

# Early Warning Infectious Disease Surveillance Project (EWIDS)

## United States—Mexico Border Infectious Disease Surveillance, Epidemiology and Laboratory Capacity Survey

### *Final Report*<sup>1</sup>

#### Abstract

The goals of the survey were met. The resources that exist for infectious disease surveillance, epidemiology and laboratory functions were identified. Mechanisms for reporting both routine and emergent infectious diseases, as well as the personnel and agencies responsible for reporting, were documented. The systems in existence for infectious disease outbreaks and the coordination of investigations were described. Key personnel and systems responsible for infectious disease reporting, epidemiology, response and laboratory testing are listed in the Directory below.

Surveys were distributed to personnel in agencies from the States of New Mexico, Texas and Chihuahua, Mexico, and medical providers located within this tri-state 'Border Region' responsible for infectious disease surveillance and epidemiology.

Results of the analysis of the 43 survey respondents indicates there is currently limited binational coordination of epidemiology, surveillance, and reporting of infectious disease, but that many opportunities exist for improvement. The number of personnel adequately trained to conduct infectious disease investigation and control, and especially those with bilingual capability, is inadequate to meet epidemiology and surveillance demands. Nearly all respondents indicated that they are aware of required procedures for reporting infectious diseases found on the respective States' Notifiable Conditions lists and report accordingly.

Survey results indicate that medical providers in the US have, essentially, no relationship with their counterparts in Mexico—a role deferred to their respective State Departments of Health. Protocols have yet to be formalized at the level of the US and Mexican Federal governments to facilitate reporting binational infectious disease cases. It was also discerned that medical providers, and some members of health departments, have only a limited understanding of what constitutes a binational disease case, are not detecting these as part of their case investigations, and thus do not report them or manage them as binational cases. Correctional facilities are likely to have binational disease cases, but these are not being detected, investigated or managed binationally. Also, a lack of health emergency preparedness plans among responding agencies and organizations is noteworthy, in light of the fact that none of the existing plans is being coordinated binationally.

A series of recommendations is offered to infectious disease reporting authorities, as well as medical providers, in the three-state Border Region. Recommendations are intended to capitalize on the existing strengths and opportunities in surveillance and reporting. Most of the recommendations following from this survey do not require additional funding. Rather, they promote improved communication and coordination among State and Federal public health agencies, as well as medical providers, to align binational operational strategies and activities.

#### **A. Purpose, Goals and Methodology of the Survey**

The Early Warning Infectious Disease Surveillance Project (EWIDS) was initiated in 2004 in response to potential terrorism threats involving biological agents that could create outbreaks of communicable diseases on the North American continent. EWIDS objectives include strengthening capacities in surveillance and epidemiology, laboratory testing for biological agents, surveillance related

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communication and information technology, and surveillance and epidemiology training and education. The Project consists of two interrelated initiatives, the first of which is funded through the US-Mexico Border Health Commission (USMBHC), with membership of the two federal secretaries of health, the chief health officers of the four US and six Mexican border states, and prominent community health professionals from both countries. The second initiative focuses on enhancing cross-border surveillance and epidemiological capacities within the 20 US states that share borders with Mexico and Canada. The New Mexico Department of Health (NMDOH) has received funding under this second initiative to improve cross-border infectious disease surveillance and epidemiology with its Mexican counterparts in their mutually-shared Border Region. The current survey represents one of the activities being carried out by NMDOH to address EWIDS objectives.

## 1. Purpose and Goals

The *purpose* of this survey is to assess infectious disease surveillance, epidemiology and laboratory capacity along the U.S.-Mexico border region encompassing the New Mexico, El Paso County, Texas and the State of Chihuahua, Mexico as may be applied for both routine and emergent public health issues.<sup>2</sup> All US and Mexican border States have regulations that define diseases and medical conditions that must be reported to their respective State and/or Federal authorities in order to initiate appropriate public health responses. These regulations exist to protect and maintain the public's health on both sides of the border.

The *goals* of this survey and analysis of its results are as follows:

- i. Answer the following questions:
  - What resources exist for infectious disease surveillance, epidemiology and laboratory functions;
  - What are the procedures and mechanisms for reporting both routine and emergent infectious diseases, locally, regionally and nationally;
  - Who is responsible for reporting;
  - Who is responsible for coordinating investigations and epidemiologic response;
  - Which agencies receive infectious disease reports locally, regionally and nationally; and
  - What systems exist to respond to infectious disease outbreaks?
- ii. Provide the results of this survey back to respondents during a binational meeting in order to validate the findings. Meeting participants' input will be incorporated into a final written report that describes the epidemiology, surveillance and reporting procedures used in New Mexico, El Paso County, Texas and the State of Chihuahua, Mexico.
- iii. Establish a *Directory of Key Personnel Responsible for Infectious Disease Surveillance and Reporting in the Border Region of Southern New Mexico, El Paso County, Texas and the State of Chihuahua, Mexico* (Directory) to facilitate communication and collaborative investigations and response in the event of an infectious disease case/outbreak or bioterrorism incident.

## 2. Methodology

The general methodology consisted of the application of a survey instrument to a predetermined sample of staff of public health agencies and public and private medical services providers in Southern New Mexico and El Paso County, Texas. In the case of Mexico, the survey instrument was used as a guide to

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<sup>2</sup> The "Border Region" is defined as the area encompassed within 100 kilometers perpendicularly to either side of the US-Mexico International Border.

compile information concerning the epidemiology, surveillance and laboratory capacity for Chihuahua State Health Services from local key informants, further complemented with interviews of officials with the Federal Health Secretariat located in Mexico City. On August 31, 2006, a meeting was held in Las Cruces, New Mexico to present, analyze, discuss and validate the preliminary results of the survey. A contractor was hired to apply the survey, carry out follow-up interviews in both the US and Mexico, analyze results of the survey, organize and deliver the validation meeting, and prepare the current final report together with the Directory.

### **a. Survey Structure**

The survey instrument was developed in draft by staff of New Mexico Department of Health's Epidemiology and Response Division/Infectious Disease Epidemiology Bureau. The draft was then circulated among staff of the Offices of Border Health of the States of Texas, Arizona and California, and the Centers for Disease Prevention and Control (CDC) for comment and uniformity with similar initiatives under the EWIDS Project. A series of 16 core questions, agreed to by all parties, were included in the final survey instrument, along with 28 questions of interest to the New Mexico Department of Health EWIDS Project objectives. The survey was then translated to Spanish to facilitate its application in Mexico. Both English and Spanish survey instruments are presented in Annex 1 of this report. The final survey instrument grouped questions into the following sections:

- *Introductory Page*, with definitions of the purpose and goals of the survey;
- *Terms and Definitions*, as used in the context of the survey;
- *Demographic Information*, of the person completing the survey and his/her organization;
- *Surveillance and Epidemiology Capacity*, regarding staff, their bilingual capacity and 24-hour availability, and surveillance activities in the US and Mexico;
- *Disease Reporting*, in terms of who does reporting and to what agencies during normal and after hours;
- *Binational Relationships*, ascertaining the nature of any binational collaborations in epidemiology, surveillance or infectious disease reporting, as well as binational responses to disease outbreaks and perceived priorities for, and barriers to, such collaborations;
- *Infectious Disease Investigations*, indicating capacity to carry out investigations and case interviews, communication/reporting procedures in the event of detecting a binational case, and barriers to coordinating binational disease investigations; and
- *Laboratory Capacity*, whether in house and/or outsourced, types of testing available, availability of emergent testing, collaborations with Mexican counterparts, and barriers to such collaborations.

### **b. Selection of the Survey Sample and Response Rate**

The sample universe was selected considering the nature of medical services providers, and time and logistical constraints. It was decided that private practices (doctors' offices, small private clinics and specialized medical service providers) would be excluded as these number in the hundreds. Those clinic and hospital sites that see numerous patients and/or coordinate public health programs were included: community health centers (non-government, for profit and non-profit), public and private hospitals, all State and local public health agencies (including relevant staff at regional and local health offices), educational institutions' health service sites, and correctional facilities. Due to their unique nature in the Border Region, two Federal agencies were included in the sample: the Immigration and Customs Enforcement/El Paso Service Facility, which has a holding facility for undocumented immigrants that are in process for return to their countries of origin, and the Centers for Disease Control and Prevention/El

Paso Quarantine Station, which exerts control over movement across the border of individuals infected or exposed to communicable diseases, as well as diseases and other biological agents that could threaten human health and safety.

As indicated in Table 1, 49 survey instruments were distributed to the pre-selected sample. Of these, 43 surveys were returned for an 88% response rate. While six entities within the pre-selected sample did not return surveys for a variety of reasons (lack of time, dedication to other priorities, E-mail problems), relevant staff were included in the *Directory of Key Staffs Responsible for Infectious Disease Surveillance and Reporting in the Border Region*. The response rates for agencies and medical service providers making up the pre-selected sample are summarized below.

**Table 1: Total Number of Surveys Distributed and Response Rates**

<b>Geographical Location</b>	<b>Surveys Distributed</b>	<b>Completed Surveys Received</b>	<b>Response Rate (%)</b>
<b>New Mexico</b>	30	27	90
<b>El Paso County, Texas</b>	14	12	86
<b>Federal Agencies</b>	4	3	75
<b>Chihuahua State Health Services</b>	1	1	100
<b>TOTAL</b>	<b>49</b>	<b>43</b>	<b>88%</b>

The 43 respondents to the survey represented a broad range of public health agencies and private medical services providers in Southern New Mexico and El Paso County, Texas, as well as the Chihuahua State Health Services Epidemiology Sub-Directorate in Mexico. Responding entities were distributed into homogeneous groups to facilitate analysis of survey results. The following groups and their corresponding agencies and medical services providers participated in the survey:

- **Community Health Centers**

- New Mexico (5 respondents representing 19 clinics)

- Ben Archer Health Centers, with a total of 7 clinics located in Hatch, Truth-or-Consequences (2), Doña Ana, Columbus, Deming and Alamogordo
    - La Clínica de Familia, with a total of 9 clinics located in Las Cruces (4), Anthony, Chaparral, San Miguel, Santa Teresa and Sunland Park
    - White Sands Family Practice Clinic (Alamogordo)
    - Hidalgo Medical Services (Silver City)
    - Hidalgo Medical Services Rural Family Practice (Lordsburg)

- El Paso County, Texas (2 respondents representing 11 clinics)

- Centro San Vicente, with a total of 3 clinics located in El Paso
    - Centro de Salud Familiar La Fe, with a total of 8 clinics in located in El Paso (6), San Elizario and Westway

● **Hospitals**

New Mexico (6 respondents)

- Memorial Medical Center (Las Cruces)
- Mountain View Regional Medical Center (Las Cruces)
- Mimbres Memorial Hospital (Deming)
- Gerald Champion Regional Hospital (Alamogordo)
- Gila Regional Medical Hospital (Silver City)
- Fort Bayard Medical Center (Fort Bayard)

El Paso County, Texas (6 respondents, all in El Paso)

- Thomason Hospital
- Southwestern General Hospital
- Sierra Medical Center
- Providence Memorial Hospital
- Del Sol Medical Center
- Las Palmas Medical Center

● **State and Local Government Agencies**

New Mexico

- New Mexico Department of Health, including nurse managers of 6 Local Health Offices (Southern New Mexico) and 3 regional staff of Region V (Las Cruces), and the Scientific Laboratory Division (Albuquerque)
- New Mexico Environment Department/Las Cruces Area Office
- New Mexico Department of Corrections (Santa Fe)

El Paso County, Texas

- Texas Department of State Health Services—Region 9/10 (El Paso) and the Laboratory Services Section (Austin)
- El Paso City-County Health and Environmental District

● **Federal Agencies**

- Immigration and Customs Enforcement/El Paso Service Facility
- Centers for Disease Control and Prevention/El Paso Quarantine Station

● **Correctional Facilities**

New Mexico

- Doña Ana County Detention Facility (Las Cruces)

- Southern New Mexico Correctional Facility (Las Cruces)  
New Mexico and El Paso County, Texas
- Federal Corrections Institution “La Tuna” (Anthony, Texas/New Mexico)
- **Educational Institutions**  
New Mexico
  - New Mexico State University Student and Employees Health Centers (Las Cruces)
  - Western New Mexico University Student Health Services (Silver City)  
El Paso County, Texas
  - University of Texas—El Paso Student Health Services (El Paso)
- **Chihuahua State Health Services/Epidemiology Sub-Directorate**

### c. Validation Meeting

A meeting was held at Memorial Medical Center in Las Cruces, New Mexico on August 31, 2006 to present the preliminary results of the survey. Preliminary analyses were conducted based on the 38 completed surveys that had been received before the meeting (5 surveys were returned after the meeting). The meeting was attended by a total of 38 professionals representing a cross-section of the survey sample, including four representatives of Chihuahua State Health Services and the EWIDS coordinators for the US and Mexican Sections of the USMBHC. Annex 2 presents a list of the agencies and medical services providers that were represented at the meeting.

