a decision to close the border we would be a) consulted, b) informed, and c) have the opportunity to advise the Mexicans before it reached that point. I never got so concerned that it became an overriding issue. First of all, I had a great team of people I worked with in Washington. Roberta Jacobsen, who later was U.S. Ambassador to Mexico, was the Mexico desk officer or the Deputy Assistant Secretary at that time. You couldn't ask for a better contact person, nor could the Mexicans ask for better. They knew Roberta, and they trusted her tremendously.

We had a couple of conversations with Washington where they assured me that border closure was not currently under consideration, and then it kind of faded away as more and more CDC people came down and they began to get a better handle on what H1N1 really was.

What should people know about the 2009 pandemic? What would you like people's main takeaway or takeaways to be?

First of all, as the CDC reminds us today, each pandemic is unique so experts will only make assessments once they have the data. In the interim, the high degree of uncertainty for us was very hard to manage. We found that more that you can, if not provide certainty, at least build confidence through transparency and effective messaging, that's probably the best you can do.

The second is to follow the protocols, recognizing that it takes political courage. Certainly, Mexico paid a tremendous price for the measures they took. For all intents and purposes, it seems to have had a satisfactory outcome in that the H1N1 pandemic didn't spread as far or as fatally as the one we face today. Again, of course, you can't compare them. But in 2009 Mexico took the recommended measures even though they knew there would be significant financial, social, and human costs, and I deeply respected that of President Calderón.

Ambassador Arturo Sarukhan

Ambassador Arturo Sarukhan served as Mexico's Ambassador to the United States from 2007 to 2013 and as a career diplomat in the Mexican Foreign Service for 22 years. He was the youngest and longest-serving Mexican Ambassador in Washington in modern times and led a team of 250 diplomats, plus an additional staff of 1,500 in Mexico's 50 consulates across the U.S. A consultant and public speaker, he is also a nonresident senior fellow at The Brookings

The mechanisms and "muscle tone" had been built into the U.S.-Mexico bilateral relationships over the course of several years, and the direct precedent for both countries in 2009 was in the Security and Prosperity Partnership for North America, the SPP.

Institution, an adjunct professor at the Elliott School of International Affairs at George Washington University, a distinguished visiting professor at the Annenberg School of Public Diplomacy at the University of Southern California, an Associate Fellow at The Royal Institute of International Affairs (Chatham House) in the UK, and a Global Fellow at the Woodrow Wilson Center's Mexico Institute.

What groundwork had been laid for working on this issue and what were the main institutions and personalities that you had been working with?

U.S.-Mexico collaboration to confront the H1N1 pandemic in 2009 didn't arise magically. It was part of this process of "institutionalization." The mechanisms and the "muscle tone" had been built into the U.S.-Mexico bilateral relationships over the course of several years, and the direct precedent for both countries in 2009 was in the Security and Prosperity Partnership for North America, the SPP.

The SPP was launched originally by Fox and Bush 43, and a lot of it was predicated on a post 9/11 environment where it was clear that Mexico and the United States had to work in a joint paradigm of shared security. If our incredibly important trade flows and trade agenda were to continue unabated in a post 9/11 world, we needed to ensure that those flows were secure. The metaphor that I used at the time was that what you needed wasn't a wall, it was a membrane. What does the membrane do biologically? A membrane allows the good stuff to pass through but filters out the bad stuff. We needed both countries to work together to ensure that economic and trade ties in a post 9/11 world were not disrupted by enhanced border security and intel, while ensuring that no terrorist groups would use the U.S.-Mexico border as a means to undermine the security of the United States.

That's what triggered the Security and Prosperity Partnership between Mexico, the United States, and Canada. And it was right after the SARS crisis that the three countries quickly realized that what had just happened in China could happen globally or even regionally in North America. Therefore, within the aegis of the SPP in 2007, we created a group to start working on protocols, standard operating procedures, exchange of information, and points of contacts between the CDC in Atlanta and their counterparts in Mexico and the U.S. They started modeling, even doing some simulation exercises concerning what to do if we suddenly have a SARS-like pandemic in Mexico or Canada or in the US.

In many ways, the Security and Prosperity Partnership set in motion the mechanisms that provide, particularly in Mexico and the United States, the framework for what we do if we were ever hit by a pandemic like what we'd just seen in China with SARS.

Our ability to do what we did in 2009 was the result of the groundwork that we laid starting in 2007. It wasn't that we in 2009 magically knew what to do; the legwork started a couple of years earlier precisely because the three governments realized that we could face something similar to what China faced and we needed to be prepared.

Just two years before the pandemic hit.

Well, it would be great to say, "Oh we anticipated this regardless of SARS," but it was really SARS in China that sort of triggered this thinking: What happens to our supply and production in North America if there's a disruption as a result of the pandemic?

I think this points to several things. It gives you a sense of how strategically Mexico and the United States were thinking at the time. It shows you the deep institution-building across agencies from a whole-of-government approach. It gives you a sense of the understanding that the partnership that was being built in North America needed to be able to look over the horizon. That legwork that we had done for the past two years, including running simulations and doing simulation exercises, that's what in many ways allowed both countries to successfully confront and mitigate the effects of what happened in 2009.

What were the main events or inflection points that you remember and the measures that your institution took in response to the pandemic? And what was your role specifically?

I don't remember the precise moment, but sometime in April we knew that there was a new epidemic, in fact, I remember President Obama and Secretary Clinton had just gone down to Mexico.

So, it was in early spring when Mexico realized that this was a huge challenge. The President decided to basically shut down Mexico City, as in a full lock-down. In fact, he was criticized by many including López Obrador, which may explain why you see some of what you are seeing today in Mexico.



President Barack Obama and Ambassador Arturo Sarukhan at the state dinner at the National Museum of Anthropology in Mexico City, April 2009. Presidencia de la República, 2009.

