

# Evaluation of Reports of III Travelers to Quarantine and Border Health Services Branch

Final Report

# **Evaluation of Reports of III Travelers to Quarantine and Border Health Services Branch - Final Report**

Consultants: Kristen Allen, MPH & Kristina Lai, MPH Client: Council for State and Territorial Epidemiologists (CSTE)

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#### **Executive Summary**

Reporting of ill persons with recent or upcoming travel and associated communication between the Centers for Disease Control and Prevention (CDC) Division of Global Migration and Quarantine (DGMQ) Quarantine and Border Health Services Branch (QBHSB) and jurisdictional health departments occurs regularly nationwide. However, there has not yet been an evaluation of the processes and barriers that exist for the jurisdictions to report and communicate with QBHSB. The Evaluation of Reports of Ill Travelers to the Quarantine and Border Health Services Branch Project aims to assess the current processes that state, local, and territorial epidemiologists use to report ill travelers with diseases of public health concern to QBHSB to identify areas for improvement. This document is a summary of the methods and recommendations that were developed over a period of several months with input from state, local, and territorial epidemiologists, the Council for State and Territorial Epidemiologists (CSTE), CSTE consultants, and subject matter support from CDC/QBHSB.

The following findings are presented with the overall goal of preventing the spread of communicable diseases to and within the United States by improving reporting processes to QBHSB and strengthening the relationship between QBHSB and epidemiologists at jurisdictional health departments. A mixed-methods approach was used to assess the current reporting processes and areas for improvement.

A summary of the key recommendations from this project are below. Further details are available in the full report.

#### Overall Recommendations

- Convene a workgroup of key stakeholders to further discuss areas for improvement in jurisdiction reporting to QBHSB and to develop a standardized protocol for reporting.
- Host a standing discussion or roundtable at the CSTE Annual Conference to review reporting procedures including any updated resource documents or disease-specific guidelines.
- Collaborate to determine best practices for obtaining denominator data for international arrivals and sharing this data between DGMQ/QBHSB and jurisdictions.

#### • DGMQ/QBHSB-Specific Recommendations

- Develop standardized protocols/algorithms for jurisdiction reporting to quarantine stations.
- Provide clarity and justification for each piece of data requested for reporting a case.
- o Distribute the QBHSB annual report to jurisdictions.
- Hold annual meetings between quarantine stations and jurisdictions.
- Develop a training webinar and downloadable reference document with information essential for jurisdiction reporting to DGMQ/QBHSB.
- Explore additional opportunities for communication with state, local, and territorial health departments.

#### Jurisdiction-Specific Recommendations

- Provide onboarding and training to new epidemiologists and key personnel on reporting cases to QBHSB, including relevant protocols.
- Verify that the jurisdiction has the correct contact information for their quarantine station and the CDC Emergency Operations Center (EOC; for after-hours, weekend, and holiday reporting) and that it is accessible to all staff.
- Confirm that jurisdiction-specific protocols are aligned with the CSTE position statement.

#### • CSTE-Specific Recommendations

- Widely disseminate the CSTE position statement and this project report to jurisdictional members involved in reporting cases of ill travelers to DGMQ/QBHSB.
- Ensure that the CSTE position statement and this project report are available and easily accessible on the CSTE website.

The next steps for this process will require an internal review from CDC to identify future directions. The recommendations in this report should be disseminated widely and used by jurisdictions to inform policies, resources, and best practices in preventing the spread of communicable diseases through travel-related means.

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The findings and conclusions in this report are solely the responsibility of the authors and do not represent the official views of CDC. If you would like additional information on this project, please contact Jordan Peart at <a href="mailto:jpeart@cste.org">jpeart@cste.org</a>.

#### **Background**

The Division of Global Migration and Quarantine (DGMQ) at the Centers for Disease Control and Prevention (CDC) houses the Quarantine and Border Health Services Branch (QBHSB). QBHSB protects the public's health through detection of, and response to, communicable diseases related to travel and imported pathogens and improves the health of globally mobile populations transitioning to U.S. communities.<sup>1</sup>

QBHSB has 20 quarantine stations (18 staffed, 2 covered by other quarantine stations) located at U.S. ports of entry, which together cover all 328 ports of entry into the United States. Quarantine stations work in partnership with United States Customs and Border Protection (CBP) and other federal agencies, airlines and cruise lines, and state, local, and territorial public health departments. One aspect of these partnerships involves relying on state, local, and territorial public health departments to notify QBHSB of ill persons with recent or upcoming travel to prevent the spread of communicable diseases of public health concern into and within the United States.<sup>2–4</sup>