Upon receiving a presentation of data summaries based on the preliminary results of the survey, participants offered observations and/or recommendations, and then ranked a series of follow-on actions intended to increase the efficiency of binational epidemiology and surveillance of infectious disease in the Border Region.

### d. Limitations of Results of the Survey and its Analysis

The survey was limited to a sample that was pre-selected based on the objectives of the study and time and logistical constraints. Hence, the sample does not represent all medical service providers in Southern New Mexico and El Paso County, Texas. All data collected under the survey were self-reported by those individuals who completed the survey instruments for their respective agencies or organizations. The results and analyses presented in the current report are based on the assumption that these data are accurate.

Data concerning surveillance, epidemiology and laboratory capacity for the State of Chihuahua, Mexico were provided exclusively by and for Chihuahua State Health Services, and do not reflect other medical services providers (private and public hospitals, community-level health centers, private practice clinics and laboratories, etc.) located in the border region of that state. Therefore, the information presented in this report only represents an overview of the operations and procedures of the Sub-directorate of Epidemiology of Chihuahua State Health Services and its relationship to Mexico’s Federal Health Secretariat, headquartered in Mexico City.

Finally, it should be understood that coordination of such a survey process among State, local and Federal agencies, and numerous types of medical service providers in three states in two countries, while difficult,

is doable. The current report is not intended as the ultimate word on the binational capacity for surveillance, epidemiology, laboratory services, and reporting procedures for New Mexico, Texas and Chihuahua—rather, the survey and its resulting report and Directory are intended to serve as a basis for identifying opportunities for increasing the efficiency of binational surveillance and epidemiology of infectious diseases in a collaborative manner within the shared Border Region.

**B. Results of the Survey**

This section of the report presents a topical analysis of the more salient and statistically significant themes extracted from the total of 44 questions that were included in the survey instrument. To facilitate analysis, survey respondents are grouped homogeneously, with the two largest groups being community health centers (CHC) and hospitals. Data are expressed in terms of percentages of those respondents as a group that answered affirmatively to respective questions.

**1. Bilingual Capacity**

While most of the agencies and medical services providers have staff members that speak either English or Spanish (in some cases both), the intent of the survey was to determine what level of capacity these have to conduct disease investigations and case interviews bilingually.

**Table 2: Percent of Respondents with Staff Able to Conduct Disease Investigations or Case Interviews Bilingually**

<b>Community Health Centers*</b>	
New Mexico (5 respondents representing 19 clinics)	5%
El Paso County, Texas (2 respondents representing 11 clinics)	0%
<b>Hospitals*</b>	
New Mexico (6)	16%
El Paso County, Texas (6)	66%
<b>State and Local Government Agencies</b>	
New Mexico Department of Health	100%
New Mexico Environment Department ( <i>Foodborne illness only</i> )	100%
New Mexico Department of Corrections	0%
Texas Department of State Health Services	100%
El Paso City-County Health and Environmental District	100%
<b>Federal Agencies</b>	
Immigration and Customs Enforcement/El Paso Service Facility	100%
Centers for Disease Control and Prevention/El Paso Quarantine Station	100%
<b>Correctional Facilities (2 in NM, 1 Federal)</b>	33%
<b>Educational Institutions (2 in NM, 1 in TX)*</b>	0%
<b>Average % of All Survey Respondents</b>	<b>55%</b>

\* Generally, community health centers only report but do not investigate diseases; while hospitals have very limited numbers of staff available mostly for case interviews, but primarily in English; and educational institutions only report diseases.

As can be seen in Table 2, approximately half of the respondents indicate that they have staff that can conduct disease investigations and/or case interviews. It is pointed here however, that disease investigations are perceived to be the responsibility of local and State public health agencies as part of their mandates—a fact recognized by nearly all medical services providers. The two federal agencies

maintain such capabilities due to the unique nature of their mandates in the Border Region. Medical services providers that do carry out disease investigations are mainly limited to the larger hospitals, while community health centers, educational institutions and correctional facilities do not do disease investigations. While most hospitals have staff capable of disease investigations, the number of those with bilingual capability is limited, especially in New Mexico. The relatively low numbers of qualified bilingual staff (ranging from just 1 of 6 hospitals in New Mexico to 4 of the 6 hospitals in El Paso County), even in a region where more than 25% of the population is Spanish-speaking only, gives cause for some concern—especially regarding investigation of binational disease cases. This limitation could be reduced if other bilingual staff members are assigned as translators to work with English-speaking only investigators, but this increases costs associated with doubling the staff requirements for each interview.

## 2. Epidemiology and Surveillance Capacity

As can be seen in Table 3, about two-thirds of the respondent groups indicated that they maintained dedicated infectious disease control (IC) staff during normal working hours; a figure that dropped to 41% after hours. As expected, local and State public health agencies have full-time staffs dedicated to infectious disease control, and maintain a 24-hour, 7 day-per-week, 365 days-per-year emergency contact telephone numbers for reporting suspected and confirmed infectious disease cases. Again, this is a basic and integral part of governmental public health mandates. The two federal agencies maintain such staff capabilities due to the unique nature of their mandates in the Border Region.

Specifically for NMDOH/Region 5, there currently is no formal system in place to have staff on-call after hours. NMDOH/Epidemiology and Response Division in Santa Fe is responsible for contacting IC staff as may be required emergently. However, as no staff in the Border Region are required to be “on-call” (for instance, the Regional Infectious Disease Nurse Epidemiologist and/or other members of the Acute Disease Response Team/ADRT), nor are such on-call duties included in job descriptions in Region 5, and required staff may or may not be able to be located or available to respond to emergencies. If such on-call services may be required for instance, during an emergent outbreak, approval of travel and overtime to have such staff available is subject to case-by-case approval based on a formal request from the Director of Region 5 to the central office in Santa Fe.

Nearly all hospitals have a dedicated IC staff person, as infectious disease control has become an important function in these institutions, especially for the larger private corporate hospitals. However, *the number of IC staff is quite limited*—normally just one person, no matter how small or large the institution—thus limiting their response capability should disease outbreaks occur. Only one of the correctional facilities indicated it maintained an IC on its staff, with this person dedicated to detecting and maintaining treatment for hepatitis C.

As a rule, very few community health centers maintain an IC staff person; whether these are trained practitioners or nursing staff assigned these responsibilities. Only one respondent in New Mexico representing 6 clinic sites and one respondent in El Paso County representing 3 clinic sites, had an IC staff person; these only being available during normal working hours. This is explained by the fact that community health centers generally do not offer inpatient services and overnight stays, which by their own perception reduces the need for maintaining such staff after hours. The same explanation applies for educational institutions. Infectious disease control under these entities is limited primarily to reporting diseases as required in their respective policies and Notifiable Conditions List.

**Table 3: Percent of Respondents with Infectious Disease Control Staff Available during Normal Working Hours and On-Call after Hours**

	Normal Hours	On-Call
<b>Community Health Centers*</b>		
New Mexico (5 respondents representing 19 clinics)	37%	0%
El Paso County, Texas (2 respondents representing 11 clinics)	27%	0%
<b>Hospitals*</b>		
New Mexico (6)	100%	16%
El Paso County, Texas (6)	83%	66%
<b>State and Local Government Agencies</b>		
New Mexico Department of Health	100%	**
New Mexico Environment Department ( <i>Foodborne illness only</i> )	100%	100%
New Mexico Department of Corrections*	0%	0%
Texas Department of State Health Services	100%	100%
El Paso City-County Health and Environmental District	100%	100%
<b>Federal Agencies</b>		
Immigration and Customs Enforcement/El Paso Service Facility	100%	0%
Centers for Disease Control and Prevention/El Paso Quarantine Station	100%	100%
<b>Correctional Facilities (2 in NM, 1 Federal)*</b>	33%	33%
<b>Educational Institutions (2 in NM, 1 in TX) *</b>	0%	0%
<b>Average % of All Respondents</b>	<b>67%</b>	<b>41%</b>

\* The percentages are as reported by service providers only for dedicated IC staff; while other staff may be responsible for reporting infectious diseases as part of their administrative duties.

\*\* Requires case-by-case approval from central state office; not in established procedures or job descriptions in the region.

### 3. Disease Reporting

All respondents report infectious diseases to their respective reporting authorities, and all are aware of applicable Notifiable Conditions Lists (see Table 4). Only in a few cases, restricted mostly to El Paso County Texas, was there some confusion as to what authority to contact or in terms of the notification procedures. This can be explained in part due to the unique nature of disease reporting in El Paso County, wherein the El Paso City-County Health and Environmental District is the official local reporting authority, while the Texas Department of State Health Services (DSHS) is the reporting authority for the State. The mission of the CDC El Paso Quarantine Station does not include reporting notifiable diseases. Reporting for correctional facilities is differentiated: a county detention facility in New Mexico uses its lab to report, while a facility managed by a contractor to the NM Corrections Department reports first to that department and the department reports to NMDOH; and the Federal Correctional Institution “La Tuna” reports simultaneously to officials at the Bureau of Prisons in Washington, DC, El Paso City-County Health and Environmental District and Texas Department of State Health Services, but does not report to NMDOH (La Tuna is located on both sides of the state border of Anthony, Texas and Anthony, New Mexico).

**Table 4: Percent of Respondents that Report Infectious Disease to Reporting Authorities**

<b>Community Health Centers</b>	
New Mexico (5 respondents representing 19 clinics)	100%
El Paso County, Texas (2 respondents representing 11 clinics)	100%
<b>Hospitals</b>	
New Mexico (6)	100%
El Paso County, Texas (6)	100%
<b>State and Local Government Agencies</b>	
New Mexico Department of Health	100%
New Mexico Environment Department	100%
New Mexico Department of Corrections	100%
Texas Department of State Health Services	100%
El Paso City-County Health and Environmental District	100%
<b>Federal Agencies</b>	
Immigration and Customs Enforcement/El Paso Service Facility	100%
Centers for Disease Control and Prevention/El Paso Quarantine Station	0%
<b>Correctional Facilities</b> (2 in NM, 1 Federal)	66%*
<b>Educational Institutions</b> (2 in NM, 1 in TX)	100%
<b>Average % of All Respondents</b>	<b>87%</b>

\* One facility uses its lab to report; one reports to the New Mexico Department of Corrections; while the Federal facility reports to Washington, EPCCH&ED, and Texas DSHS.