I think there were certain elements that were critical for the government, because Mexico usually has a reputation of not being the most efficient or effective. It was very clear that Mexico needed to be as transparent as possible with the international community and in particular with its neighbor. President Obama had been in Mexico, and had been in touch with someone who later died of complications, the Director of the National Anthropology Museum who gave President Obama a tour of the museum the night we had the state dinner there for him. There was transparency and full disclosure between Mexico and the United States explaining to the international community, and to Mexicans and Americans in particular, what was going on. We very quickly activated the protocols and mechanisms that had been designed as a result of the work done in the SPP to establish protocols, exchange samples with the CDC, and have a 24-hour line of communication with the CDC and our Canadian partners. We put into place very quick, even draconian, containment and lock down measures which did have a profound effect on the economy in many ways in the midst of what I would say was Mexico's *annus horribilis*. It was the year that violent deaths because of organized crime really spiked. We were in the midst of the global recession in 2008 and then, boom! We get walloped by H1N1.

All of those decisions were factored in, and I remember Calderón saying, "I know I may be taking the decision that will damage the economy, but we have to take these measures because a) they are epidemiologically the correct ones and b) because we need to portray a compelling sense of forceful action and forceful measures and send that message abroad."

My own specific role was making sure that the mechanics that had been devised and designed under the SPP were working, that the whole-of-government approach was being implemented by our government and our respective agencies in Washington, and to make sure that all the Cabinet ministers in the Mexican government were coordinating their actions as it related to everything from border crossings to trade to phytosanitary inspections of Mexican agricultural exports to the United States. My most important job was to be the spokesperson in the U.S. media to communicate a) what Mexico was doing internally and b) what Mexico and the United States as partners were doing together. I spent an inordinate amount of time on radio, on TV.

So, it was mainly a two-pronged role: being an air traffic controller for the whole of government engagement of Mexico with United States and being the face or spokesperson of what Mexico and the United States were doing to confront the pandemic.

The second phase, once the pandemic had started to subside, was to retrigger tourism flows to Mexico with cruise lines, tourism agencies, and large consolidators of charter flights and tourism to Mexico.

The second phase of my effort was to prove that all that we had done to mitigate and confront the crises on epidemiological terms had been effective and, therefore, it was safe for tourism in Mexico. In the midst of the 2009 recession and coming out of the profound economic impact of H1N1, it was obvious that Mexico needed to restart its tourism industry as quickly as possible.

And then there was a latter phase in the year to learn lessons, process them, and make sure that we fine-tuned, tweaked, improved, and modified our protocols based on the experienced of 2009.

How was the U.S.-Mexico border context managed? Did Mexico take any specific measures at the border itself that you remember that you thought were particularly effective or ineffective?

We worked with customs and phytosanitary (FDA) inspectors on the U.S. side to ensure that agricultural exports going back and forth across the border did not become a focus of contamination or perceived as a threat to the public health of either society. There were a number of measures that were put in place to prove that our border flows were not a source of added contagion or a threat.

What would you like people to know, to take away from the 2009 H1N1 pandemic?

It was not by chance or by fluke that the collaboration worked and worked well. It was the product of foundational work that had been done two years before, and that speaks to the ability and the willingness of both governments to look over the horizon, and look at the bilateral agenda as one of critic importance to the well-being, safety, and security of Americans and Mexicans alike.

Despite the challenge, the way Mexico and the United States comported themselves and worked together is a clear demonstration of how effective this relationship became, of the strategic horizon that was adopted, and of the willingness of both governments and Presidents to ensure that there was a whole-of-government approach when it came to dealing with the bilateral relationship. This was done by a long process of confidence-building measures and is proof that this is a relationship where Mexico and the United States will succeed together or fail together.

That is the challenge and at the same time the tragedy of what Trump means for the bilateral relationship. It is in moments like what did together with H1N1, where you see the importance of the relationships we've built over the last decade and our ability to work hand in hand without the idiotic finger-pointing that unfortunately this Administration, this President, is prone to in the relationship with Mexico.

Dr. R.J. Dutton

Former Director, Office of Border Public Health, Division of Regional & Local Health Operations, Texas Department of State Health Services

Dr. Ronald J. Dutton recently retired as Director of the Office of Border Public Health, Texas Department of State Health Services (DSHS). The office has border field offices in Harlingen, Laredo, Eagle Pass, and El Paso. Priority office focus areas for Dr. Dutton included coordination of health issues with Mexico, maintaining health data and information, and support of community-based border health projects. He has worked as a Senior Scientist at the International Life Science Institute (ILSI) in Washington, D.C., and in the Community Health Branch at the Agency for Toxic Substances and Disease Registry (ATSDR), Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia. Dr. Dutton's areas of professional expertise include international health, environmental health, and public health risk assessment.

My first question is about the 2009 pandemic, particularly about the collaborative nature of your work in general with the US federal government, the Mexican federal government, Mexican state agencies. Could you tell me a little bit about the history of your office's collaboration, a little bit about the institutions and key personalities over the years leading up to the 2009 pandemic?

The Texas Department of State Health Services, which originally was the Texas Department of Health and now it's the Department of State Health Services, was mandated by the Texas Legislature around early 1990 or so to establish an office within the department to coordinate communications with Mexico on health issues. It created a principle point of contact for the office, which was important. We have about 20 people across the Texas border, as well as a small administrative office here in Austin.

There's a lot of barriers to working across international borders. The history of the U.S.-Mexico border, and I would say particularly the Texas-Mexico border, is defined by major sister cities. As we established ourselves, some of the early efforts were focused more on the Texas side of the border because that's where, obviously, Texas legislators wanted to see more effort by the Health Department. But, at the same time, we were establishing relationships with Mexico that were historic. There were binational health councils that were established in the 70s between the sister city pairs. We currently have about eight binational health councils with Mexico, some of which are quite rural, but four of which I characterize as more urban. These are important vehicles for local public health communications. We help support them administratively, but you've got to have local public health leadership to make them viable venues for exchanging information. One of the principal priorities for us is to try to exchange information about infectious disease. These local binational health councils which my office was very directly involved in had some limited funding to maintain their meetings and report out. They were in place for the 2009 pandemic.

