

## **Assessing Binational Disease Surveillance and DHS Personnel Needs along the US-Mexico Border**

### **Workshop Purpose**

The purpose of the Cross-Border Threat Screening and Supply Chain Defense (CBTS) Border Health Workshop with the Scowcroft Institute of International Affairs at the Bush School of Government and Public Service at Texas A&M University, was to assess the needs of Department of Homeland Security (DHS) personnel stationed along the border and gaps that exist in binational disease surveillance and prevention. Although there are many areas of potential study, this workshop focused specifically on issues of binational disease surveillance along the Southwest border between US and Mexico, and infectious disease training for frontline DHS personnel. These two topic areas are vital to US homeland security because adequate surveillance can prevent diseases from entering the country or can limit spread within and from the border region, and infectious disease training can help DHS frontline personnel protect themselves from infection.

The secondary purpose of the Border Health Workshop, beyond identifying the gaps in these primary topic areas, was to identify areas of further research or development that could help to reduce or eliminate those gaps. Our recommendations for further research are outlined at the end of this report. Before discussing research recommendations and gaps identified during the Border Health Workshop, this report will briefly review local, state, and federal perspectives on challenges and capabilities in the US-Mexico border region.

### **The US-Mexico Border: Local, State, and Federal Perspectives**

The US and Mexico share nearly 2,000 miles of border and have a dynamic history of social and economic ties that include approximately 350 million legal crossings and billions of dollars in trade each year. While DHS is the lead agency for border security, it works closely with numerous agencies including Health and Human Services (HHS) – Centers for Disease Control and Prevention (CDC) and the US-Mexico Border Health Commission for aspects related to human health. There is collaboration amongst health officials in the US and Mexico at local, state, and federal levels that is designed to help limit the spread of infectious disease across the border, protect human health along the border, and to improve and promote health amongst travelers, migrants, and other mobile populations.

With regard to the federal government perspective of challenges and capabilities in the border region, the CDC and DHS play primary roles in infectious diseases surveillance, prevention, and training. Many members of both DHS and CDC remarked that, currently training and prevention programs are effective in accomplishing their missions, but there are still training

and surveillance gaps. Some of these gaps are likely due to the nature of binational relations, but others could be addressed by expanding programs.

The state perspective was the least represented at the Border Health Workshop, but it was still possible to determine that, overall, state-level representatives felt there was good collaboration between themselves and federal-level entities. This has mostly allowed them to support local agencies and work binationally with representatives from across the border.

The local perspective on disease surveillance and training differed slightly from both the state and federal perspective. Local representatives often felt like they had to find their own information and develop their own programs, with limited outside support. There were also health-related concerns that extended beyond just infectious disease to drivers of infectious disease such as food security and poverty.

These differing perspectives provide valuable insights into some of the challenges of addressing a complex, multidisciplinary issue such as infectious disease surveillance and training in a region like the US-Mexico border. All of these perspectives helped to provide a clearer picture of the challenges and capabilities and have assisted in developing the recommendations for further research provided at the end of this report.

### **Binational Efforts Needed to Improve Response to Infectious Disease Events**

Collaborative efforts between the United States and Mexico have been ongoing since 1963 when the United States Mexico Border Health Association Meeting was established. In 1994 Public Law 103-400 was passed and formed the US-Mexico Border Health Commission, which is one of the foremost authorities on binational health along the US-Mexico border. While these collaborative efforts have had some success, they also have limitations. COVID-19 further brought to light some of the main challenges and gaps in binational disease surveillance and response. During Day One of the Border Health Workshop, Customs and Border Patrol (CBP) and Centers for Disease and Control and Prevention (CDC) representatives focused on ways to strengthen capabilities of frontline personnel and pivot in a direction that improves response efforts to infectious disease events.

Workshop participants discussed some of the challenges they face due to structural differences between the US and Mexico public health systems. Most commonly, this discussion centered on the more centralized nature of Mexican public health versus American public health. Members of CBP and local public health often struggle to work seamlessly with their Mexican counterparts because of incompatible systems. These differences make it difficult to share epidemiological surveillance information, especially in situations where data needs are urgent. There are also different procedures and data methods being used on either side of the border to assess risk, which makes it difficult to have a coherent binational system. Workshop participants

agreed that a binational shared system that works to exchange particularly sensitive patient and/or disease information would be of great benefit.