**a. Disease Reporting Procedures in New Mexico**

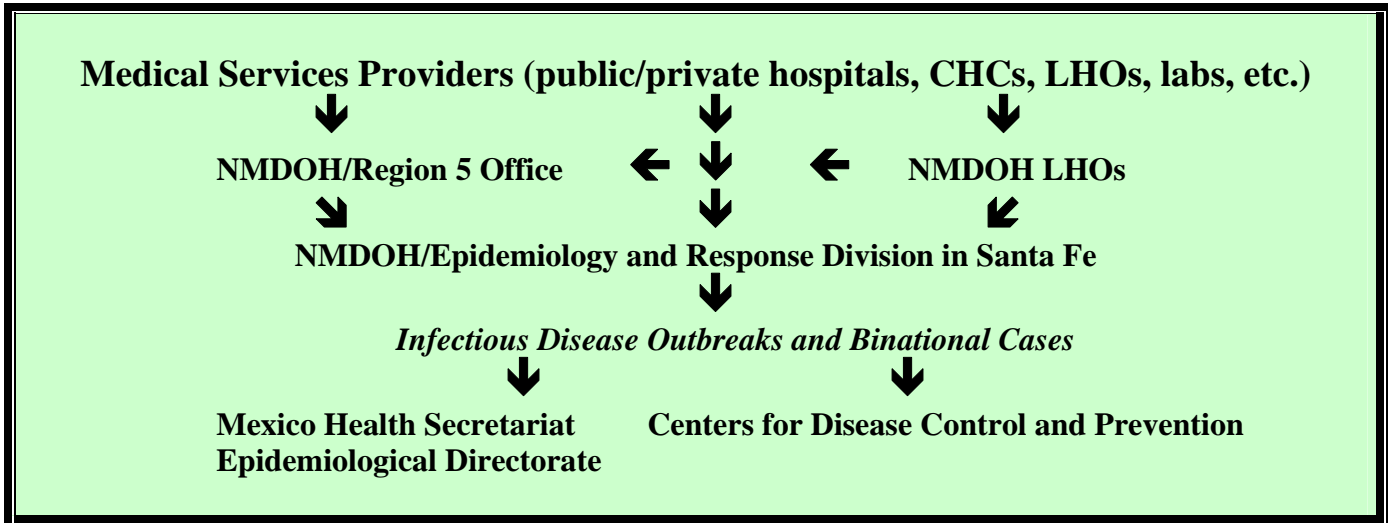
NMDOH is the official reporting authority throughout the State of New Mexico. As indicated in Figure 1, medical service providers (hospitals, community health centers, laboratories, etc.) report those diseases included in the *Notifiable Diseases or Conditions in New Mexico* (see section B.3.c. below) to NMDOH, normally either to Local Health Offices (LHOs) or directly to the Regional Infectious Disease Nurse Epidemiologist located in the NMDOH/Region 5 office in Las Cruces, which then report them directly to the NMDOH/Epidemiology and Response Division in Santa Fe. LHOs also detect notifiable conditions among their patients and normally report them to the Regional Infectious Disease Nurse Epidemiologist and/or directly to NMDOH/Epidemiology and Response Division using the NMDOH unique 24/7/365 Infectious Disease Reporting (IDR) call-in number (505 827-0006) monitored in Santa Fe. In some cases (e.g., after normal working hours, weekends or holidays), medical services providers may report notifiable diseases or conditions directly by telephone via the IDR number which are received immediately in the Epidemiology and Response Division for appropriate response.

For routinely-reportable diseases or conditions, medical service providers and LHOs report to the NMDOH/Epidemiology and Response Division (the IDR number) or Regional Offices within 24 hours. Routine reporting is usually accompanied by lab results and is presented in paper (fax or E-mail) form.

For those diseases or conditions that require immediate reporting, the Regional Infectious Disease Nurse Epidemiologist normally calls the IDR number to register the disease, indicating whether it is suspected, probable, or confirmed (vis-à-vis a positive lab report). This is followed up immediately, with a conference call among the appropriate epidemiology and response staff to discuss the case, adopt a course of action, and assign staff and responsibilities for disease investigations and case management. Depending

on the nature of the disease and number of disease cases—for example, whether it is an individual or numerous people affected or outbreak—the case(s) may be investigated by Region 5 staff (including invoking the Acute Disease Response Team/ADRT made up of epidemiologists, staff of the New Mexico Environment Department and medical staff) or may include staff from Santa Fe and potentially other regional offices. Notifiable conditions are then entered into the NM-EDSS (Electronic Disease Surveillance System) by NMDOH staff, again indicating whether they are suspected, probable, or confirmed.<sup>3</sup> As the case investigation concludes and laboratory reports are available, the NM-EDSS case file may be re-accessed to confirm or remove the disease posting.

**Figure 1: Disease Reporting Procedures in New Mexico**



If a binational case of a notifiable condition is detected (suspected, probable or confirmed), this fact is included in the report to the Epidemiology and Response Division. If confirmed, the binational case and appropriate data from the case investigation are reported formally by the Epidemiology and Response Division simultaneously to the Mexican Secretariat of Health and the US Centers for Disease Control and Prevention (telephone, Fax and/or E-mail). According to the survey results, only in the case of one LHO (Deming) are binational cases reported informally to Chihuahua State Health Services through its Nuevo Casas Grandes Jurisdictional Office. The NMDOH/Epidemiology and Response Division does not report notifiable conditions to Chihuahua State Health Services, with the exception of some routine reporting in meetings and conferences (e.g., reporting disease case counts in periodic meetings under the Binational Infectious Disease Surveillance Project/BIDS and/or the Early Warning Infectious Disease Surveillance Project/EWIDS).

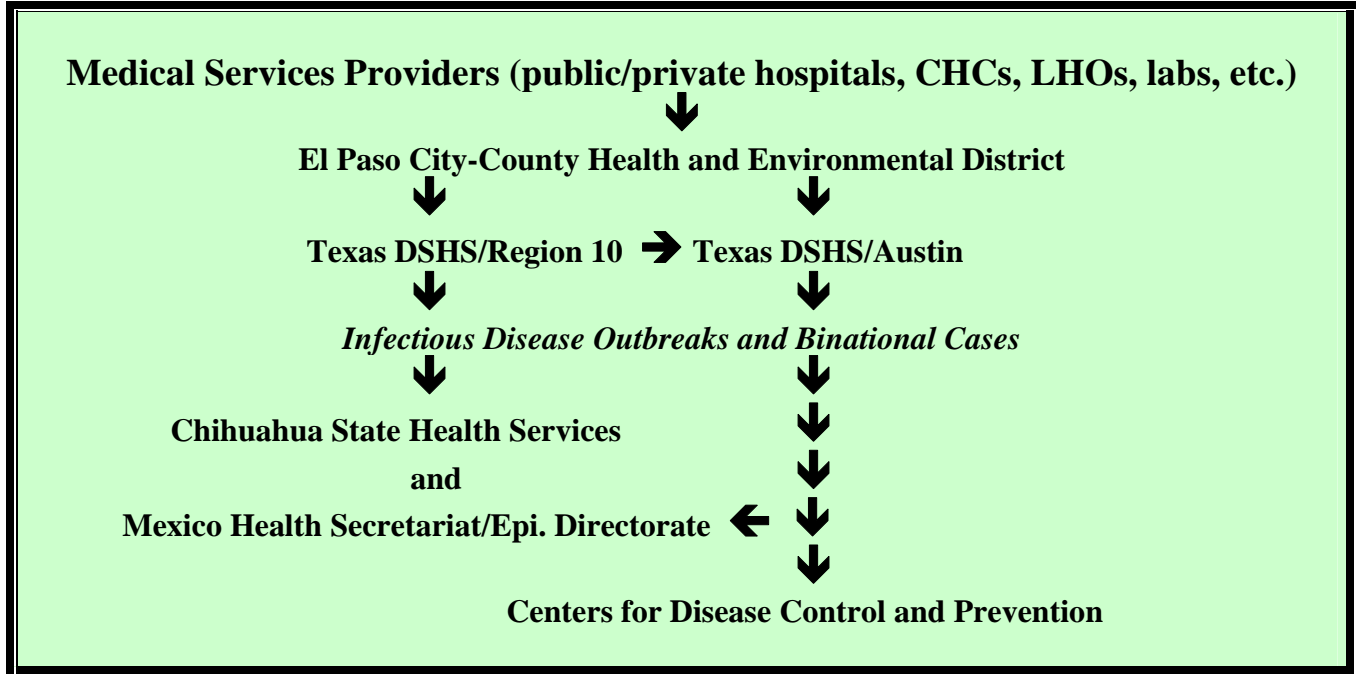
**b. Disease Reporting procedures in El Paso County, Texas**

The El Paso City-County Health and Environmental District (EPCCH&ED) is the official reporting authority in El Paso County. As illustrated in Figure 2, all medical service providers in El Paso County (including those within the City of El Paso), report those diseases included on the Texas DSHS list, *Notifiable Conditions 2006*, by calling the EPCCH&ED 24/7/365 IDR number (915 771-5702) and/or by fax. EPCCH&ED is then responsible for disease investigations and follow-up on case management with the respective medical service providers. EPCCH&ED is responsible for reporting notifiable conditions to Texas DSHS, usually directly to State Office in Austin by Fax, but also by E-mail. EPCCH&ED will, on occasions, collegially inform staff in Texas DSHS Region 9/10 of a disease case(s) reported within the

<sup>3</sup> NMDOH/Epidemiology and Response Division is currently implementing a pilot program with two non-NMDOH medical service providers to provide training and a trial period for their directly entering reportable diseases or conditions to the NM-EDSS. If the pilot is successful, NMDOH will roll out the program to all medical service providers in the State.

County, usually before such cases are investigated, and may request support for disease investigations and response (see below).

**Figure 2: Disease Reporting Procedures in El Paso County, Texas**



Texas DSHS is the reporting authority at the State level but, as explained earlier, plays a secondary and support role to EPCCH&ED within El Paso County in terms of disease reporting and response. Region 9/10 maintains an Epidemiology Response Team (ERT) in their offices in El Paso and generally responds to those locations within the Region outside of El Paso County, and other larger municipalities (e.g., Midland) that maintain their own health districts. However, in the case of a disease outbreak in El Paso County or City involving several to numerous cases, EPCCH&ED may request direct assistance from Texas DSHS Region 9/10 in disease investigations including case interviews, collection and analysis of lab samples and reporting. Texas DSHS Region 9/10 also assists EPCCH&ED in some aspects of reporting notifiable conditions at the State level, especially in terms of collegial review of case write-ups before they are formally submitted to DSHS both in hardcopy and entered into the Texas Electronic Disease Surveillance System (TEDSS). Region 9/10 staff is responsible for entering data directly into TEDSS. Some problems have been reported with the TEDSS system when, because of digitizing errors (for instance, transposing letters in the spelling of a name), the system creates a new unique case file and may appear as a different disease case than was reported on paper and sent by fax.

For its Notifiable Conditions 2006 list, Texas DSHS uses four (4) different numbers for reporting notifiable conditions. A single number is used for reporting those diseases or conditions requiring immediate reporting. However, there are three other numbers that are used for routine reporting of certain diseases—two numbers for faxing in reports and one number for call-ins—with variable time limits for reporting certain diseases between “within 1 work day”, “within 1 week”, “within 10 work days”, and “within 1 month.” This situation has caused confusion among medical service providers, resulting in conditions being reported to the wrong number and/or after the required reporting time limit. In addition to these statewide numbers, Region 9/10 also maintains a call-in IDR number (915-543-3186) for reporting diseases from locations within the Region. In some cases, a medical service provider may report

notifiable conditions only to EPCCH&ED, to Texas DSHS in Austin or Region 9/10, or may report simultaneously to two of these or all three.<sup>4</sup>

For binational cases, EPCCH&ED reports formally to the Mexican Health Secretariat by fax or registered mail and informally to the Juárez Jurisdictional Epidemiologist of Chihuahua State Health Services. Similarly, Texas DSHS/Austin reports binational cases to the Mexican Health Secretariat in written form (fax or E-mail) and Region 9/10 may report such conditions informally on occasions to Chihuahua State Health Services. TDSHS staff also reports disease counts in periodic meetings and conferences, including BIDS and EWIDS.

### c. Lists of Notifiable Conditions

The notifiable conditions lists for Texas and New Mexico are substantially similar and include nearly all the same diseases with a few exceptions (see Annex 3). For instance, New Mexico includes cholera as a disease requiring immediate notification while it is not included on the Texas list; while Texas has staphylococcus as a condition requiring immediate notification, and dengue and Creutzfeldt-Jakob to be reported within one week—diseases not included on the New Mexico list. There are also a few subtle differences in the immediacy of reporting conditions between Texas and New Mexico; for instance, the State of New Mexico requires immediate reporting for rubella while Texas requires 24-hour reporting. New Mexico's list also includes several health conditions related to environmental and occupational exposures that are not included on the Texas list, such as, among others, mesothelioma, asbestosis, occupational asthma, firearm injuries (also known as Cheney's Syndrome), drug overdoses, and spinal cord and traumatic brain injuries.

