



13-SI-02

Committee: Surveillance

Title: Incorporating a Binational Variable into the National Notifiable Diseases Surveillance System (NNDSS) Generic Variables

I. Statement of the Problem:

A number of infectious diseases of public health importance have documented higher incidence along the U.S.-Mexico border and many infectious disease outbreaks have occurred across the U.S.-Mexico and U.S.-Canada borders over the past 20 years. These outbreaks affect not only border states, but often other states throughout the U.S. Response to these cases and outbreaks frequently requires bilateral or in some cases trilateral participation from North American countries for most effective disease control, making it important to rapidly identify these situations and communicate them via electronic reporting systems.

CSTE has passed three position statements related to this issue. In 1997, CSTE encouraged the establishment of binational border infectious disease surveillance to improve epidemiologic information in the U.S.–Mexico border region, which led to the creation of the Border Infectious Disease Surveillance (BIDS) Program. In 2006 CSTE recommended the creation of binational guidelines (Guidelines) for cooperation on epidemiologic events of mutual interest to facilitate and systematize binational information exchange. These Guidelines, which include definitions of binational cases and outbreaks (<http://www.cdc.gov/USMexicoHealth/pdf/us-mexico-guidelines.pdf>), were drafted and have recently been approved by the U.S. and Mexico and are viewed by the World Health Organization as a model for public health cooperation for neighboring countries, complementary to the International Health Regulations. In 2011 CSTE approved a position statement endorsing piloting implementation of the Guidelines and a communications pathway protocol for epidemiologic information exchange. The pilot was implemented in December 2011 and is ongoing with the participation of Texas, New Mexico, Arizona, the Mexico General Directorate of Epidemiology and the Mexican state of Sonora. Alabama and Washington State have also joined participation in the pilot, and Mexico expects that additional Mexico border and interior states will join the pilot in the near future.

As part of the pilot, both Mexico and U.S. border states have added or are adding binational case variables to their surveillance data systems for notifiable diseases. A key aspect of implementing binational case reporting is the inclusion of a variable within states' surveillance systems that promotes such communications. During the first twelve months of the pilot, over 55 notifications met pilot criteria, including 5 binational outbreaks and binational cases of high consequence pathogens such as botulism. Over 120 notifications were made in total during this time (additional reports involved non-pilot conditions and/or non-pilot jurisdictions), the vast majority by U.S. states and local jurisdictions.

The desirability of systematizing binational notifications has also been discussed and supported at regional meetings between northern border states and Canadian provinces, and at meetings on pandemic influenza preparedness by staff from the office of the U.S. Assistant Secretary for Preparedness and Response, CDC, Health Canada, and the Mexico Ministry of Health.

The proposed binational variable would serve to facilitate information sharing with Mexico and Canada for binational cases and outbreaks that may require public health action. The variable will also help document binational burden of disease and may be useful for resource advocacy. The variable is currently intended for use for notifiable *infectious disease* conditions, but it may be useful for non-infectious notifiable conditions as well. Further consideration of the implications of implementing the variable for non-infectious conditions is needed.

13-SI-02

II. Statement of the desired action(s) to be taken:

1. The National Notifiable Diseases Surveillance System should incorporate an optional binational case variable into the generic data set for infectious conditions.

Binational Case Variable

A data field would identify a case as binational when it meets one or more of the following criteria (Appendix):

- Potentially exposed while in Mexico or Canada
- Potentially exposed by a resident of Mexico or Canada
- Resident of Canada or Mexico
- Has case contacts in or from Mexico or Canada
- Exposure to suspected product from Canada or Mexico
- Other situations that may require binational notification or coordination of response (e.g., a measles outbreak without known cross border contacts in a border community or state; exposure to an exported product from the U.S. to Canada or Mexico)

When possible and desired by individual jurisdictions, integration of the binational case variable with other relevant variable fields (e.g., country of exposure, country of usual residence) may be programmed into the jurisdiction's electronic reportable disease surveillance system.

2. CSTE and CDC should establish a workgroup to consider incorporation of the binational case variable into surveillance systems for non-infectious nationally notifiable conditions.

III. Public health Impact:

Implementing the U.S.–Mexico Guidelines by CDC, and state and local health departments in the U.S., Mexico and Canada, and the implementation of the International Health Regulations overall, will be facilitated by incorporating a binational variable into the NNDSS.