Additionally, a lack of capacity and high turnover rates in public health personnel on the Mexico side makes it difficult for the US counterparts to receive timely epidemiological data. CBP and CDC representatives identified that stronger rapport between departments and agencies and not just informal relationships would be of great benefit to improve cross-border communication. Some participants stated that they rely too heavily on informal communication because the communication structures make it inefficient to communicate in any other manner. Some suggested that signing an MOU to standardize the flow of information would improve the ability to integrate received information. During the workshop it was mentioned that New Mexico and Arizona, have an improved communication system that works well with its sister state. It streamlines communication by allowing its sister state to have access to the specific system they created. This provides the US state with the new information in an efficient and timely manner. Another suggestion made by participants was to find opportunities that allow for in-person collaboration. This would help build a good working dynamic between sister cities/jurisdictions. The Border Health Commission could be leveraged here to help foster communication and collaboration, along with finding additional and consistent funding streams.

A third discussion during Day One of the workshop focused on zoonotic disease surveillance and prevention. A zoonosis prioritization tool that also tracks the movement of live animals in the border region is considered a high priority to CBP. Participants emphasized that this would be an asset because they often encounter live animals that come from countries south of Mexico and it is vital to know what signs infected animals present with the diseases prevalent to the region, for awareness and response purposes. Taking a more “One Health” approach to health security (public health/border security) was discussed. For example, the development and incorporation of a zoonotic (diseases transmissible between animals and humans) and phytonotic (diseases transmissible between plants and humans) disease surveillance system. This would also be an opportunity to involve binational counterparts as there is a lack of capacity, education, and outreach in Mexican states with respect to emerging diseases. Emphasis on an epidemiological data component of this surveillance system would allow for ease of communication and sharing of binational information since data would require very little translation. Building such a system would also aid CBP in receiving more detailed and timely information that is pertinent to their day-to-day field operations and responsibilities. Discussions during Day One of the Border Health Workshop ultimately resulted in underscoring that the incorporation of a zoonotic and phytonotic infectious disease surveillance system would be very valuable to frontline personnel.

The final topic discussed among some breakout groups during Day One was the need to develop and deploy point-of-need diagnostics. For example, providing frontline personnel with rapid testing kits for a variety of likely human, animal, and plant diseases. Participants believed

that point-of-need diagnostics could supplement training and expand frontline personnel's ability to determine isolation and quarantine needs, as well as allowing them to better protect themselves from contagious pathogens.

### **Customs and Border Patrol Infectious Disease Training Needs**

The challenges of frontline Customs and Border Patrol (CBP) officers are typically viewed as learning how to identify drugs, making sure people can legally cross the border, and transferring and managing individuals who have crossed the border illegally. And while understanding and identifying infectious diseases -- both animal and human -- is vital to the safety of frontline workers and the health of the entire nation, little is known about the type and extent of training CBP officers receive. During an extensive literature review of binational health issues, no peer-review articles or government reports were found that detailed infectious disease specific training or measured the effectiveness of training. Due to the complete gap of information in the academic and government literature, it was particularly important to understand what type of training is occurring and what type of training is required to better protect CBP officers.

Day Two of the Border Health Workshop sought to understand and address issues facing CBP officers with regards to infectious diseases and infectious disease training. Several representatives from DHS, and CDC stated that thousands of officers are trained every year to identify prioritized infectious diseases. Each officer receives approximately 24 hours of training with the CDC and some officers receive additional training from the US Department of Agriculture (USDA), which allows them to become agriculture specialists. These individuals become experts in identifying animal diseases that could be disastrous for US crop and livestock production after conducting 288 hours' worth of training. In addition to this, the CDC operates two quarantine stations along the US-Mexico border; one located in San Diego, CA and one located in El Paso, TX. Frontline CBP officers are trained to isolate individuals who show signs and symptoms such as fever, and contact the CDC quarantine centers.

Several local CBP offices noted that they had developed additional resources beyond the standard training modules in order to broaden their officers' knowledge base and try to keep them up-to-date on disease threats. This training typically took place in the form of informational videos playing on repeat in shared spaces or short briefings at the beginning of each shift. These brief training activities were believed to increase officers' awareness of disease threats and improve their ability to identify and respond to those threats. Additionally, some stations provided their officers with reference guides that they could carry on their person. This allowed them to check for specific symptoms or response guidelines and put less emphasis on remembering exact details. The stations that used these reference guides believed that it had improved the knowledge of their officers.

Despite the presence of training at the CBP Academy and station level actions taken to increase training, most at the workshop agreed that gaps remained. Many participants agreed that there is a need for more information, particularly timely information on disease threats. However, all individuals stressed that any information provided must be targeted and brief. CBP officers already have significant amounts of training in a variety of areas and training typically takes the officers away from the frontlines for the duration of that training. The removal of officers for training can strain stations that might already be stretched thin. Despite these concerns, DHS participants acknowledged the need for additional training, particularly in the area of zoonoses to better protect themselves.