Chihuahua State Health Services uses the lists established by Mexico's Federal Health Secretariat (*Padecimientos de Notificación Obligatoria*). The diseases requiring immediate notification are about half in number as those included on the New Mexico and Texas lists. As a rule, Mexico does not report many of diseases that are considered common and non-life threatening, such as enteric diseases, parasites and foodborne illness (see accompanying annexes under *Norma Oficial Mexicana NOM-017-SSA2-1994* in Annex 3 of this report).

## 4. Binational Relations in Epidemiology, Surveillance and Reporting

The survey included questions to determine the level and type of interaction of medical services providers and agencies in New Mexico and Texas with their Mexican counterparts regarding epidemiology and surveillance activities. Generally, only those State and County agencies charged with epidemiological surveillance and investigation, which also serve as the infectious disease reporting authorities, have relationships with their Mexican counterparts.

Table 5 indicates that 40% of respondents answered that they had some type of relationship with their counterparts in Mexico. With the exception of one private hospital in El Paso collaborating in a binational tuberculosis project, all of the respondents reporting any relationships were State and Federal agencies. These relationships, however, are quite limited and have rarely included coordinated public health activities; they have been restricted to tracking a few binational cases of tuberculosis. NMDOH (staffs of Region 5 and the Epidemiology and Response Division) and Texas DSHS staff in Region 9/10 collaborate with their Mexican counterparts in data sharing on disease case counts in periodic and special meetings under the BIDS and EWIDS projects, as well the TB Card program. Texas DSHS Region 9/10 has coordinated mosquito surveillance under a binational vector control program. State laboratories have also collaborated with their Mexican counterparts (see discussion below in section B.6). Staff of the CDC/El

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<sup>4</sup> Texas DSHS is considering adopting a single call-in number for all diseases regardless of the type and required reporting period, similar to that used in New Mexico.

Paso Quarantine Station and that of the Immigration and Customs Enforcement/El Paso Service Facility also share case count data at colloquia or conferences and/or participate in periodic BIDS and EWIDS meetings.

**Table 5: Percent of Respondents Having Some Kind of Surveillance, Epidemiology and/or Disease Reporting Relationship with Mexico**

<b>Community Health Centers</b>	
New Mexico (5 respondents representing 19 clinics)	0%
Texas (2 respondents representing 11 clinics)	0%
<b>Hospitals</b>	
New Mexico (6)	0%
El Paso County, Texas (6)*	16%
<b>State and Local Government Agencies</b>	
New Mexico Department of Health	100% **
New Mexico Environment Department	0%
New Mexico Department of Corrections	0%
Texas Department of State Health Services	100% **
El Paso City-County Health and Environmental District	100%
<b>Federal Agencies</b>	
Immigration and Customs Enforcement/El Paso Service Facility	100%
Centers for Disease Control and Prevention/El Paso Quarantine Station	100%
<b>Correctional Facilities (2 in NM, 1 Federal)</b>	0%
<b>Educational Institutions (2 in NM, 1 in TX)</b>	0%
<b>Average % of All Respondents</b>	<b>40%</b>

\* One hospital collaborates on TB under the Juntos Program.

\*\* Activities carried out through state and regional offices.

Binational cases present very special challenges for medical service providers and public health agencies on both sides of the border. In the binational Border Region, thousands of people move back and forth across the border on a daily basis. Some people reside in the US and work in Mexico and vice versa, and many residents of both countries cross the border for shopping, recreation, to see relatives, attend schools or colleges, seek specialized medical services, and a host of other reasons. Consequently, the number of binational cases could be quite large. A *binational case* for purposes of this report is defined as:

- a confirmed or probable case that during the infectious period of the disease traveled or lived in the country or had contact with people who traveled or lived in the other country; *or*
- a case suspected to be in the other country during the incubation period of the disease; *or*
- a case that requires the cooperation of both countries for investigation and control; *or*
- a case for which the case history implies a health risk for the other country.

As can be seen in Table 6, the average percentage of respondents indicating that they actually report binational cases is only 31%. These are limited to the infectious disease reporting authorities of the States of New Mexico (NMDOH) and Texas (DSHS) and the El Paso City-County Health and Environmental District, which report such cases as they occur, with foodborne illness and tuberculosis being the most

common diseases reported. The CDC/El Paso Quarantine reports binational cases a few times a year directly, albeit informally, to the Juarez Jurisdictional Office of Chihuahua State Health Services.

No other medical providers or agencies indicated that they reported binational cases to Mexico. The remainder of medical providers stated that binational case reporting is the responsibility of their respective infectious disease reporting authorities, and that if binational cases were detected, they would be reported to Mexico by the appropriate health jurisdiction or State. However, it was also discerned from the respondents that many did not understand what connotes a binational case. Respondents for several hospitals and community health centers indicated that they have never had a binational case, which seems unlikely in view of the fact that many of the population attended to by these providers move back and forth across the border. Similarly, correctional facilities house numerous Mexican nationals and US citizens who have traveled back and forth across the border, wherein many of the disease cases (especially tuberculosis, Hepatitis C and sexually-transmitted diseases), while not well-documented, would be expected to be binational. The Immigration and Customs Enforcement/El Paso Service Facility has 900 beds and serves as a holding facility while undocumented immigrants are processed for return to their countries of origin (primarily Mexico, but also Central and South American and a few Asian countries). The Facility includes a medical clinic and diseases are detected among those held there; presumably, the majority of these cases are binational.

**Table 6: Percent of Respondents that Report Binational Disease Cases to Mexico**

<b>Community Health Centers</b>	
New Mexico (5 respondents representing 19 clinics)	0%
El Paso County, Texas (2 respondents representing 11 clinics)	0%
<b>Hospitals</b>	
New Mexico (6)	0%
El Paso County, Texas (6)	0%
<b>State and Local Government Agencies</b>	
New Mexico Department of Health	100%
New Mexico Environment Department	0%
New Mexico Department of Corrections	0%
Texas Department of State Health Services	100%
El Paso City-County Health and Environmental District	100%
<b>Federal Agencies</b>	
Immigration and Customs Enforcement/El Paso Service Facility	0%
Centers for Disease Control and Prevention/El Paso Quarantine Station	100%
<b>Correctional Facilities</b> (2 in NM, 1 Federal)	0%
<b>Educational Institutions</b> (2 in NM, 1 in TX)	0%
<b>Average % of All Respondents</b>	<b>31%</b>

## 5. Public Health Emergency Preparedness Plans

A parameter used to gauge readiness to respond to infectious disease outbreaks, as well as binational interaction in epidemiology and surveillance, is that of coordination of health emergency preparedness plans. Table 7 presents the survey results for questions answered by respondents as to whether their

agency or organization has such a plan and if the plan includes coordination of responses to health emergencies with counterpart agencies and organizations in Mexico.

As would be expected, all State agencies and EPCCH&ED had a health emergency preparedness plan, as these are normally mandated under State laws or agency policies. Of all respondents, two-thirds indicated that they had health emergency preparedness plans. In New Mexico, fewer community health centers and hospitals had plans than in Texas, while two of the three correctional facilities and only one of three educational institutions had plans. The Immigration and Customs Enforcement/El Paso Service Facility has a plan but, according to its respondent, the CDC/El Paso Quarantine Station does not have a health emergency preparedness plan, which seems odd in light of the responsibilities under their mandate.

It was surprising to see that *none* of the respondents with such plans indicated that they coordinated health emergency preparedness with their counterparts in Mexico. Not until recently have some activities been initiated to coordinate such actions among Mexican and US States related to the potential for pandemic influenza. However, it should be pointed out here that the necessary legal protocols and procedures related to binational health emergency preparedness and response to large-scale infectious disease outbreaks do not yet exist. This can be considered one of the principal limitations in coordinating health emergency preparedness plans between Mexican and US States, and probably explains why none of the respondents' plans are currently being coordinated with Mexico.

**Table 7: Percent of Respondents that have a Public Health Emergency Preparedness Plan and Percent of Respondents that Coordinate this Plan with Mexico**

	Have Plan	w/ Mexico
<b>Community Health Centers</b>		
New Mexico (5 respondents representing 19 clinics)	47%	0%
El Paso County, Texas (2 respondents representing 11 clinics)	100%	0%
<b>Hospitals</b>		
New Mexico (6)	33%	0%
El Paso County, Texas (6)	66%	0%
<b>State and Local Government Agencies</b>		
New Mexico Department of Health	100%	0%
New Mexico Environment Department ( <i>Foodborne illness only</i> )	0%	0%
New Mexico Department of Corrections	100%	0%
Texas Department of State Health Services	100%	0%
El Paso City-County Health and Environmental District	100%	0%
<b>Federal Agencies</b>		
Immigration and Customs Enforcement/El Paso Service Facility	100%	0%
Centers for Disease Control and Prevention/El Paso Quarantine Station	0%	0%
<b>Correctional Facilities</b> (2 in NM, 1 Federal)	66%	0%
<b>Educational Institutions</b> (2 in NM, 1 in TX)	33%	0%
<b>Average % of All Respondents</b>	<b>65%</b>	<b>0%</b>

## 6. Laboratory Capacity and Reporting

The States of New Mexico and Texas require laboratory analyses as a basis for confirming most infectious disease cases. The survey sought to determine the type and availability of laboratory services for each of the responding agencies and medical service providers, and how laboratory analyses are reported. The survey also included questions to determine if laboratory results are reported to Mexico, and if any labs in New Mexico or Texas are providing any equipment and/or training to labs in Mexico.

All respondents indicated that they had had laboratory capacity, whether in-house or outsourced to private labs. Community health centers and educational institutions maintain minimal capacity for the most basic laboratory analyses that are based on positive/negative kits (e.g., urinalysis, occult blood, glucose levels, and similar) and contract out more complicated lab services to local and regional hospitals and/or corporate labs (e.g., LabCorp, Quest). Hospitals generally have greater capacity to do a wider range of tests (primarily serological, parasitological, and microbiological), with more complex tests outsourced to corporate or specialized labs. In general terms, if a medical service provider suspects a bioterrorism or disease agent for which they have no testing capacity (internal or outsourced), they would contact their respective state authorities for investigation and follow-up.<sup>5</sup>

All state agencies in New Mexico send lab samples to the New Mexico Department of Health's Scientific Laboratory Division (NMDOH/SLD) located in Albuquerque. This lab has broad testing capacity for in serology, micro- and mycobiology, parasitology, virology, Zoonoses and molecular biology (excluding entomology), including nearly all of the disease agents listed on the notifiable list and selected biological terrorism agents, including those referred to as "white powder" agents such as anthrax, ricin, and testes (plague). NMDOH/SLD also maintains capacity to do analysis of certain chemical agents when these are present in human tissue (such as mustard and sarin gases); but does *not* maintain capacity to do direct testing for non-tissue chemical, radiological, nuclear or explosive agents.

In Texas, state agencies, including Region 9/10, send samples to the DSHS Laboratory Services Section in Austin. The DSHS lab has more extensive capacity than NMDOH/SLD, providing testing for all of those agents previously mentioned (not entomology), but also maintains capacity for tissue-based testing of chemical, radiological, nuclear and explosives exposure, as well as "white powder" biological agents. The DSHS Lab is in the process of developing capacities to directly test non-tissue chemical, radiological, nuclear and explosive agents, but does not now have that ability.

El Paso City-County Health and Environmental District maintains its own lab with capacity for most of the organic disease agents on the notifiable conditions list, including "white powder" bioterrorism agents, as well as serology, micro- and mycobiology, and molecular biology; but excludes parasitology (only enteric diseases), virology, zoonoses and entomology. EPCCH&ED relies on the DSHS Laboratory Services Section for those agents outside of its capacity, including tissue sampling for patients suspected of exposure to chemical, radiological, nuclear and explosive agents.