Symptoms of communicable diseases of public health concern have been provided to CBP, emergency medical service personnel, and airline, cruise line, and shipping industries by CDC to aid the reporting of ill persons with recent or upcoming travel. However, due to the lack of detailed guidance for reporting for state, local, and territorial public health departments, CSTE, with support from CDC, developed the 2011 position statement titled "Communicable Diseases of Public Health Concern among International or Interstate Travelers on Commercial Conveyances: A Framework for Mutual Notification between CDC and State and Territorial Health Departments," hereafter referred to as the CSTE position statement (see Appendix 1, revised April 2018). CSTE serves as the professional home for almost 2,000 epidemiologists representing all 50 states and territories and many local and tribal jurisdictions. CSTE works to establish more effective relationships among state and local health departments. It also provides technical advice and assistance to partner organizations and to federal public health agencies including CDC. This project reflects the CSTE mission to support effective public health surveillance and epidemiologic practice through training, capacity development, and peer consultation, and develop standards for practice.

The objectives of this project were 1) to assess the current processes that state, local, and territorial epidemiologists use to report ill travelers with diseases of public health concern to QBHSB, and 2) to identify areas for improvement for both state, local, and territorial epidemiologists and QBHSB. The project also included questions about state, local, and territorial public health departments' knowledge and implementation of the CSTE position statement. A mixed-methods approach of an electronic assessment and virtual focus groups was utilized. The key findings, recommendations, and next steps included in this report will inform the development of policy, resources, and best practices for more robust processes for reporting ill travelers with diseases of public health concern to QBHSB.

#### Methods

#### Workgroup Selection

In February 2019, a workgroup was formed to support and guide this project. The workgroup was comprised of 14 individuals from state and local health departments, CDC quarantine station officers, plus the CSTE program analyst and project consultants. Workgroup members were identified by the CSTE program analyst, the CSTE Border/International Health Subcommittee chair, and the CSTE Cross Cutting II Steering Committee Chair. QBHSB was also invited to submit members from its branch to participate in the workgroup. Biweekly workgroup calls were held via RingCentral Meetings to develop data collection tools and data analysis plans, review findings, and reach consensus on recommendations and next steps.

#### Electronic Assessment

An electronic assessment was developed by the consultants and the workgroup. A draft was initially proposed by the consultants and was reviewed by the workgroup via webinars and email feedback. The final assessment was entered into Qualtrics, an electronic data collection platform. The goals of the assessment were to gather initial data on current reporting processes, to assess knowledge and implementation of the CSTE Position Statement, and to inform the subsequent focus group guide. Questions covered professional experience, reporting protocols, knowledge of the CSTE Position statement, prior reporting by disease and conveyance type, general ease of reporting, and willingness to participate in a focus group. The final assessment tool is available in Appendix 2b. In March 2019, CSTE distributed the assessment link to state and large metro area epidemiologists (see Appendix 2a for the initial invitation email). These primary contacts were instructed to forward the assessment to their colleagues. The assessment was originally open for data collection for a period of two weeks but was extended for an additional week to increase participation. The link was also sent to the workgroup to distribute to colleagues, as well as CSTE's Border/International Health Subcommittee, which aims to address border/international determinants of health problems in the U.S. through effective epidemiologic practice. Descriptive statistics were performed for each assessment question and overall results were summarized. Analysis was carried out using SAS version 9.4 (Cary, NC).

#### Focus Groups

The focus group guide was developed by the consultants and workgroup members (see Appendix 3a). A virtual pilot focus group with two participants was held and feedback was incorporated into the guide. The pilot included participants with varying experience levels (1 year vs >15 years). Minor changes were made to the focus group guide based on pilot feedback. Subsequently, two virtual focus groups were held with state and local health department epidemiologists. The pilot and two focus groups were hosted and recorded on WebEx. All assessment respondents who expressed interest in participating in the focus group were contacted to participate. Most participants were recruited using convenience sampling via the electronic assessment. Additional participants (who did not participate in the electronic assessment) were recruited via snowball sampling through those who had already indicated an interest in taking part in the focus group. Each focus group was recorded and transcribed verbatim. A key concepts analytic framework was used to develop a codebook and code the transcripts using Microsoft Word with a macro extension. The consultants coded the transcripts, then reviewed each and discussed revision of the codebook and coding until 100% inter-coder reliability was reached.