The binational variable would not change the flow of notifications from states to CDC but just be a signal that further communication between state(s), Mexico and/or Canada, and CDC may be needed for appropriate public health action.

CDC would be available to facilitate communication with Mexico and Canada, if needed, particularly for non- border states. It is likely that border states with relationships with immediately bordering sister Mexican states or Canadian provinces may not need CDC assistance for cross border communication to accomplish appropriate public health action.

Implementation of the binational variable by states would be optional, and the work burden for binational cases based on pilot experience is expected to be modest and reasonable. However, implementing the binational variable would require some reprogramming of state surveillance systems and the collection of travel history and location information to enable public health action and, when appropriate, sharing this information in communications with Mexico and Canada. While the newly proposed NNDSS fields of country of exposure and country of usual residence overlap the criteria for binational variable, other criteria also define binational cases (see above), and having a specific binational variable will enable direct tabulation of binational cases. Thus, although implementing the variable will generate some additional work, the information will promote appropriate across-border public health communication and action.



IV. References

Coccidioidomycosis in travelers returning from Mexico --- Pennsylvania, 2000. MMWR 2000, Vol 49 (44);1004-6

Multistate outbreaks of Salmonella poona infections associated with eating cantaloupe from Mexico – United States and Canada, 2000-2002. MMWR 2002; 51(46):1044-47

Hepatitis A outbreak associated with green onions at a restaurant - Monaca, Pennsylvania, 2003. MMWR 2003, Vol 52(47);1155-7

Human tuberculosis caused by Mycobacterium bovis --- New York City, 2001-2004. MMWR 2005, Vol 54 (24);605-608

2008 Outbreak of Salmonella Saintpaul infections associated with raw produce. C. Barton Behravesh et al. NEJM 2011 364;10: 918-927

CDC. Outbreak of swine-origin influenza A (H1N1) virus infection --- Mexico, March—April 2009. MMWR 2009. 58:467-70.

CDC. Human rabies from exposure to a vampire bat in Mexico ---Louisiana, 2010. MMWR 2011. 60 (31):1050-52

Acute viral hepatitis in the United-States-Mexico Border Region: Data from the Border Infectious Disease Surveillance (BIDS) Project, 2000-2009. P Spradling et al. J Immigr Minor Health 2012 March 24. [Epub ahead of print]

Patterns of illness in travelers visiting Mexico and Central America: the GeoSentinel Experience. J Flores-Figueroa et al. Clin Inf Dis 2011. 53(6):523-31.

Contact investigation of bus travelers exposed to a passenger with contagious tuberculosis. P Pallai et al. Michigan Journal of Public Health 2011. 5(1):11-23.

Salmonella Oranienburg infections associated with fruit salad served in health-care facilities – Northeastern United States and Canada, 2006. MMWR 2007. 56(39):1025-28.

V. Coordination

Agencies for Response:

- (1) Centers for Disease Control and Prevention
Thomas R. Frieden, MD, MPH
Director
1600 Clifton Road, NE
Atlanta, GA 30333
404-639-7000
Txf2@cdc.gov

VI. Submitting Author:

13-SI-02



- (1) Kenneth Komatsu
State Epidemiologist
Arizona Department of Health Services
150 N. 18th Avenue, Suite 100
Phoenix, AZ, 85007
602 634 3587
Ken.komatsu@azdhs.gov

Co-Author:

- (1) Active Member Associate Member

Allison Banicki
Border Health Epidemiologist
Texas Department of State Health Services
1110 W. 49th St.
Austin, Texas 78756
512 776 7675
Allison.banicki@dshs.state.tx.us

- (2) Active Member Associate Member

Perry Smith
Independent Epidemiology Consultant
16 Heather Lane
Delmar, NY, 12054
518 439 7453
pfsmith2010@nycap.rr.com

APPENDIX: Binational Reporting Criteria (single PHIN UID with repeating observation value)

PHIN UID	Label/Short Name	Description	Proposed Value Set Name and Notes
INV515	Binational Reporting Criteria	For cases meeting the binational criteria, select all the criteria which are met	PHVS_BinationalReportingCriteria_CDC New value set with the following: <ul style="list-style-type: none"> ● Potentially exposed while in Mexico or Canada ● Potentially exposed by a resident of Mexico or Canada ● Resident of Mexico or Canada ● Has case contacts in or from Mexico or Canada ● Exposure to a suspected product from Mexico or Canada ● Other reason (all criteria not fitting into the categories listed above)