*Neither* state lab nor EPCCH&ED has capacity to test for viral hemorrhagic fevers (filoviruses such as Ebola and Marburg) or arenaviruses (such as Lassa or Machupo). The CDC Laboratory is used by both States as a reference lab, especially to confirm specific disease strains, including viral hemorrhagic fevers and arenaviruses; and also for processing Bio-Safety Level 4 samples. EPCCH&ED uses DSHS Laboratory Services Section as its reference lab along with the lab at the CDC.

In New Mexico and Texas, if a chemical, radiological, nuclear or explosive agent were suspected (whether because of an accidental emission, spill or intended criminal and/or terrorism incident), specialized hazardous materials (HAZMAT) teams are summoned. These teams are usually made up of

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<sup>5</sup> As far as could be determined, this has only happened with regards to white powder substances suspected to be anthrax or ricin. The EPCCH&ED lab provided testing for anthrax on several of these cases in El Paso County.

staff of State Police and/or local fire and police departments who collect and isolate the agent. The FBI may be called in, especially if a terrorism incident were suspected. Samples are sent to the US EPA for testing; however, depending on the type of agent, the sample may be sent to a specialized institution such as Sandia Labs and/or Los Alamos Nuclear Laboratory for testing (i.e., for radiological and nuclear agents).

Regarding the availability of lab services, 88% of respondents indicated that had, or could access, emergent laboratory services 24/7/365 if these were required (see Table 9). However, only about half of the community health centers in New Mexico and one-fourth of those in El Paso County indicated that they had such services available emergently. The explanation for this situation is that community health centers provide their services during normal working hours, and emergency or after-hours cases are referred to area hospitals; hence, emergent laboratory services are not normally accessed. Respondents for the balance of the community health centers indicated that they could access emergent laboratory services if required. Two of the three correctional facilities indicated that they did not know if their laboratory services were available emergently, as they had not ever accessed them. For all other respondents, laboratory services could be accessed emergently as might be required 24/7/365.

**Table 9: Percent of Facilities with Laboratory Testing for Infectious Diseases Available Emergently (24 hours/day, 7 days/week, 365 days/year)**

<b>Community Health Centers</b>	
New Mexico (5 respondents representing 19 clinics)	53%
El Paso County, Texas (2 respondents representing 11 clinics)	27%
<b>Hospitals</b>	
New Mexico (6)	100%
El Paso County, Texas (6)	100%
<b>State and Local Government Agencies</b>	
New Mexico Department of Health	100%
New Mexico Environment Department	100%
New Mexico Department of Corrections	100%
Texas Department of State Health Services	100%
El Paso City-County Health and Environmental District	100%
<b>Federal Agencies</b>	
Immigration and Customs Enforcement/El Paso Service Facility	100%
Centers for Disease Control and Prevention/El Paso Quarantine Station	100%
<b>Correctional Facilities</b> (2 in NM, 1 Federal)	66%
<b>Educational Institutions</b> (2 in NM, 1 in TX)	100%
<b>Average % of All Respondents</b>	<b>88%</b>

The survey also sought information concerning the interaction of US-based labs with laboratories in Mexico. When asked if respondents communicated lab results to Mexico (see Table 10), only NMDOH/SLD and Texas DSHS/Laboratory Services Section indicated that they did so. The state departments of health, as disease reporting authorities, generally report binational cases emergently as cases are detected (see previous discussion on disease reporting in section B.3.). Both NMDOH and Texas DSHS also report disease case counts through staffs of their regional offices in EWIDS and BIDS

project meetings; these reports may or may not include lab reports. EPCCH&ED also participates in EWIDS and BIDS project meetings and provides case counts and informally reports to counterparts in the Juárez Jurisdictional Office of Chihuahua State Health Services when binational disease cases are confirmed, but does not provide lab reports.

The survey also determined that both New Mexico and Texas departments of health labs have collaborated in the provision of equipment and training with their counterparts in Mexico. NMDOH/SLD provided training and some limited equipment and test kits in the recent past to Chihuahua State Health Services related to surveillance for tuberculosis and sexually transmitted diseases. Texas DSHS/Laboratory Services Section has collaborated with laboratories in Juárez and Chihuahua City offering training in serological testing for various diseases, and provided equipment and test kits for tuberculosis testing. No other Federal, State or County agency, nor any of the medical service providers indicated that they had provided equipment or training to their counterparts in Mexico.

**Table 10: Percent of Respondents that Communicate Lab Results on Binational Cases to Mexico**

<b>Community Health Centers</b>	
New Mexico (5 respondents representing 19 clinics)	0%
El Paso County, Texas (2 respondents representing 11 clinics)	0%
<b>Hospitals</b>	
New Mexico (6)	0%
El Paso County, Texas (6)	0%
<b>State and Local Government Agencies</b>	
New Mexico Department of Health	100%
New Mexico Environment Department	0%
New Mexico Department of Corrections	0%
Texas Department of State Health Services	100%
El Paso City-County Health and Environmental District	0%
<b>Federal Agencies</b>	
Immigration and Customs Enforcement/El Paso Service Facility	0%
Centers for Disease Control and Prevention/El Paso Quarantine Station	0%
<b>Correctional Facilities (2 in NM, 1 Federal)</b>	0%
<b>Educational Institutions (2 in NM, 1 in TX)</b>	0%
<b>Average % of All Respondents</b>	<b>15%</b>

**7. Interest of Respondents in Collaborating on Binational Epidemiological and Surveillance Activities with Mexico**

Regardless of the limited interaction to date among medical service providers and public health agencies in the States of New Mexico, Texas and Chihuahua, Mexico on epidemiology and surveillance activities in the shared Border Region, just shy of half (43%) of all respondents indicated an interest to establish or expand such collaborations. As indicated in Table 8, all state agencies in New Mexico (with the exception of the NM Corrections Department), and Texas DSHS and EPCCH&ED indicated a high level of interest to improve upon current procedures and move into more operational activities, including epidemiology, surveillance, reporting and coordinated response, especially for binational cases. Respondents for half of the community health centers in New Mexico indicated interest; but none in El Paso County indicated

such interest. Respondents for half the hospitals in New Mexico and a third of those in El Paso County expressed interest in binational coordination. All three educational institutions indicated that this was not in their mandate. Respondents from both federal agencies indicated that any such collaboration was dependent on approvals from their headquarters offices.

It is surmised here that those respondents indicating little or no interest in collaborating in binational epidemiology and surveillance activities either do not recognize the importance of coordinating infectious disease surveillance and response in the Border Region, do not understand the epidemiology of binational cases, or are too busy to take on additional activities. Perhaps all of these reasons apply in some way and should be dealt with accordingly through improved awareness and education.

**Table 8: Percent of Respondents Indicating Interest in Collaborating on Epidemiological Surveillance Activities with Mexico**

<b>Community Health Centers</b>	
New Mexico (5 respondents representing 19 clinics)	48%
El Paso County, Texas (2 respondents representing 11 clinics)	0%
<b>Hospitals</b>	
New Mexico (6)	50%
El Paso County, Texas (6)	33%
<b>State and Local Government Agencies</b>	
New Mexico Department of Health	100%
New Mexico Environment Department	100%
New Mexico Department of Corrections	0%
Texas Department of State Health Services	100%
El Paso City-County Health and Environmental District	100%
<b>Federal Agencies</b>	
Immigration and Customs Enforcement/El Paso Service Facility	*
Centers for Disease Control and Prevention/El Paso Quarantine Station	*
<b>Correctional Facilities</b> (2 in NM, 1 Federal)	33% (Federal)
<b>Educational Institutions</b> (2 in NM, 1 in TX)	0%
<b>Average % of All Respondents</b>	<b>43%</b>

\* Depends on priorities and clearance with headquarters offices.

**C. Infectious Disease Surveillance, Epidemiology and Laboratory Capacity, and Reporting Procedures of Chihuahua State Health Services**

This section provides an overview of the capacities of Chihuahua State Health Services in areas of interest to the survey. The following information was provided by the Chihuahua State Epidemiologist using the survey instrument as a guide.

**Figure 3: State of Chihuahua Health Services—Organization of the Directorate of Disease Prevention and Control**



As indicated in the organizational chart depicted in Figure 3, infectious disease surveillance and epidemiology are carried out under the Sub-directorate of Epidemiology, assigned hierarchically to the Directorate of Prevention and Control of Diseases under the General Director of Chihuahua State Health Services. State Health Services maintains laboratories in Chihuahua City (reference laboratory) and Juarez to process samples sent from any of the 5 jurisdictional offices, whether these originate from hospitals and clinics managed by the State Health Services or private medical services providers.

### **1. Bilingual Capacity for Disease Investigations and Reporting**

There are only a few staff members that have proficient English capability. Hence, communication and cross-border reporting is generally restricted to Spanish and bilingual counterparts on the US side of the border. Chihuahua State Health Services has staff trained in disease investigation and case interviews available in each jurisdictional office (Juárez and Nuevo Casas Grandes), as well as in the state headquarters office in Chihuahua City; however, only one of these staff is bilingual.

### **2. Epidemiological and Surveillance Capacity**

At the State Health Services headquarters in Chihuahua City, the Sub-directorate maintains a staff of 6 epidemiologists, including the State Epidemiologist. An additional epidemiologist is assigned to each of 5 jurisdictional offices in the largest cities throughout the state (including Juarez, Nuevo Casas Grandes and Ojinaga which coincide with the international border with New Mexico and Texas) and serves under the authority of each of the respective jurisdictional directors. An additional three epidemiologists are stationed in the State's public hospitals. All epidemiological staff members are trained in infectious disease investigations and, according to the State Epidemiologist, are available emergently as may be required to investigate notifiable disease cases or in response to disease outbreaks. All staff members have cell phones and can be called 24/7/365. Zoonoses cases are handled by Federal Agricultural Secretariat, but are coordinated with Chihuahua State Health Services vis-à-vis the established State Health Safety Committee.