#### In-person Workgroup Meeting

An in-person workgroup meeting was held on June 24, 2019 at the CSTE National Office in Atlanta, GA. The goals of this meeting were to review the preliminary report and to discuss the key recommendations, next steps, and dissemination plan. The meeting was attended by seven workgroup members from state or local health departments and CDC, the two CSTE consultants, and the CSTE program analyst. A WebEx conference line was set up for remote participation and three additional workgroup members joined via phone. Participants reviewed the results of the electronic assessment and focus groups, identified key takeaways and recommendations, and reviewed a preliminary draft of the summary report. The meeting agenda is available in Appendix 5.

#### Results

#### Electronic Assessment results

The electronic assessment was directly emailed to 368 individuals including State Epidemiologists, City and Large Urban Area Epidemiologists, the CSTE Border/International Health Subcommittee, and the project workgroup. The assessment was sent out a total of three times including a reminder and a deadline extension. A total of 52 individuals completed the assessment. The respondents represented 17 (n=17/20, 85%) of the 20 quarantine station jurisdictions (Appendix 2c - Table 1a). Nearly half of all respondents (n=24/52, 46.2%) indicated that they had over 15 years of experience in public health and communicable disease reporting and 78.8% (n=41/52) were mid- to senior-level epidemiologists or public health professionals (Appendix 2c - Table 1b).

Regarding current reporting procedures, 48.1% (n=25/52) of all respondents indicated that their agency has a specific protocol in place for reporting ill persons with recent or upcoming travel. Of these 25 respondents, common components of these protocols included clinical history (n=23/25, 92%), time of travel (n=22/52, 88%), diagnostic laboratory results (n=22/25, 88%), coordination with other partners (n=21/25, 84%), and conveyance information (n=21/25, 84%). When describing their actions after receiving a report of an ill person with recent or upcoming travel, 64% (n=32/50) of respondents mentioned reporting to a guarantine station, 18% (n= 9/50) mentioned following some sort of protocol or recommendation, and 20% (n=10/50) indicated that they would implement a do not board (DNB) order or isolation/exclusion order. Twenty-eight (n=28/30, 93.3%) respondents reported that their jurisdiction follows the guidance in the CSTE Position Statement, however 22 (n=22/52, 42%) of all respondents had missing values for this question (Appendix 2c - Table 2). Ninety-eight percent (n=51/52) of respondents reported that they were aware of their quarantine station and how to contact its personnel, and 88.5% (n=46/52) of respondents reported any previous interaction with QBHSB or their quarantine station (Appendix 2c - Table 3). Nearly 70% (n=32/46, 69.6%) of all respondents agreed or strongly agreed that they have sufficient information to know when and what to report to QBHSB, and nearly 70% (n=32/52, 69.6%) of respondents agreed or strongly agreed that the reporting process was straightforward. Nearly 85% (n=39/46, 84.8%) of respondents agreed or strongly agreed that reporting to QBHSB was important (Appendix 2c - Table 6).

While 86.5% (n=45/52) of respondents indicated awareness of which diseases were quarantinable under section 361 of the Public Health Service Act (42 U.S. Code § 264), only 75% (n=39/52) indicated that they were aware of which diseases were of interest for reporting to QBHSB (Appendix 2c - Table 3). There were 319 instances of prior reporting of diseases of concern to QBHSB relating to any conveyance type. The most common report was infectious tuberculosis, followed by measles, invasive meningococcal disease, and viral hemorrhagic

fevers (Appendix 2c - Table 4). Aircrafts were the most common conveyance type, followed by ships (Appendix 2c - Table 5). Finally, 33 of the 52 respondents (63.5%) indicated interest in participating in a focus group discussion.

The full results of the electronic assessment are available in Appendix 2c.

#### Focus group results

Two individuals participated in the pilot focus group. There were 7 participants in focus group 1 and 8 participants in focus group 2. The average years of experience in infectious diseases was 13 years (range: 3–30 years). Of the 15 participants, 13 were from state health departments and 2 were from local health departments. They represented 14 different states, 12 quarantine stations, and all three QBHSB regions plus the border region staffed by CDC's US-Mexico Unit (USMU). A map of all US quarantine stations is available in Appendix 4. Qualitative data analysis revealed seven key concepts. Concepts addressed reporting and notification processes, protocols and other guidance documents, and relationships and communication between jurisdictions and QBHSB. Where relevant, statements were coded with more than one key concept so that none of the key concepts were given preference over another. The key concepts are described below, and the full codebook is available in Appendix 3b.