When discussing the most important gaps in infectious disease training for frontline workers, participants identified the need for more training, more timely information sharing, and greater collaboration with law enforcement on the Mexican side of the border. With regards to the need for additional training, it was discussed that many trainees come into the Academy with a limited background in biology. Therefore, it is important to provide training that allows them to understand the basics of disease and disease spread. Some individuals mentioned that regular refresher training on diseases, disease threats, and identifying priority diseases could help frontline workers better protect themselves and the country. Without this additional training, it is likely that they could forget some of what they learned at the Academy, or not feel as confident in identifying disease signs and symptoms. It was noted by all participants that any additional training should be kept short and that it could be best applied by integrating it into the routines of officers.

With regards to the need for more timely information, many participants commented that it would be helpful to receive relevant disease information more quickly. This would allow the frontline workers to be up-to-date about disease concerns and could change the focus of what they should be looking for. For example, if several cases of dengue fever have been identified in the region, that information should be transmitted to CBP officers, not just so that they can look for specific signs of dengue, but also so that they can make sure to adequately protect themselves. Sometimes the timeliness of information can make a significant difference in preventing the disease's entry into the country or infection of CBP officers.

The final gap that Day Two workshop participants identified was a need for greater collaboration between US law enforcement along the border and Mexican law enforcement along the border. Many stated this was particularly important in disease identification. For example, if a cluster of cases is identified in Northern Mexico, CBP officers who work in the region across the border from where cases were identified, should learn about those cases. This could help better prepare CBP as they conduct surveillance at ports of entry and reduce the chances of infectious disease spread within the United States.



## **Topics for Further Research Consideration**

The Border Health Workshop identified several areas in which further research and investigation could lead to significant improvements in binational disease surveillance and prevention, as well as overall border health. These areas include: ways to improve binational communication; development of zoonotic disease surveillance programs; and infectious disease training development. Below each of these areas of research is discussed in more detail.

### *Improving Binational Communication*

Throughout the workshop the challenges of binational communication were a consistent theme. Some of the communication challenges appear to be the result of different public health system structures and much of the most important disease communication at the local level tends to come through informal channels. Despite agreement on the need to improve and strengthen communication, there isn't sufficient information on why communication breakdowns occur or how they can be prevented. For this reason, it is important to conduct research examining the causes and consequences of ineffective binational communication in order to improve both communication and disease preparedness along the US-Mexico border.

### *Data Integration*

There is a challenge in integration of information at all levels (local, state, federal, binational). Ad hoc forms are effective, but there could be opportunities to establish better forms. This would include a more structured way for data entry and sharing; for example in dashboards. A survey of existing platforms and data integration needs could help binational data flows. There is a good example in use in Arizona, but data flow is more unidirectional, whereas in New Mexico, parties have access to the same data. Other needs in this space include decreasing obstacles to access, continuity as people change jobs, and access needing to cross different levels from local to federal. The idea of a minimum viable product that is "good enough" is key. In addition, there is a need for binational case definitions to keep data comparable.

### *Development of Zoonotic Disease Surveillance Programs*

Over the last several decades there has been a strong focus on developing disease surveillance and prevention programs that address human diseases and programs that address animal diseases. Programs that specifically address zoonotic diseases, however, are rare. As zoonotic diseases continue to make up an increasing percentage of emerging diseases, there is a need to develop such programs. In order to develop effective programs, research must be done on the biggest zoonotic disease concerns along the border and ways in which existing infrastructure and personnel can be utilized to maximize the effectiveness of new zoonotic disease programs.

### *Point-of-Need Diagnostics*

The COVID-19 pandemic has helped to demonstrate how useful point-of-need/point-of-care diagnostics can be in tracking the spread of disease. The introduction of point-of-need testing along the US-Mexico border could also assist in better understanding the binational spread of infectious disease and allow frontline personnel to better protect themselves from infection. Further research is needed, however, to understand what types of rapid tests would be most effective, what diseases should be included in the rapid tests, and how best to train frontline workers in rapid test administration and result utilization.

### *Infectious Disease Training Development*

The COVID-19 pandemic emphasized the importance of providing timely infectious disease information to DHS frontline personnel. This information was vital to help personnel protect themselves from infection and prevent disease from spreading further within the United States. During the Border Health Workshop many participants acknowledged the need for further infectious diseases training, but such training must be balanced with existing demands on personnel time. For this reason, further research is needed to design brief, effective infectious disease training programs for frontline personnel. Additionally, research should be conducted on how often infectious disease training should be refreshed or reviewed.