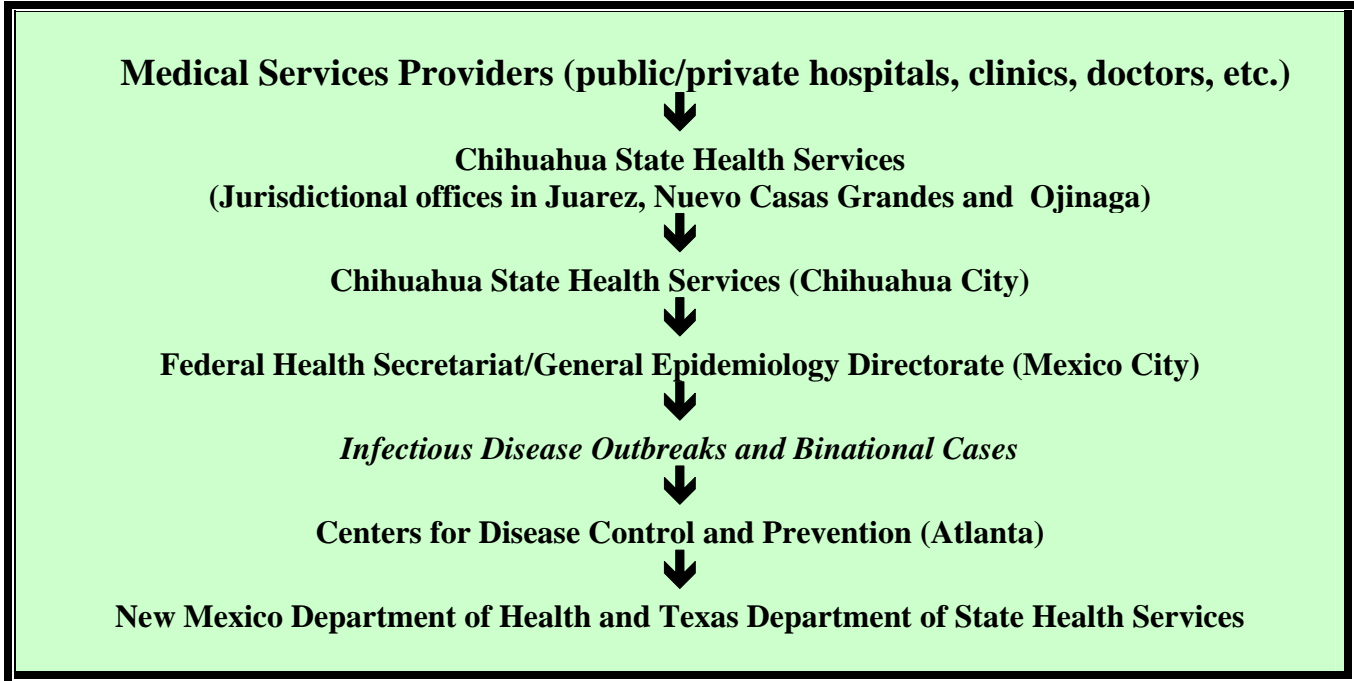
### **3. Disease Reporting**

As indicated in Figure 4, diseases on Mexico's Federal Notifiable Conditions List (*Padecimientos de Notificación Obligatoria*) are reported by public and private medical service providers first to State Health Services' jurisdictional offices, which then report directly to the Sub-directorate of Epidemiology in Chihuahua City. A single 24/7/365 call-in number has been established at the General Epidemiology Directorate of the Federal Health Secretariat in Mexico City (01800), which can be called only within Mexico. Within the State of Chihuahua, notifiable diseases can be called into the Chihuahua State Health Services' Sub-directorate for Epidemiology during normal working hours and via the emergency call-in number [52-614] 727-1077, which is used for contacting staff after hours. The Sub-directorate then reports the diseases to the General Epidemiology Directorate of the Federal Health Secretariat in Mexico City. Should a binational case or a disease outbreak occur that pose risks for populations on the US side of the border, the Federal Health Secretariat reports to CDC, which then alerts public health authorities in those States at risk.

Reporting, generally restricted to case counts in each respective State's public health agencies, is also done routinely in monthly and/or quarterly forums related to BIDS and EWIDS activities. Also, informal reporting of suspected and/or confirmed infectious disease cases occurs collegially among jurisdictional epidemiologists in the State of Chihuahua and staff of State public health agencies in the US. For instance, a staff member of the Local Health Office in Deming, New Mexico reports binational cases (mostly tuberculosis and STDs) to the Jurisdictional Epidemiologist in Nuevo Casas Grandes. The jurisdictional epidemiologist in Juarez will report confirmed binational to their counterparts in El Paso City-County Health and Environmental District. These reports, however, are

not considered official until acknowledged and officially reported to CDC by Mexico’s Federal Health Secretariat.

**Figure 4: Disease Reporting Procedures in the State of Chihuahua, Mexico**



**4. Binational Relations in Epidemiology, Surveillance and Reporting**

As discussed earlier in the report, staffs of Chihuahua State Health Services and the Federal Health Secretariat participate in periodic, annual and core meetings organized under the BIDS and EWIDS projects to share disease case counts with their US State and Federal counterparts (including in a few instances with staff of private hospitals located in El Paso County). Similarly, Chihuahua State Health Services participates in the TB Card/NET programs for reporting and tracking tuberculosis cases on both sides of the border. However, there have been very few instances of coordinated surveillance and epidemiology that have involved staffs of State public health agencies on both sides of the border and only one private hospital in El Paso County has participated in TB case reporting under the Juntos Program. Other than the collegial reporting mentioned above, surveillance and reporting is not carried out State-to-State between the US and Mexico, nor do such protocols exist to facilitate these activities.

**5. Laboratory Capacity and Reporting**

Chihuahua State Health Services maintains several fully equipped laboratories for serological, microbateriological, micobaterialogical, parasitological, virological and zoonotic testing related to infectious diseases. While the labs can perform tests for some potential bioterrorism agents (such as anthrax, smallpox and botulism), they generally depend on US labs for testing of chemical, radiological, nuclear and explosive agents. Laboratories in Juarez and Chihuahua City were been updated with new equipment and supplies, and staff trained under the BIDS Project between 2002 and 2004, and additional capacity upgrading is underway in Chihuahua State Health Services laboratories with EWIDS funding. Generally, Chihuahua State Health Services laboratories are open from 8:00 AM to 8:00 PM on weekdays, but can be accessed for emergent cases.

## 6. Issues Affecting Binational Epidemiological Surveillance, Disease Investigations and Communication from the Mexican Perspective

The following were identified and discussed with staff of Chihuahua State Health Services as the principal issues that limit the effectiveness of binational surveillance, epidemiology and reporting of infectious diseases with counterparts in the US:

- *Legal and policy impediments.* Federal policy in Mexico dictates that binational communication and coordination is the mandate of the Federal Health Secretariat based in Mexico City. Any activities involving binational cooperation within the State of Chihuahua must be authorized and coordinated at the Federal level, thus having the effect of restricting binational State-to-State initiatives.
- *Lack of communication and operational protocols.* Few protocols have been formalized between the US and Mexico. Under the BIDS program, the Mexico's Federal Health Secretariat and CDC have developed norms for testing and reporting of smallpox, dengue fever, hepatitis and the West Nile virus. But the great majority of infectious diseases indicated in Notifiable Conditions Lists for the US and its border states and Mexico have not yet been included under such procedures. Both the BIDS and EWIDS projects were established to deal with some of these deficiencies, but much more action is required before a minimum of binational operational coordination is officially authorized. More recently, planning has begun for facilitating a binational response to the potential for pandemic influenza.
- *Lack of formal relationships between professional counterparts and limited forums for interchange.* While there does exist some collegiality among staffs of State public health agencies on both sides of the border, true formal relationships do not yet exist. There have been few instances of coordinated responses to infectious disease outbreaks, such as binational disease investigations. While some State and Federal staffs on the US side of the border have participated in the training of their Mexican counterparts, these are usually one-off events and are rarely followed up with on-the-job training or collaborative and/or joint operations. Periodic forums under the BIDS and EWIDS projects have generally been limited to reporting on case counts of infectious disease and/or progress reports on activities within their respective countries.
- *Occasional problems with laboratory readiness due to staffing or supplies.* Chihuahua State Health Services reports that state laboratories are sometimes incapable of carrying out certain tests due to the lack of reagents, media and certain supplies. Also, qualified staff shortages and turnover of lab personnel affect laboratory readiness.
- *Language barrier.* Limitations of bilingual staff on both sides of the border tend to restrict the effectiveness of intended binational relationships, communication and reporting. While this is not seen as being much of a problem on the US side, it is perceived as a barrier by Mexican counterparts.

Finally and most importantly, representatives of Chihuahua State Health Services and the General Epidemiology Directorate of the Federal Health Secretariat acknowledge that *Mexican customs restrictions* tend to inhibit well-intended collaborations among US and Mexican counterparts. Mexico lacks formal procedures at its principal border crossings and ports to facilitate transport of equipment, reagents, media and specialized supplies required to carry out effective infectious disease surveillance and epidemiology, with laboratories being most affected. Obtaining authorization letters for transport of such equipment and supplies across the border has been difficult and bureaucratic, and even when letters authorizing transport have been obtained, customs officials at the border delay or refuse to permit their entry. To a lesser degree, restrictions on exporting disease specimens and samples to laboratories in the US result in delays that affect their viability and the accuracy of eventual tests.

Laboratory staffs indicated that tissue samples took about one week to gain entry into the US, but cultures took two weeks or longer, thus increasing the probability that these samples would be non-viable by the time they were tested.

#### **D. Conclusions of Analysis of Survey Results: Identification and Discussion of Binational Epidemiology, Surveillance and Reporting Issues**

Most of the conclusions reached on the basis of the current survey are widely acknowledged by public health authorities on both sides of the border; hence, survey results reaffirm many of the issues and problems that limit the effectiveness of binational epidemiology, surveillance and reporting in the tri-state Border Region of Southwestern New Mexico, El Paso County, Texas and the Northern Chihuahua, Mexico. Several initiatives are under way to deal with the issues discussed in the following section of the report including, but not limited to, BIDS, EWIDS and pandemic flu preparedness. Still, it is worthwhile to identify and discuss the conclusions based on analysis of survey results, both positive and negative, in order to provide a basis for improvement.

The most important conclusion of the analysis of survey results is the following: *there is very little binational coordination of epidemiology, surveillance, and reporting of infectious disease in the tri-state Border Region of New Mexico, El Paso County, Texas and Chihuahua, Mexico.* Binational relationships are limited primarily to attendance of meetings to share *ex post facto* disease case counts, workshops to discuss issues related to binational surveillance and reporting, and more recently, to discuss alignment of pandemic flu preparedness plans. There have been important gestures of training collaboration with state laboratories of Texas and New Mexico, and a few instances of tracking and management of binational disease cases, but these have been discontinuous and non-programmatic. While binational disease reporting does occur, it is carried out in a relatively uncoordinated and convoluted manner that is restricted due to the lack of protocols that need to be established at the Federal level, and the informality of operational procedures for surveillance and reporting at the State-to-State level (both among states within the US and between individual states of the US and Mexico). The few instances of real-time disease reporting of binational cases are the result of the efforts of well-intentioned local and jurisdictional public health personnel that see it as a necessary public health duty, regardless of the legal and political ramifications.

Survey results indicate that medical providers in the US have, essentially, no relationship with their counterparts in Mexico—a role ceded to their respective State Departments of Health. Only State agencies are legally required to report disease cases to Mexico; however such protocols are confusing, when they exist, as they have yet to be formalized at the level of the US and Mexican federal governments. Results of the survey also indicate that medical service providers, and some of the health departments, have limited understanding of what constitutes a binational disease case, are not detecting these as part of their case investigations, and thus do not report them or manage them as binational cases. Correctional facilities are believed to house numerous binational disease cases, but these are not being investigated or managed as such. Also, the current lack of health emergency preparedness plans among responding agencies and organizations is noteworthy, especially in light of the fact that none of those existing plans is being coordinated binationally. This weakness is troubling given the current context of pandemic influenza preparedness and the anticipated need for cross-border collaboration when the next pandemic arrives.

A *SWOB analysis* is used to categorize and interpret the principal conclusions of the survey. This type of analysis identifies the strengths, weaknesses, opportunities and barriers affecting binational epidemiology, surveillance and reporting in the shared Border Region of New Mexico, El Paso County, Texas and the State of Chihuahua.

## 1. Strengths

Strengths are characterized as the positive elements of current capacity and procedures already in place. These strengths are considered the building blocks for developing effective binational capacity and coordinated efforts to permit timely and accurate surveillance, reporting and response to infectious disease outbreaks and bioterrorism incidents. Based on the analysis of survey results, the following strengths are identified:

- i. *Nearly all medical providers report notifiable diseases.* The CDC/El Paso Quarantine Station and two of the correctional facilities, for different reasons, are the only entities that do not report directly to established reporting authorities. However, all respondents were both aware of and adhere to established procedures for reporting conditions on their respective notifiable lists. Chihuahua State Health Services has well-established reporting procedures mandated by the Mexican Federal Health Secretariat.
- ii. *Qualified staffs in most medical services sites.* All respondents indicated that they had at least a basic program and staff responsible for infectious disease control (albeit in very limited numbers), while in community health centers, correctional facilities, and educational institutions capacity is limited and generally assigned as an administrative duty consisting only of reporting notifiable diseases. Hence, there is a good infectious disease control foundation to build on.
- iii. *Availability of full-service laboratories.* With the exception of a few community health centers and educational institutions, all respondents possess access to laboratory services 24/7/365 and in emergent cases. While the level of capacity differed, especially among medical providers, ultimately all respondents have access to testing capacity required to identify infectious diseases found on their respective notifiable conditions lists, whether samples are processed on-site, submitted to private labs, and/or are sent to State laboratories. Chihuahua State Health Services did indicate occasional periods of reduced capacity due to lack of reagents or availability of specialized personnel. However, several improvements in staff training, equipping laboratories and upgrading testing protocols are being facilitated over the next 16 months with funding under the EWIDS Project.
- iv. *Positive experiences with binational surveillance of selected diseases.* The experience of TB-Card and TB-Net programs demonstrates that binational coordination can yield positive results. Several other binational projects, including the Espejo Project (STDs) and Encuentros Project (tuberculosis) have had encouraging results, but in most cases were funded for a short period of time before procedures could be fully adopted by participating agencies. These experiences should be highlighted as a basis for developing more comprehensive binational infectious disease epidemiology and surveillance programs.
- v. *Existence of the US-Mexico Border Health Commission.* The Commission serves as a forum for developing binational protocols and agreements between the US and Mexican federal governments required to facilitate collaborative State-to-State and Nation-to-Nation programs in health promotion, disease surveillance and reporting, and coordinated response to health emergencies.
- vi. *Existence of the Offices of Border Health.* Beginning in 1993 with the first established in New Mexico, Offices of Border Health have been established in all four US Border States with Mexico to develop and manage public health programs within the culturally and socioeconomically unique Border Region. Funded by their respective departments of health and the USMBHC, the OBHs manage programs intended to reduce health disparities among border

populations and promote binational public health management activities with their respective counterpart states in Mexico.