We also try to establish state-to state-relationships. Now, we never have been fortunate enough to have the governor level support that Sonora and Arizona have. So, depending on the leadership or the transition, we will maintain pretty good relationships with the Secretaría de Salud in Mexico at the local level, at the jurisdiction level, and with our local health departments and our regional and state health authorities, and with their state health authorities. We've met at various times at important meetings on the border with our state health officer and their state health officer.

And then there's our interaction with our federal government. There's been institutions in place on the border that have come and gone and would serve important functions with health professionals, meeting and exchanging information. But in terms of governmental disease surveillance, that remains the purview of the State Health Department and our interface with CDC and HHS in Washington.

The emergence of the US-Mexico Border Health Commission started in 2000. Then, some funding was made available to all the border states and even directly to Mexico through a program called EWIDS, Early Warning Infectious Disease Surveillance. EWIDS was important, but there were limitations. What was missing was good horizontal coordination across the US-Mexico border. We worked to develop a contract with the state of Tamaulipas for them hire somebody that would develop their surveillance reports and exchange them with us on a weekly basis.

We did that for several years. It was what I consider to be you know the highlight of our relationship, formalizing it and building a system. The Border Health Commission had a person on each side at the Commission acting as so-called binational coordinators. But there's something about multilateral groups that makes life difficult. Ultimately, the federal government has to have the leadership, because even though we had our state health authorities run the show, in Mexico it's somewhat different. They're linked into their federal government much more centrally, they don't make decisions. We all struggled with the fact that the central Secretaría de Salud in Mexico City wanted to work directly with our federal government. So, if we call for something that would engage directly with the border states, there's some resistance. Today there is an important binational technical work group that's led by the CDC and Mexico City that includes representatives from the border state health departments. It's an important venue for getting information but it's almost *ad hoc*.

The pandemic was very interesting to me, because the funding that I was talking about for EWIDS termed out after about five years right as H1N1 hit. I thought that they surely would realize they should sustain that capacity building and there was still a lot of work to be done.

When the pandemic hit, it impacted the border first. But within some short period of time the border wasn't the firewall, right? It was a pandemic, it was in New York City and the rest of the world. We were on conference calls every day with federal officials, the Pan American Health Organization, trying to understand what the situation was in Mexico. We were participants but it wasn't border-focused. It was more international, country-to-country, and, of course, each state addressed their issues as a state.

When I think about it, when the pandemic hit, it impacted the border first, I think the first cases were in California and there popped up a Mexican travel case to Houston. But within some short period of time the border wasn't the firewall, right? It was a pandemic, it was in New York City and the rest of the world.

I say that because, even if we had very active infectious disease surveillance systems that were working directly on the border with Mexico, I'm not sure what role they would have played in the overall response to H1N1. It was really a statewide, nationwide, worldwide activity. But I do think it's interesting that it looked to me like the Texas border was more impacted than the rest of Texas. And We have high rates of diabetes and obesity on the border and there was a big impact to pregnant women who may have had those underlying health issues.

I did ask the epidemiologist that works with me in my office, and there were difficulties ascertaining the data in a way that would be considered statistically appropriate. That said, there must be some lessons learned from that. We often look at what's going on in the border that's different than the rest of the state, and I think that there's lessons learned there.

We have clear disparities and certain things on the border versus the non-border in Texas. We have higher, forty percent uninsured on the border versus twenty percent in the rest of state and higher diabetes and anything related to access to care. You usually see some impact on our border, so you're not getting screening for cervical cancer, so then you see higher rates on the border than off the border and amputations from diabetes are higher on the border than off the border because people aren't getting treated earlier so they get worse. They have more complications than you do off the border because they're not seeing a provider and getting treatment early in the onset of the disease.

We have clear disparities on the border versus the non-border in Texas. Forty percent are uninsured on the border versus twenty percent in the rest of state. There is higher diabetes There are more complications at the border than off the border because they're not seeing a provider and getting treatment early in the onset of disease.

Right now for coronavirus, every day we're giving situational awareness reports about Mexico to the team that's assembled here that is very reminiscent of H1N1. Our Emergency Response Center is up and staffed seven days a week and, as in the case of H1N1, if they were closing schools in Mexico, or any kind of action that was being taken, we were relating it to the decision-makers here in preparedness and because they found it interesting to know what was happening right across our thousand-mile border with Mexico. We're the folks that know people in Mexico, we try to establish communication systems with them and so that's our unique role in the department.

You strongly suspect that there was an outsized impact on Texas border communities from the 2009 pandemic that really has not been looked at closely, and it has to do with the health challenges that already actually have historically faced these communities, would that be right?

That's a strong suspicion. It hasn't been verified, but I think it's worth looking at based on simply looking at the number of people who died and where. There was something about the diagnosis and I forget what the statistical issues were but, when the pandemic started, we started to get reports like, in Hidalgo County we've got a woman who just died in the hospital and she's positive for H1N1. I think the impact was higher at the border, but we were so busy in the middle of the response, no one as far as I know tried to document that. It's definitely the hypothesis that a lack of access to care, plus underlying issues that are higher on the border, was a big risk factor for morbidity and mortality from H1N1 in young women.

So, the next question has to do with key events and measures that were taken, you touched on this a little bit. But do you recall any other specific measures that were taken in the border context? Were there any special measures that were taken at ports of entry or in border communities?

The dynamics of the border are amazing, the commerce and the number of people who go back and forth day-to-day, legal northbound crossings, let alone all the other issues that have been transpiring over the last few years particularly. One of the entities that's important on the border that we interface with is the US-Mexico unit of the CDC, and they have quarantine stations that are sort of the official ports of entry for immigration where they screen people. The only ones that I'm aware of that are staffed with CDC health personnel are San Diego and El Paso, but not the other major ports of entry.

One of the big things was testing and the ability to test, and I think there was definitely an effort for us to get enhanced testing of people crossing, but I don't remember details about it. I think there was a little bit more emphasis, of course, on our major border sister cities.

So, what I gather is that these things move too quickly for the border--as we manage it today--to operate as any kind of an effective membrane or screen?