#### Key Concept #1: Reporting/Notification

Participants in both focus groups discussed multiple aspects involved in the process of reporting/notifying QBHSB of ill persons with recent or upcoming travel, including types of diseases reported and how/when reporting was done. All participants responded that their jurisdictions report cases to QBHSB but noted that the information for reporting depends on the disease and their knowledge of what should be reported (e.g. whether laboratory confirmation needs to be included in the report).

#### Key Concept #2: Algorithm/Protocol/Standard Operating Procedure/Guideline

The use of algorithms, protocols, standard operating procedures, and/or guidelines for reporting cases to QBHSB was discussed in both focus groups. The majority of participants were not aware of the CSTE position statement before receiving it as part of the focus group. Many participants did not have written protocols or algorithms in place in their jurisdictions for reporting. One participant mentioned an algorithm that is used for pertussis specifically, but it is unclear who developed the document. There was a significant amount of discussion regarding confusion over when to report pertussis, specifically, and several participants expressed interest in sharing protocols or guidelines between jurisdictions for best practices. Additionally, participants mentioned that if a standardized protocol were to be developed, it would be helpful to include the case information that QBHSB requests for each disease of concern. There was interest in developing a protocol for the process and procedures of adding a case to the Do Not Board list.

#### Key Concept #3: Clarity

The concept of clarity was discussed with regard to reporting requirements, communication, and the CSTE position statement. Several participants expressed that they would like more clarity surrounding the specific information QBHSB requests for a reported case, and that the information requested is often inconsistent. Participants also noted that communication for reporting (e.g. who to contact, what needs to be reported) could be clarified, as it varies when contacting QBHSB compared a program-specific division within CDC. Additionally, participants commented that the CSTE position statement could use clarification in several areas including

an explanation of the communication flow for reporting a case and expanded information to be included in Table 1 and Table 2.

#### Key Concept #4: Standardization

Most participants agreed that a standardized protocol for reporting cases of ill persons with recent or upcoming travel to QBHSB, and possibly a standardized case report form, should be developed. The participants discussed this because many felt that the information requested for a reported case was often inconsistent—both among multiple reports to the same quarantine station and multiple reports of the same disease. They also mentioned that convening of a diverse workgroup of individuals from different jurisdictions to discuss and develop a standardized protocol and case report form would be the best way to start this process. It was emphasized that jurisdictions should be involved in any effort to standardize these protocols.

#### Key Concept #5: Communication

A large portion of each focus group revolved around general communication between jurisdictions and QBHSB. This emerged as a separate concept from reporting because it covers the ease of contacting QBHSB or quarantine stations and any facilitators or barriers to that communication. Some participants indicated that they always contact a specific individual for reporting a case or asking a question, while others contact their specified quarantine station using a general phone number or email address.

#### Key Concept #6: Relationships

The relationships between QBHSB/quarantine stations and the jurisdictions were discussed in both focus groups with a variety of responses. Several participants expressed that their jurisdictions had great working relationships with their local quarantine station. Some mentioned that the good relationship was due in part to annual or quarterly meetings with the quarantine station/officer and routine communications to stay up-to-date on what is needed by each party. Participants that mentioned a weaker working relationship with their jurisdiction's quarantine station suggested that more regular communication and meetings could help strengthen the relationship.

#### Key Concept #7: Trust

The concept of trust was discussed multiple times during the first focus group. Several participants felt that there was not a mutual level of trust between QBHSB and the jurisdiction when reporting a case. Specifically, it was expressed that QBHSB may sometimes request information which seems extraneous, such as a laboratory report, and that trust in a jurisdiction's ability to identify a case would be appreciated.

#### Discussion

The mixed-methods approach to assess jurisdictional reporting processes of ill persons with recent or upcoming travel to QBHSB allowed for more in-depth information to be collected than by electronic assessment or focus group alone. The workgroup members reviewed the electronic assessment findings and focus group findings separately to identify critical data points from each, then engaged in group discussions to develop overall key takeaways, recommendations, and future directions.

The questions in the electronic assessment with discrete or categorical answers (e.g. yes/no, Likert-scales, multiple choice) revealed the majority of respondents felt comfortable with, and had the correct information and resources, to report cases QBHSB. The majority of respondents

also indicated that they were aware of the CSTE position statement and followed its guidance in their jurisdiction. The short answer questions in the assessment, however, allowed respondents to more fully express their experiences with reporting cases to QBHSB and identify strengths and weaknesses in the process. A number of the short answer responses seemed to be discordant with the information collected from discrete answers. Several respondents mentioned that they felt the reporting process to QBHSB was inconsistent. Furthermore, there was mention that the communication with QBHSB was often variable—in some cases it was helpful to the reporting process, while in others it felt arduous and repetitive.