## 2. Weaknesses

Weaknesses are considered deficiencies in the capacity or procedures currently in place that can or should be strengthened, in order to carry out effective and timely binational epidemiology, surveillance and reporting. In most cases, weaknesses can be overcome readily by revising procedures, staff training, and improved communications—most of which do not require additional investments. Based on the analysis of survey results, the following weaknesses are highlighted:

- i. *Disparate understanding and surveillance of binational cases.* The great majority of respondents indicate that they either do not detect or have not had binational cases of infectious diseases. This seems unlikely as there is active daily movement back and forth across the border by thousands of people, whether members of the transient labor force, tourists, and/or undocumented immigrants, while correctional facilities in all three states have an important population of foreign nationals (especially in the US). It is therefore assumed that the great majority of binational cases go are not recognized as being binational.
- ii. *Limited numbers of infectious disease control practitioners.* The survey indicated that the number of ICs is surprisingly low. State departments of health maintain a relatively full complement of epidemiologists that serve regionally on response teams to be activated to investigate particular infectious disease cases and respond to outbreaks and health emergencies. Medical providers, including community health centers, hospitals, correctional facilities and educational institutions may or may not have a staff person assigned infectious disease control duties as an administrative task; usually, only one person is assigned infectious disease control duties, regardless of the size of the organization. Also, the number of bilingual ICs is quite low and while other bilingual staff can be used to for translation, this requires doubling the number of staff to do a single case interview.
- iii. *Lack of information on contacts and relationships with binational counterparts, and limited forums for interchange.* Public health staffs on both sides of the border indicate that they have very limited knowledge concerning who their counterparts are. A BIDS directory was circulated in 2004, but was limited mostly to higher-level officials and BIDS project coordinators. The Arizona Office of Border Health has developed a binational directory for their staff and counterparts in the State of Sonora, but no such directory exists for New Mexico, Texas and Chihuahua. Not knowing who to contact is a first and serious weakness that limits binational epidemiology, surveillance and reporting efforts.
- iv. *Stratified and convoluted processes for infectious disease reporting and case investigations.* Reporting procedures for each state in the US and under the federally-mandated system in Mexico appear overly-hierarchical, requiring numerous steps to report an infectious disease. In New Mexico, diseases may be reported to staff in NMDOH/Region 5 or Santa Fe. The process to assign staff to emergent disease investigations may be complicated by not having regional office personell as designated on-call. There is some confusion in El Paso County, Texas where both the Texas DSHS and EPCCH&ED are reporting authorities and a medical provider may report a disease to one or the other. Also, Texas DSHS has four different fax and telephone numbers for reporting certain types of diseases; these have lead to reporting a disease to the wrong number and potential delays for case investigations. In the State of Chihuahua, reports must first be sent to the General Epidemiology Directorate in Mexico City before an investigation is authorized at the State level. Another anomaly found is that State and Federal correctional facilities in New Mexico do not report infectious disease cases directly to

NMDOH/Epidemiology and Response Division. The health services director in a NM State Prison reports infectious diseases to their corporate headquarters, who presumably then report to the NM Corrections Department who then report to the reporting authority. Also, while it sits geographically on the state border of Anthony, Texas and Anthony, New Mexico, the Federal Corrections Facility “La Tuna” only reports to EPCCH&ED and Texas DSHS, but not to NMDOH.

- v. *Lack of follow-up actions after border summits, workshops and meetings.* Various survey respondents indicated that they were frustrated that very little action has followed the numerous meetings and workshops that they had attended. The BIDS project was often cited as a good idea, but has yet to produce expected outcomes in terms of binational protocols and coordinated operational programs. This weakness is linked to several of the barriers indicated below in section D.4. concerning lack of political will and leadership among Federal agencies in both countries.
- vi. *Lack of health emergency preparedness plans and their coordination with Mexico.* Only two-thirds of the respondents indicated that their respective agencies or organizations had health emergency management plans. Of all respondents that indicated that they did have a public health emergency preparedness plan, including both States’ Departments of Health and EPCCH&ED, not one is coordinated with counterparts in Mexico. Obviously, any attempt to coordinate a binational health emergency, such as pandemic flu, is seriously compromised at the present time.
- vii. *Lack of a formal procedure to have on-call personnel available to respond to emergent disease cases.* In the particular case of NMDOH, another weakness detected by the survey is the lack of a formal procedure established for tapping staff on-call in Region 5 in case of infectious disease outbreaks/emergencies. Hence, each infectious disease case or outbreak requires that personnel are first located (if they can be) and then assigned, and then a formal request made by the Director of Region 5 to allocate funding and staff overtime—a process that could delay response time.

### 3. Opportunities

Opportunities are defined as a set of enabling conditions that favor improvement in the short and medium term. The following opportunities could be seized upon by authorities in the states of New Mexico, Texas and Chihuahua, as well as the Federal authorities of the US and Mexico to bring about effective binational epidemiology, surveillance and reporting:

- i. *Perceived priority of binational collaboration and pandemic flu.* While less than half of the respondents indicated interest in collaborating on binational activities, there is a growing concern about binational surveillance and management of infectious diseases cases as an important element of public health. The increasing awareness of the threat of *pandemic flu* is serving as a catalyst to enjoin both Federal governments, State departments of health in all Mexican and US states, as well as most medical providers in a coordinated readiness and response. As most of the procedures required for pandemic flu preparedness, including epidemiology and surveillance (including sentinel sites), real-time reporting, and response, are essentially the same as required for most infectious disease outbreaks, many of the weaknesses and barriers currently affecting binational infectious disease surveillance and reporting would ideally be addressed in relatively short order.

- ii. *The Border Infectious Disease Surveillance/BIDS and Early Warning Infectious Disease/EWIDS Projects.* The BIDS Project was initiated in 1997 and has generated a series of lessons learned in how binational infectious disease surveillance and reporting should be managed. The project set the stage for follow-on activities under EWIDS although mandates to forge binational agreements required at the Federal level to permit State-to-State collaborations on surveillance and reporting have still not been met. Still, the fact that these projects are ongoing at least for another 16 months to two years provides dedicated resources to address issues affecting binational infectious disease epidemiology, surveillance and reporting.
- iii. *Collegial relation among public health staffs of US and Mexican state institutions.* Where these relationships do exist, they have been both collegial and mutually supportive. Public health staffs, and especially those working in infectious disease epidemiology, have expressed the need and willingness to work together on binational activities. As an example, the Local Health Office of Luna County, NM, which provides medical services for certain diseases for residents of Palomas, Chihuahua, has been reporting binational tuberculosis and sexually-transmitted disease cases to Chihuahua State Health Services' Jurisdictional Office in Nuevo Casas Grandes, and has coordinated management of several binational cases and follow-up testing of sex workers in Palomas. Also, the Texas DSHS Health Services Laboratory and the NMDOH/Scientific Laboratory Division have provided equipment and training of counterpart staffs in several Mexican States in testing and laboratory procedures for selected diseases.
- iv. *Advances in technology.* The Internet represents an important tool that permits instantaneous communication and data and documentation transfer that can be used among State and Federal government authorities for binational reporting and tracking of infectious disease cases. Each of the US states is already using an encrypted Web-based disease reporting system, albeit slightly different in each case. These systems could potentially be utilized to facilitate binational reporting and tracking of disease cases, especially binational cases.

#### 4. Barriers

Barriers are structural limitations related primarily to political and institutional factors, along with funding limitations that are also considered closely linked to the former. Barriers must eventually be overcome in order to reach the most effective level of binational epidemiology, surveillance and reporting. Removal of such barriers may require changes in political will, inter-governmental agreements, legal changes, and/or increasing funding to support binational infectious disease control.

The survey asked that respondents identify barriers that prevented their respective agency or organization from coordinating epidemiology, surveillance and health emergency readiness activities with public health officials in Mexico. In rank order, the top five reasons given among all respondents are presented below, with the addition of two barriers deemed relevant from analysis of other survey results:

- i. *Inadequate opportunities to meet with Mexican counterparts.* This barrier is actually seen as a weakness, the same as indicated above under section D.2. By and large, medical providers and the majority of personnel from State and County agencies have not had contact with, nor do they know who their counterparts are, in Mexico. Staff of Chihuahua State Health Services indicated that they had no formal relationship with their public health counterparts in the US, and most of the efforts to involve them have been one-day conferences or discontinuous training sessions, with little if any follow-up.

- ii. *Lack of resources.* Respondents in New Mexico and Texas indicated that they have limited staff and financial resources with which to coordinate epidemiology, surveillance, and emergency response activities with their Mexican counterparts. Funding to support binational epidemiology, surveillance, reporting and response under the USMBHC is insufficient to support the broad thematic and geographical range of activities required, leaving any shortfall to be picked up by State governments. What funding is provided is seen as “crisis driven” and generally restricted to particular projects (e.g., BIDS and EWIDS), but does not address the full complement of public health needs in the binational setting. Constant staff turnover on both sides of the border, but especially in Mexico, is seen as another issue related to the lack of qualified human resources.
- iii. *Lack of political will.* Respondents feel that both Federal and State governments on both sides of the border do not consider binational coordination a political priority. Hence, coordination efforts are seen as “window dressing”, are insufficiently funded and tend toward stating platitudes about the virtues of binational coordination which are not then followed up with definite actions—especially concerning the establishment of protocols and agreements to facilitate improved binational coordination. For instance, the lack of communication and operational protocols for interstate reporting within the US and for state-to-state reporting among US and Mexican states is an important barrier to infectious disease surveillance in the Border Region.
- iv. *Legal issues.* There appears to be a tendency to hide behind current laws on both sides of the border that restrict well-intended interaction among Mexican and US States (i.e., vertical coordination). This seems to be applicable more in Mexico where Federal law dictates that binational communication and coordination is the exclusive mandate of the Federal Health Secretariat based in Mexico City. Similarly, while communication of data concerning binational infectious disease cases is done informally by individual US States to their counterparts in Mexico, established protocols imply that this should be done between the US and Mexican Federal governments. Perhaps the most frustrating legal barrier for both sides of the border is that related to customs restrictions on the transfer of reagents, media and equipment from the US to Mexico, which leads to disruptions in testing at laboratories in Chihuahua, and on sending laboratory samples and specimens from Mexico to US labs, which restrict confirmations of disease agents and subsequent epidemiology, response and case management.
- v. *Lack of leadership from US and Mexican sides of the border.* This barrier is closely related to that of lack of political will. Respondents indicate confusion as to what agency is taking the lead in promoting binational coordination of epidemiological surveillance, reporting and health emergency response. There is a perceived sense of “foot dragging” on the part of Federal agencies in the US and Mexico concerning the making of agreements and establishment of protocols necessary to permit individual US states to coordinate activities with their Mexican counterpart states, and vice versa.
- vi. *Language.* While language was not seen by survey respondents in the US as an important barrier, it is seen as such by public health counterparts in Mexico. Very few members of the public health staff of Chihuahua State Health Services speak English. Hence, the level of their interaction with public health counterparts in the US will be restricted to bilingual staff of State and County agencies. This situation further restricts the operational aspects of binational surveillance and reporting, as well as responses to health emergencies (e.g., pandemic flu).

vii. *The “open” and “closed” border.* This represents an important structural barrier related to both socioeconomic and sovereignty issues. The problem of the *open border* relates to the public health challenges posed by the flow of undocumented Mexican and other countries’ nationals into the US. The hundreds of thousands of immigrants put enormous pressure on the public health systems and State budgets in each of the States bordering Mexico, both in terms of infectious disease surveillance and primary care. Consequently, there has been a growing effort to institute a *closed border*, through militarization and the erecting of fences as measures to stem the flow of immigrants. These actions may only serve to further complicate efforts to ensure that all people have access to clinical services as a measure to reduce the spread of infectious diseases, as undocumented immigrants may go further underground to avoid being captured and deported, and thereby not seek medical services.