It is true, I guess that's what I will say about H1N1. At first you hear about a case. We were secretly and selfishly pleased that the first H1N1 case was discovered in the California border, that our surveillance system picked it up. But then I felt blown over, we weren't really picking any others out. [For example], there were 70 school children that had visited Mexico from New York City who were suddenly testing positive.

In the Zika example, it's not a pandemic, it's not a human-to-human transmission, it's mosquitoes. When Zika came, if we had good surveillance, there would be a whole lot better feeling about it. What happened is, when Zika came into the sister city across from Brownsville, there was a reluctance on the Mexican side to talk about it officially because the country is worried about economic impact trumping public health concerns.

I had conference calls set up between the state health officer here and the officials in Mexico City who were responsible, and it was amazingly difficult because Mexico City was reluctant to admit that we had first-hand information locally from our colleagues, who wouldn't even divulge their names out of fear of reprisal. They were like, "What do you mean you know you said there's a positive case in Matamoros? Who told you that?" Our relationship with Tamaulipas, I think in part because of a change in administration there, has really gotten stronger than it was a couple years ago with Zika.

So, I think we ended up getting only a handful of cases over the course of the Zika outbreak, but maybe what I'm saying is ... it's not impossible to get some transmission of horrible viruses in areas of the border. That seems to be happening more and more over the last decade or so. One entomologist said, don't quote me, but mosquitoes don't know borders.

Everybody says diseases don't know borders, I love to say that, fortunately mosquitoes only travel like 100-yards, that's their range. It's people that are going to be crossing the border and then

maybe if there's poor vector control and good mosquito breeding areas and you might see transmission in places with poor sanitation.

In 1999, there was a big dengue fever outbreak in Nuevo Laredo which took us by surprise, because it is much dryer, it is not the Gulf environment. They have a mountains of tires and all kinds of solid waste management issues and they had a major outbreak there. That got our attention big time and there was a lot of talk about this.

What would you like people to know about the 2009 pandemic and how you and your agency and other agencies responded?

I do think that when there's a full-scale emergency that public health officials do a good job of communicating and coordinating. The outreach was significant across borders, state and federal communications. But I do think that the border is unique.

We're only 20 people here, and we're more of a facilitator and a coordinator, not really doing the big programs that are needed. But here's the thing that some people acknowledge who work on the border: the border region is one epidemiological region. Of course, there are two sovereign nations and states and a lot of barriers for cooperation on public health issues. There are barriers about crossing the border, and the same thing applies to public health measures. If you're going to do an adequate job from a public health perspective, it behooves you to look at it as one region, with all this dynamic flow of people back and forth and food that goes across that border and the immediate impact that is right there in those communities.

Having a disease surveillance system in place would be a worthwhile investment. And, of course, the agreements between the jurisdictions to share information. This actually applies to chronic disease prevention as well.

To better understand why diabetes and obesity is high on the Texas border, it really is worthwhile to know what's going on right across the border, the lessons learned, and the trends. These are all areas that we have been working on in the last 25 years, but what I wish is for the US-Mexico Border Health Commission to appreciate more fully and support a framework to transcend these barriers to public health cooperation. One leader there said that the Commission's job was leadership, and it should determine the focus and provide the venue to bring together binational public health professionals to address issues.

Because I speak Spanish and have traveled the border back and forth for 25 years, I feel like it's a deservedly special geographic region of our state. It has a lot of different characteristics from the other border states. Everybody gets annoyed at me when I say that, but everything's bigger. We have a lot of things in common with them as well of course across the entire border. The border is one epidemiologic region that should be invested in because it's such a dynamic region, but for whatever reason its underserved. Borders are often neglected and I'm not sure why. Politics are local and on the border they don't seem to have the representation or clout that they need sometimes. That's one reason I appreciated your report.

Robert Guerrero
Chief, Office of Border Health,
Office of the Assistant Director,
Division of Policy &
Intergovernmental Affairs,
Arizona Department of Health
Services

I think that people should be comfortable in knowing that our two states work together.

Robert Guerrero serves as the Chief of the Office of Border Health for the Arizona Department of Health Services. Mr. Guerrero functions as the primary liaison and point of contact between the Arizona Department of Health Services and the public health authorities in the State of Sonora. Mr. Guerrero has served as the ADHS Director's Delegate to both the United States-Mexico Border Health Commission and the Arizona-Mexico Commission's Health Services Committee for the last 15 years. As the Director's delegate Mr. Guerrero works closely with public health authorities in all ten of the states on the U.S.-Mexico Border and with both federal governments.

What specific measures did the state of Arizona take in 2009, and even more specifically what were you working on that year, what did that year look like for you?

We had actually been working for some time, the state, in developing a pandemic influenza readiness plan. Probably starting around 2006, the U.S. Department Health and Human Services was one of the areas that, as a nation, we were working on preparation for the eventuality of a pandemic influenza. There was a program that the U.S. Department Health and Human Services ran out of the Office of The Assistant Secretary for Preparedness and Response, known as ASPER. ASPER provided funding to both the U.S.-Mexico border and the US-Canadian border and to those border states. Originally, the funding came out of bioterrorism, but as the project matured, they really went to cover not just bioterrorism, but any infectious disease.

The program they were running at that time was called EWIDS, Early Warning Inspection Disease Surveillance. The big part of the EWIDS was the development of protocols of communication across the international border, whether it was the United States and Mexico or the United States and Canada. There was EWIDS running in, for instance the New York Office of Border Health. A lot of times you don't think of there being an Office of Border Health in those states, but there are. We worked closely with the state of Sonora developing these protocols, but they fit really nicely into the work that we were suddenly doing with pandemic influenza preparedness as well. For instance, specifically between Arizona and Sonora we began using our system of surveillance that we use in Arizona,] called MEDSIS, the Medical Electronic Surveillance Intelligence System. By using MEDSIS, it allows us to share clinical information on specific cases across the international border in a way that respects our federal laws, making sure that patient confidentiality was maintained at all times. We have to be HIPPA compliant with what we're sharing information across the international border.

That use of MEDSIS came out of exactly out of this type of preparedness. The actual use of MEDSIS didn't actually start until 2009 and there has to be a lot of preparation in advance to be able to do that.

Anything else on measures that the state took that year, policies, programs, personalities?

There were two mechanisms, actually three, but there was the United States Mexico Border Health Commission, which is a federal binational entity. The Secretary of Health of the United States is where the U.S. makes the Commission's U.S. section and the Secretary of Health of Mexico is the Commissioner for the Mexican side.

We would use the U.S.-Mexico Border Health Commission as our federal-to-federal communication. I serve as our director's delegate to that Commission, so that enabled me to talk with HHS, Department Health and Human Services, with the Mexican federal Secretary of Health, and with the six Mexican states and four U.S. states. That's how we communicated across the border, borderwide. But then in Arizona, there is the Arizona-Mexico Commission which is an office of our governor. They have a sister Commission called the Comisión Sonora-Arizona, which is an office of the governor of Sonora. Within that binational Commission, there are several work committees. One of them is the Health Services Committee. There are those two binational Commissions, the AMC, and the Comisión Sonora Arizona, but all the committees are binational in nature. Whenever one Commission meets all the board committees meet at same time and then vice versa when they meet in Mexico.

If you think about this pandemic influenza preparedness being worldwide, then how do you bring it down to our two states? That's how we brought it down and said, "what are Arizona and Sonora specifically going to do?" We were able to do this regional planning because these two Commissions view our area as one region, so instead of thinking of it as two states, if you started thinking about it as one region, in the world of public health you started thinking about it as one epidemiological region.

So, that means what happens on one side happens on the other side. Whether you're talking about non-infectious things like diabetes or about infectious, what happens on one side of the border happens on the other side of the border. By using this the state-to-state mechanism, we were able to start chipping away at what exactly needed to be done in order to use MEDSIS, in order to develop a regional pandemic influenza plan. Understanding that what was most important to us here in Arizona was really to keep Arizona safe, we needed to know what our colleagues on the Mexican side were doing. We would share our pandemic plan with Sonora, so that they would understand what we were doing and then they would share their plan with us. This put us on the same level, understanding what each side was doing, and then it allowed us to collaborate on what type of messaging we were going to be giving.

They used to kind joke around and say, "well it was those important things that your mother taught you when you were young, wash your hands, don't touch your face, stay home if you're sick." Those are the types of public health messages, which, interestingly enough, that's exactly what's going on right now with the COVID virus that's going on. The public health messages don't change: wash your hands as much as you can and then don't touch your face.

There was one other entity, it doesn't exist now, but at that time there was the United States-Mexico Border Governors Conference. The Border Governors Conference played a very important role because that brought the ten states together. Within the Border Governors Conference, which incidentally was modeled after the Arizona-Mexico Commission, there was the Health Work Table which consisted of the ten state health officers, the six Mexican and the four US state health officers and their delegates. I was the delegate to that as well.



2006 Border Influenza Pandemic Forum, Hermosillo. *From L to R: Mary Lou Valdez, Deputy Director for Policy, Office of Global Health Affairs, U.S. Department of Health and Human Services and Delegate of U.S. Secretary of Health and Human Services Michael O. Leavitt; RADM Craig Vanderwagen, M.D., Assistant Secretary for Public Health Emergency Preparedness, U.S. Department of Health and Human Services; Jose Raymundo López Vucóvich, M.D., Health Secretary, Secretariat of Health, State of Sonora (Host); Dr. Pablo Kuri Morales, General Director of Epidemiology, Secretariat of Health of México; Dr. William R. Steiger, Special Assistant to the Secretary for International Affairs, U.S. Department of Health and Human Services. Photo courtesy of Robert Guerrero.*

There was a way for the ten states to make requests to the federal government. On the Mexican side, it was a little bit more difficult because of their structure of government. They're not used to the states dictating exactly what they want, but one of the key areas that we worked on that was actually signed in 2010, was a document that allowed the sharing of epidemiological information of mutual interest.

But what the states wanted was the ability, for instance, for Arizona to connect directly with Sonora and with Sonora to directly connect with us, which is not the way our federal governments see it. The CDC likes to communicate with their counterpart in Mexico City, which is the Dirección General de Epidemiología, or the DGE. We were pushing back at the state level saying, "we need to have the ability to be able to communicate on a real-time basis when things are going on at the local level."

There has not been anything that's precluded me from communicating southbound, but there are Mexican federal *normas* or laws that inhibit the Mexican epidemiologist from picking up the

phone and notifying me of something real-time. We needed to work on that and make sure that Sonora could give us a heads-up if needed.

Just a clarification: the ten states are able to communicate through the Border Health Commission, is that right?

That's actually a little bit of an issue, because of the current administration. The Border Health Commission still exists, however, under Secretary Azar, the priority of the US section changed. That was a huge change in how the Commission as a whole operated; prior to that, any decisions that were made by the Border Health Commission were as much as possible binational decisions. Right now, the Commission is kind of at a weak point. It should be the point of contact for the border but right now unfortunately, it is not.

Just as a side note, Senator Tom Udall of New Mexico is introducing once again the Border Health Security Act. This year it will be the Border Health Security Act of 2020. Within that Act, there's actually a request for the EWIDS program to be brought back again.

How was the border context managed at that time?

From a purely economic and economic development standpoint, commissions like the Arizona-Mexico Commission, that's really the reason that they exist. The economies between Arizona and Sonora.

That was very important back in 2009, that the border remained open. I do remember that I got at least three calls from the ports of entry. One was at one o'clock in the morning from a Border Patrol agent who was worried because he had apprehended some undocumented aliens who were sick and he was worried that they had a pandemic influenza. He didn't know what he should do.? We were fielding those sorts of calls occasionally, "Oh my gosh what do we do?." It was just educating them, let's look at this sensibly and what normally do you do and go do that.

But it was so important to make sure that the ports stayed open because it would be such a huge economic hit. I mean you just see what's going on right now with the stock market, people getting spooked.