#### **E. Moving Towards More Efficient Infectious Disease Epidemiology, Surveillance and Reporting in the Shared Border Region**

Based on the results of the survey, a series of recommendations is offered to infectious disease reporting authorities, as well as medical services providers in the three-state Border Region. While these recommendations are provided to NMDOH/Epidemiology and Response Division, they should also be considered applicable to Texas DSHS, El Paso City-County Health and Environmental District and Chihuahua State Health Services, as well as the medical providers included in the survey. The following recommendations are intended to capitalize on the existing strengths and opportunities identified in the Border Region in order to respond to the weaknesses and barriers indicated in the SWOB analysis in the preceding section. Recommendations should also be viewed in light of pandemic flu which will require a broad-based and integrated binational response.

Recommendations are based in part on a prioritized list of proposed actions to increase efficiency of binational infectious disease surveillance, epidemiology and reporting that was generated by participants during the *Validation Meeting for Presentation of Preliminary Results of the Survey*, held on August 31, 2006 at Memorial Medical Center in Las Cruces, New Mexico (see Annex 2). While participants indicated that certain actions should have a priority over others, all of the following recommendations are seen as relevant to resolving issues related to effective binational epidemiology, surveillance and reporting in the tri-state Border Region.

Most of the following recommendations do not require additional funding. Rather, what is required is better communication and coordination among State and Federal public health agencies, as well as medical services providers, to align certain operational strategies and activities. In fact, most of the barriers indicated in the preceding section can be overcome, or at least reduced, through coordinated actions on the part of State and Federal public health agencies on both sides of the border.

#### **Recommendations**

##### **1. Recommendation 1: Finalize protocols to decentralize and delegate epidemiology, surveillance and reporting among States**

This is an over-arching recommendation related to the eventual application of all other recommendations that follow. US and Mexican Federal governments should mobilize additional political and technical resources to finalize and promulgate the protocols and agreements necessary to delegate operational authority to the border states for timely epidemiology, surveillance, reporting, and response. Several processes have been initiated between US and Mexican Federal governments to develop agreed-upon guidelines, procedures and protocols regarding epidemiology, surveillance and reporting, as well as health emergency response. One example is the *Guidelines for US-Mexico Coordination on Epidemiologic Events of Mutual Interest* (last draft of December 5, 2005) which deals

with most of the issues affecting binational epidemiology, surveillance and response. The issues include:

- a. legal frameworks in both countries;
- b. identification and notification of binational cases;
- c. preparing for and collaborating on binational disease outbreaks and potential terrorism events; and
- d. laboratory issues.

It would benefit public health to finalize the guidelines and reach agreement on immediate courses of action.

## **2. Recommendation 2: Improve procedures and education for diagnosis, investigation and reporting of binational cases**

Due to the apparent confusion over the definition of binational cases and related procedures for their reporting, each of the States should carry out an awareness and training campaign among their respective public health staffs and medical providers. The United States-Mexico Border Health Commission (USMBHC) could take overall responsibility for developing a bilingual one-day training module and associated materials (guidelines, checklists, questionnaires) for presentation to the Offices of Border Health in the four US States and to State health services offices in the six Mexican states (and their affiliated USMBHC Outreach Offices in all states), for delivery to their appropriate public health personnel medical providers, educational institutions and correctional facilities. The training should also include procedures for detecting, reporting and case management of binational infectious disease cases.

## **3. Recommendation 3: Improve the efficiency of intrastate and binational procedures for reporting of infectious diseases**

Reporting procedures currently used within the three States for notifiable infectious diseases should be clarified and aligned. This is necessary to prevent miscommunication in the event of a disease outbreak or pandemic. Public health agency personnel and medical providers should be alerted and educated about any changes in reporting procedures when they are revised.

Medical providers (including those associated with correctional facilities and educational institutions) should be encouraged to formally *report to only one authority* to avoid confusion. Procedures could be simplified in Texas by having a single 24/7/365 call-in number. As Texas is a geographically large state, a single call in number could be used for each regional office, but each report should be simultaneously reported by the region to headquarters in Austin. Even as El Paso City-County Health and Environmental District is the official reporting authority for El Paso County, that agency should notify Texas DSHS Region 9/10 within the established required time period when a reportable infectious disease case is identified.

In New Mexico, a single location for formally reporting all cases should be used—the 24/7/365 call-in line at NMDOH/Epidemiology and Response Division. NMDOH/Epidemiology and Response Division should also clarify reporting procedures for correctional facilities with the Federal Bureau of Prisons and the New Mexico Corrections Department.

While it is not realistic to expect each US State or the Mexican public health authority to align their respective notifiable conditions lists, agreements can and should be reached on a list of notifiable conditions that will be reported binationally.

#### **4. Recommendation 4: Improve interstate and binational communication**

The first step is to develop and distribute a directory of personnel in local, State and Federal agencies and key medical providers with responsibilities for infectious disease epidemiology, surveillance and reporting in both the US and Mexico. The current report includes the *Directory of Key Staffs Responsible for Infectious Disease Surveillance and Reporting in the Border Region of Southern New Mexico, El Paso County, Texas and the State of Chihuahua, Mexico* (see Annex 4). This directory should be revised and updated at least annually.

Once the directory is distributed, a *monthly E-mail bulletin* could be broadcast to all those listed. Preparation of the bulletin could be coordinated by the USMBHC and serve to inform on the status of infectious diseases throughout the Border Region, announce meetings and workshops, as well as serve as a forum for presenting case studies and best practices in infectious disease epidemiology and surveillance. In addition, *periodic coordination forums*, as is currently being conducted under Border Infectious Disease Surveillance (BIDS) and Early Warning Infectious Disease Surveillance (EWIDS) projects, should be continued but related more to coordinating the ongoing program of binational infectious disease control and sharing of best practices, and not just be limited to sharing infectious disease data.

#### **5. Recommendation 5: Train more infectious disease control staff for investigation and case management, and provide Spanish language instruction and/or hire more qualified bilingual staff**

Currently, most hospitals and clinic systems have infectious disease control tasks assigned to someone as a secondary duty. These facilities and systems would benefit from the addition of personnel with specific training in infection control and outbreak response. Public health offices must have sufficient staff with bilingual capability in order to carry out their duties in a dual-language setting. US State governments are urged to provide resources for appropriate staff to learn Spanish in order to function in the Border Region—especially those that investigate disease cases with Spanish-speaking only clients. For Chihuahua, epidemiologists located in Chihuahua City and jurisdictional offices along the border should also be offered training in English to facilitate binational collaboration on infectious disease surveillance and reporting, and eventual health emergency response.

#### **6. Recommendation 6: Improve binational professional relationships and epidemiology and surveillance capacity between the US and Mexican States (New Mexico, Chihuahua and Texas)**

The State public health agencies of all three States are urged to consider binational seminars and staff exchanges as vehicles for developing uniform infectious disease epidemiology, surveillance and response capacity. These visits could be helpful in bringing about awareness regarding conditions and challenges in each State and Country. Best practices in epidemiology, surveillance and analytical laboratory techniques could be identified. Specific personnel could participate in cross-border exchange for training and technical assistance to benefit both State agencies.

#### **7. Recommendation 7: Streamline customs in Mexico and US for importing equipment and transfer of specimens**

This recommendation is related to Recommendation 1, but pertains primarily to Mexican authorities. Federal and State governments in the US already export medical and laboratory equipment to their counterparts in Mexico, as well as receiving medical specimens under a protocol established with the CDC and US Immigration and Customs Enforcement. Mexican Federal health and customs authorities should adopt a standard set of protocols for the prompt import of specialized equipment and reagents, and exporting laboratory specimens to labs in the US. These protocols could then be considered by the

CDC and US Immigration and Customs Enforcement for adoption and put in place as soon as possible at all designated border crossings and/or customs entry locations (e.g., international air and seaports).

**8. Recommendation 8: Consolidate current efforts under BIDS, EWIDS, pandemic influenza preparedness and health emergency planning**

While there may be some resistance on the part of certain State and Federal agencies to do so, ongoing activities prescribed under the BIDS and EWIDS projects should be consolidated operationally with current pandemic influenza preparedness activities, which in turn should be used as a springboard for the preparation and operational linking of health emergency management plans of State and local agencies, and medical providers. As different State and local agencies, hospitals, medical providers, educational institutions, and the public at large, become engaged in pandemic influenza preparedness, model health emergency plans can be prepared simultaneously to deal with other infectious disease emergencies. Most of the public health agency personnel involved with BIDS and EWIDS on both sides of the border are also involved with pandemic influenza preparation. Coordination of these systems could result in cost savings. Also, the urgency of pandemic influenza preparedness will give a boost to realizing objectives proposed under the BIDS and EWIDS projects in a shorter period of time, and encourage those medical providers who do not yet have health emergency preparedness plans to develop them.

**9. Recommendation 9: Utilize the Offices of Border Health in each State and the USMBHC to better coordinate and follow up on actions related to improved binational epidemiology, surveillance, reporting and health emergency response**

As the Offices of Border Health (OBH) in the respective US border States were established to maintain working relationships with their Mexican counterparts for coordinating binational public health programs, it follows that the State public health agencies should strive to coordinate all binational programs through these offices. Currently, activities related to BIDS, EWIDS, health emergency preparedness (including pandemic influenza preparedness) are being managed differently in each State, with some of the intended binational activities being implemented without systematic coordination with the OBHs. It is suggested that State public health agencies make full use of the unique character of their respective OBHs by coordinating through them all relevant public health activities involving binational connections, thereby avoiding confusion among Mexican counterparts concerning “who does what”.

In a similar vein, US Federal agencies should take full advantage of the unique binational relationships that have been established under the US-Mexico Border Health Commission. At times, there appear to be different binational agendas being managed by CDC, the Secretary of Health and Human Services and, in terms of environmental health, the US Environmental Protection Agency—activities that can be better coordinated with the USMBHC. As an example, Border 2012, BIDS and EWIDS project activities could be better coordinated through the USMBHC in connection with the OBHs.

**10. Recommendation 10: Medium to long-term funding streams to finance surveillance and reporting**

While many of the recommendation in this report can and should be implemented without additional funding, there is a need to provide sufficient funding for a longer period of time to sustain binational infectious disease epidemiology, surveillance, reporting and response. This would help eliminate problems associated with discontinuous programming and reliance on short-term project funding that tends to initiate a process intended to be continuous, only to see it disintegrate once the funding period is completed. Funding should be provided by both Federal governments with matching from State and local governments (especially in-kind contributions of staff and logistical support).

*The following Annexes are found in separate files appended to this report:*

- ANNEX 1** Survey Instruments (English and Spanish)
- ANNEX 2** List of Agencies and Medical Service Providers that Participated in the Validation Meeting of August 31, 2006 and Prioritized List of Proposed Actions to Increase Efficiency of Binational Infectious Disease Surveillance, Epidemiology and Reporting
- ANNEX 3** Notifiable Conditions Lists for the States of New Mexico, Texas and Chihuahua, Mexico
- ANNEX 4** Directory of Key Staffs Responsible for Infectious Disease Surveillance and Reporting in the Border Region of Southern New Mexico, El Paso County, Texas and the Chihuahua, Mexico