...And so a lot of it is rumor control, making sure that people are staying focused and not jumping to all sorts of conclusions.

What's interesting about COVID-19 is that this thing seems to be evolving quite rapidly and so you're seeing governments having to adjust their strategy on the fly. What would you say about the kind of management strategies that that were employed at that time and how well did they work?

Binationally, I talk about the three C's, communication, coordination and collaboration, in that order. We worked as much as possible trying to make sure that we had the communications channels wide open. We would look for every opportunity to coordinate our messages, not just messages to the public, but also exchange of information back and forth, making sure that we at all times knew what was going on in the state of Sonora and vice versa. We're doing exactly the same thing right now.

Yesterday, Dr. Gerardo Alvarez, who is the Director of Disease Control Prevention for the state of Sonora for the Ministry of Health, sent me a message and he said, if Arizona is going to do any sort of summit or conference for COVID-19 with our counties to make sure we let him know and he would try to come up as much as he could. I discussed that with Phoenix. I remember with the pandemic influenza, they did hold some very community-wide conferences, bringing in stakeholders at all levels. But this time around we're going to do it differently, they're actually planning to do video conferences and webinars that will be specific to each of the stakeholders. For instance, if you're going to do it with the school systems, they'll tailor to exactly the message that needs to go to that group. If you're going to do it with churches and synagogues, then you're going to tailor it to them.

And so, I was able to share that with Gerardo and say, okay we're not doing a big conference up here but what we will do is we'll let you know when the webinars are happening they can log on and see what we're telling the public. And that's what they're going to be doing with us, they're letting us know what's going.

They did share some information with us today and so that's how ADHS can see what's going on in state of Sonora. Mexico did announce that they had their first two cases [of COVID-19], so it was important for us to know what was going on. It may take a few days before that comes out in the press on the Mexican side and then everybody will know. But that just delays any fears, because it's usually when you have a lack of information that people start second-guessing about what's going on and getting worried.

What should people know about the 2019 pandemic, the response to it and how the border figured into it?

I think the biggest thing, and people are usually surprised at this, that regardless of political things that are going on, we had excellent communication with the public health authorities in Mexico. I think that's really important for people to understand, the importance of being able to share information and knowing that, when you look at a map of the United States and Mexico and you see the U.S. as one color and Mexico is either white or gray, it's not the way it is in real life. I think that people should be comfortable in knowing that our two states work together.

I remember being in Monterrey, Nuevo León, and I was getting ready to fly back. There was a travel advisory next to the gate about the U.S., telling travelers to be careful when traveling in the U.S. Sometimes people don't think about that, they just think that about here in the U.S. and worry about what's south of the border. Well, sometimes our colleagues south of the border are worried about what's north of the border.

So, I think by maintaining this strong collegial relationship I kind of feel like we're on the same side of the table dealing with the same issue.

I think that's just really important for the public to understand, how important binational communication is, whether it's infectious or non-infectious disease, but especially in infectious diseases. Understand that that we are sharing information, we are working on the same issues. We have had instances in the past, I think it was 2013, there was an outbreak of a neuromuscular paralyzing disease down in Yuma-San Luis. That was a true binational outbreak, and we had actually a Mexican epidemiologist that was helping us on the U.S. side, and we had Arizona epidemiologists crossing over to the Mexican side. Sometimes the public doesn't understand how

important it is that we're relying on each other's expertise to try to get to the bottom what's going on.

Dr. Gerardo Alvarez Hernández

Director of Disease Control and Prevention, Ministry of Health, State of Sonora, Ministry of Health^{vi}

Dr. Alvarez is a medical doctor with a doctorate in epidemiology and a master's degree in public health. He is a CONACYT national researcher, level 1 and has expertise in areas such as pediatric oncology and nutrition. He has worked as State Epidemiologist as well as Director of Epidemiology at Sonora's State Children's Hospital. He has won awards from the Mexican Health Foundation, the Mexican Oncology Society, and the federal Secretariat of Health.

The first question has to do with the history of cross-border collaboration leading up to the 2009 H1N1 pandemic.

I think that it is very important to understand that the collaboration between Sonora and Arizona is very unique regarding the U.S.-Mexico border. This relationship between Sonora and Arizona has become the model because this collaboration goes back sixty years. One principal that seems very important to me, apart from the political and/or academic collaboration, is that we are friends. I am going to say it like that because that is the reality. Now, starting from the fact that we are neighbors and more than neighbors, actually friends, one could say: "Well, we need to share certain information and develop common strategies that benefit one another." Particularly in the area of health, the collaboration has been very close due to the fact that Arizona's health department has an office for border affairs. The office has been directed, for a long time, by people from the academic world that have Mexican ancestry but, of course, are American citizens. They have developed a series of strategies and elements that date back before the surge of the influenza pandemic.

Actually, a really important topic that came up in 1999-2000 was regarding measles and food-borne infectious diseases. The CDC designed a strategy so that all of the border states would start with the same surveillance system, so that a hepatitis case here would be understood the same way in the United States, etc. Arizona and Sonora already had an information sharing system for a long time previous to that. This is structured specifically in each country's system of epidemiological surveillance. In that effort that was made in '99, the CDC and the federal Secretary of Health in Mexico, established a strategy to share operational definitions. That is to say, [it defined] what is a measles case for the United States and what is a measles case for Mexico. How can I identify them quickly given the amount of goods, people and other resources crossing the border? At that point, there was work and a lot of meetings along the entire border, and the CDC even published an article regarding binational surveillance. Afterwards, this work transitioned into a system of binational surveillance, so that by the time of the pandemic in 2009, there had been quite a bit of binational work leading up to this.

Sonora and Arizona have formal communication mechanisms. Formalized and approved by both state health departments. All of this transfers over to the Sonora-Arizona Commission, which has a health committee. There, you have all of the binational surveillance systems embedded. Arizona health personnel come to Sonora, they transfer their knowledge and their techniques, and we also go there and transfer our knowledge and techniques about how to handle epidemics. When the influenza arrived in 2009, all of the mechanisms of immediate transmission of information, of

identification, of technological resources to diagnose the illness... were already enacted. When the flu arrived in 2009, all of these protocols were implemented immediately and you what always happens in public health. We depend in good measure on our response capacity with available resources.

When resources don't exist or an epidemic of such magnitude cannot wait, we are confronted with limitations. But I think that the relationship that Sonora and Arizona have had facilitated many things: One, to transfer knowledge to build capacity with the health personnel. Two, the laboratory systems of surveillance that are in labs that allow us to identify epidemics and transfer at-risk people. Three, it allowed us to strengthen sanitary surveillance.

Why? Because the ports of entry, Customs etc., prepared themselves at that point to be able to identify suspicious cases.

There is a difference between the United States and Mexico from a technical standpoint. In this case, in particular, of influenza, our system requires that all of the confirmed cases of the flu be diagnosed through a lab, more specifically a state health lab. In Arizona, there is more capacity to identify cases in all kinds of labs. What does this mean? It means that the volume of cases of influenza is better in the United States with respect to this influenza case.

But our background of binational collaboration between Sonora and Arizona is from farther back than the flu epidemic.

Following the flu epidemic, the systems have solidified because we have followed, in this moment with coronavirus. We are exchanging information every single day, we have systems, formally established to transfer information regarding suspicious cases via a digital platform. Then, we exchange cases that are potentially part of an epidemic on completely encrypted platforms which guarantee anonymity. The important thing is that it is transferred via digital platforms that are part of our system of epidemiological surveillance in Mexico, Sonora and the state of Arizona. If we have an epidemic, if we have an epidemic outbreak, it immediately gets reported via a platform.

Was there special consideration for the 2009 pandemic because it originated in Mexico, or not?

Well no, the system is there for that specific purpose. In other words, it is not designed to identify, let's say an epicenter. It's designed to identify opportunely the presence of cases of epidemiological interest and to guarantee the transfer of patients. Let me give you an example: tuberculosis. When the state of Arizona identifies undocumented Mexicans who are going to be repatriated, first, they start the treatment, they hold them in a specialized center, and they notify us that they have a patient. An exchange that takes place at a port of entry, we go get them, we receive them, and we attend to them here, and we direct them to their home state from there. But those cases are very efficient in real terms because a patient's immigration status is involved. The department of health sends us this message: "I have this patient," there is going to be an exchange of patients. We put the epidemiological team on it, they go for them, etc.

Let me give you an example regarding a contemporary epidemic: cholera. A given cholera pandemic might have its epicenter in Haiti, or Bolivia, or Peru, for example. But epidemics have the capacity to spread rapidly. At that point, there really is no sense in discussing what happened in the epicenter. With coronavirus, it originated in China but today, with globalization, there's really no reason anymore to maintain that label, such as in 2009 when it was called "the Mexican

influenza.” A pandemic is an epidemic that occurs in two or more continents. Today, the WHO declared coronavirus a pandemic, but in reality, that should have happened a long time ago. Why? Because there were cases on two or more continents. That’s what happened with the 2009 influenza in Mexico...though the system wasn’t specifically designed for influenza. We were always asked, “How do you handle communication between your two states?” The Sonora-Arizona Commission has the health committee and the office of border affairs works with that.

Was there something in particular about H1N1 that you remember in terms of what happened first in terms of cross-border collaboration?

It seems to me that two actions were fundamental. One was the immediate exchange of epidemiological information. That is to say, what are the cases and high-risk areas, or areas with epidemic activity. We have that information updated all the time. We use a system that in Mexico is called SISVEFLU. The Influenza Surveillance System. In Arizona, I’m not sure what the name is. Second, the transfer of knowledge in order to build capacity of health personnel. I wouldn’t say that either is more or less important because they occur simultaneously and very quickly. They are a perfect complement for federal efforts in both countries.

Was there any thought or effort in 2009 regarding the closure of the border?

I don’t believe so, I don’t remember that being proposed in 2009. I also don’t think that this would be reasonable from a technical standpoint, If you look at the history of influenza and other infectious diseases, mathematical models show that if you had a total closure of the U.S.-Mexico border, the reduction in influenza would be only 25% effective. Why? Because when there is a decision or a recommendation of that type, that is to say, a political decision that also has to do with economic and other non-health related factors, the virus is already spreading, it has already happened. The countries in 2009 that had active transmission had community spread despite closing their borders. Now, when borders are closed because of particularly bad infections, the key data point is if you have a fever. You are asked, “Do you have a fever or cough?” And they go ahead and measure your temperature and if you don’t have a fever, you may pass. But the virus is incubating.

And two or three weeks later you develop symptoms. So, then the border closure was never really based on reality. No, in 2009, I don’t remember that that was brought up as a possibility. Nor does it seem to be a good step to take as I said because it needs to be based on symptoms, and diseases have incubation periods in which you can be contagious. So, in reality the decision to close borders to imports is more of a political than technical decision.

Lessons Learned from the 2009 H1N1 Crisis

The U.S.-Mexico Border: Neither a Wall nor a Membrane in 2009

One of the key lessons mentioned by several interviewees is the relatively small operational role that the U.S.-Mexico border played in the 2009 pandemic. The U.S.-Mexico border is, as Arturo Sarukhan noted, ideally supposed to function as a “membrane,” letting legitimate trade and travel through while screening out what the two governments want kept out. Generally speaking, this does not work well in a public health emergency such as what we saw in 2009.

Several points stand out. For one, by their nature pandemics are global events that often move faster than national governments can institute border control policies. Several interviewees (either highly experienced diplomats or public health personnel) spoke of the rapid and often overwhelming pace of events in April 2009. Second, for practical reasons relating to the huge number of daily crossings of people and goods at the U.S.-Mexico border, when instituted, border epidemiological surveillance policies and practices were based on a quick verbal survey looking to elucidate self-reported symptoms on the part of border crossers. This is a system, yet not a failsafe system. As Dr. Alvarez noted, viruses often have an incubation period in which symptoms have not yet presented themselves and potential carriers are not themselves aware that they are carriers. Thirdly, as related in the Robert Guerrero’s anecdote, border security personnel are key parts of the membrane that may not always be sure of how to interpret federal border policies, particularly those relating to health, which are instituted irregularly.

As Leslie Bassett noted from back and forth with Dr. Anthony Fauci in 2009, each pandemic has its own dynamic and requires a new and highly customized set of policy responses based on various factors. And 2020 played out differently than 2009. What we saw earlier this year with the COVID-19 pandemic, essentially because of the rapid transmissibility of the virus, was a situation deemed largely beyond the control of an insufficiently prepared U.S. and Mexican national security, homeland security, and public health apparatus. The partial border closure can be seen as a measure undertaken in order to be effective at the margins of a set of policies anchored by stay-at-home orders mandated by state governments—for a virus in which effectiveness at the margins could translate several days in the future into significant savings in health system capacity in both the United States and Mexico.

Cross-Border Collaboration in 2009

The federal governments were very aware of the possibility of a pandemic and took steps to ready the respective bureaucracies. Their coordination had its roots in the response to the 2001 anthrax attacks and the three governments’ concern regarding the 2003 SARS outbreak in Asia. This is the collaborative “muscle tone” mentioned by Arturo Sarukhan.

Second, the large U.S., Mexican, and Canadian federal governments operate in a quantitatively and qualitatively different manner in crises. Even without truly robust trilateral or bilateral institutions with the power to deploy resources in emergencies such as the 2009 pandemic, normal bureaucratic turf wars were set aside and the federal agencies tasked with working with Mexico functioned smoothly if not seamlessly in an emergency context. The 2009 pandemic took place when the three governments were already on a clear post-9/11 operational footing, with the collaborative exercise of the Security and Prosperity Partnership firmly grooved into the institutional memory of the three federal governments. And we saw bilateral collaboration taking

place because it absolutely had to take place in order to protect citizens, trade, and travel, and even policymakers themselves in a crisis, as we saw in the case of President Obama's state visit to Mexico in April 2009.

The interviews of two federal officials and three state officials showed the "pain points" of U.S. and Mexican federalism and the limits of some forms of bilateral cooperation. Clearly, bilateral organizations that are set up to address public health issues—such as the U.S.-Mexico Border Health Commission—can offer important venues and strategic direction for border-focused public health efforts but do not possess an operational capacity to deal with public health emergencies (these are the purview of federal and state bureaucracies). States must deal with a wide and worrying range of chronic and infectious disease surveillance every day and then take a back seat to the federal governments for large-scale emergencies such as pandemics. U.S. border states, which possess a wide amount of latitude to make and implement health policy, often struggle with the Mexican federal model in which states more often than not defer to the federal government. This situation requires creative and collaborative solutions on the part of state officials; state-level institutions such as the Arizona-Mexico Commission/Comisión Sonora-Arizona can often create confidence, relationships, and helpful protocols for the dynamic border context.

Bureaucracies are sometimes surprisingly resourceful, as the 2009 pandemic clearly showed. They display a remarkable ability to cut through red tape, marshal resources, and create new binational protocols both from trial and error and in the middle of a crisis. In 2009, these crisis management skills built upon years of diplomatic exchange spanning multiple administrations in not only Mexico and the United States but also Canada. And the supporting roles played by state and local agencies as well as their own creative subnational diplomatic efforts lent valuable support in the strategic U.S.-Mexico border region.

The enormous amount of trade and travel across the U.S.-Mexico border each day makes the region essentially integrated from an epidemiological perspective. If disease pays little heed to the border then governments must create dynamic mechanisms to work across it. The case of H1N1 demonstrates the importance of regional coordination on public health and is truly a success story. It suggests that binational and trinational planning and confidence building measures pay off in times of crisis and are therefore worthy of considerable investment during periods of calm. Every public health crisis is unique and will require significant improvisation, but that only emphasizes the need for diligent planning in the areas that can be foreseen and issues that repeatedly arise.

Notes

ⁱ “2009 H1N1 Pandemic (H1N1pdm09 virus), Centers for Disease Control and Prevention, <https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html>

ⁱⁱ Lara, Francisco, “Quality of Life,” in Lee, Erik and Christopher E. Wilson, *State of the Border Report: A Comprehensive Analysis of the U.S.-Mexico Border Region*. Washington, DC: Woodrow Wilson International Center for Scholars, 2013.

ⁱⁱⁱ Rudman, Andrew I. and Duncan Wood, “Pandemics and Beyond: The Potential for U.S.-Mexico Cooperation in Public Health,” Washington, DC: Woodrow Wilson International Center for Scholars, 2020.

^{iv} “2009 H1N1 Pandemic (H1N1pdm09 virus), Centers for Disease Control and Prevention, <https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html>

^v “2009 H1N1 Pandemic Timeline,” Centers for Disease Control and Prevention, <https://www.cdc.gov/flu/pandemic-resources/2009-pandemic-timeline.html>

^{vi} Interviewed by Remigio Martínez Cantú.

About the Author

Erik Lee is Executive Director of the North American Research Partnership, a member of the Good Neighbor Environment Board, a Fellow with the Arizona Civic Leadership Academy and a board member of the Border Youth Tennis Exchange. He is passionate about the highly strategic, and misunderstood U.S.-Mexico border region and innovative work that brings together areas such as international trade, crossborder economic development and environmental sustainability. He is co-editor and author of a number of publications, including *The Impact of the USMCA on Arizona* (2019), *The U.S.-Mexico Border Economy in Transition* (2015), *the State of the Border Report: A Comprehensive Analysis of the U.S.-Mexico Border Region* (2013) and *The U.S.-Mexican Border Environment: Progress and Challenges for Sustainability* (2012). His work and commentary have been featured by a variety of media outlets including the Associated Press, the New York Times, The Economist, public radio, the Arizona Republic, the San Diego Union-Tribune, and the El Paso Times, among other outlets. He received his master’s degree in Latin American Studies from the University of California, San Diego and his bachelor’s degree from the University of Arizona.