The focus groups allowed for a more nuanced look into jurisdictions' experiences and the discordant responses in the electronic assessment. While several participants felt that their jurisdiction's relationship and communications with QBHSB/their quarantine station were excellent, there were also participants who echoed the comments from the electronic assessment that the reporting process and communications are often inconsistent. A jurisdiction's relationship with their quarantine station may be, in part, influenced by the proximity to the physical quarantine station, allowing for annual visits and more frequent interaction. For example, one jurisdiction reported meeting with their quarantine station on a quarterly basis, which included tabletop exercises and collaboration with other relevant partners. Similarly, jurisdictions that do not have a large volume of cases to report may not have developed the same rapport with the quarantine station as those jurisdictions that frequently report cases. The focus group participants also discussed and suggested several ways in which the reporting process could be improved.

The key recommendations that follow were developed collaboratively by the in-person workgroup after reviewing the key findings from all phases of the project. They are organized in four sections: overall recommendations, CDC/DGMQ/QBHSB-specific recommendations, jurisdiction-specific recommendations, and CSTE-specific recommendations.

#### Key Recommendations

#### 1. Overall Recommendations

- 1.1. Convene a workgroup of key stakeholders to further discuss areas for improvement in jurisdiction reporting to QBHSB and to develop a standardized protocol for reporting. The workgroup should involve a variety of state, local, and territorial public health officials from each quarantine station region, representatives from tribal epidemiology centers, CDC personnel representing each of the 3 quarantine station regions, representatives from the United States-Mexico Unit (USMU) and the National Notifiable Diseases Surveillance System (NNDSS), and subject matter experts (SMEs) from applicable CDC divisions of high incidence or high consequence pathogens(e.g. special pathogens, immunization).
- 1.2. The convened workgroup should include a collaboration of DGMQ/QBHSB and jurisdictions to determine best practices for obtaining denominator data for international arrivals. Potential sources of data may include the Department of Transportation (DOT), Customs and Border Patrol (CBP), Health and Human Services (HHS), and Immigration and Customs Enforcement (ICE).
- 1.3. Host a standing discussion or roundtable at the CSTE Annual Conference to review reporting procedures and protocols including any updated resource documents.

#### 2. CDC/DGMQ/QBHSB-Specific Recommendations

2.1. Include the link to the CSTE position statement on the QBHSB website.

- 2.2. Develop standardized protocols/algorithms for jurisdiction reporting to quarantine stations, including up-to-date contact information for each quarantine station and the CDC Emergency Operations Center (EOC; for after-hours, weekend, and holiday reporting).
- 2.3. Provide clarity and justification for each piece of data requested for reporting a case.
- 2.4. Quarantine stations should distribute the QBHSB annual report to their jurisdictions (which should include jurisdiction-specific information).
- 2.5. Quarantine stations should initiate annual check-ins with their jurisdictions to review reporting procedures and protocols, personnel, and other issues of concern.
- 2.6. Develop a training webinar and downloadable reference document with information essential for jurisdiction reporting to DGMQ/QBHSB.
- 2.7. Explore additional opportunities for communication with state, local, and territorial health departments.

#### 3. Jurisdiction-Specific Recommendations

- 3.1. Provide onboarding to new epidemiologists and key personnel on reporting cases to QBHSB, including relevant protocol.
- 3.2. Verify that the jurisdiction has the correct contact information for their quarantine station and the CDC Emergency Operations Center (EOC; for after-hours, weekend, and holiday reporting) and that it is accessible to all staff.
- 3.3. Make documents and trainings available to personnel at all times (e.g. via a shared drive) and designate one team member to routinely ensure that all documents are upto-date.
- 3.4. If a jurisdiction-developed protocol exists, confirm that it is aligned with the CSTE position statement and review the protocol annually with the jurisdiction quarantine station.

#### 4. CSTE-Specific Recommendations

- 4.1. Widely disseminate the CSTE position statement and this project report to jurisdictional members involved in reporting cases of ill travelers to DGMQ/QBHSB.
- 4.2. Ensure that the CSTE position statement and this project report are available and easily accessible on the CSTE website.

#### Limitations

The electronic assessment was initially sent to lead epidemiologists in each state or large metro area jurisdiction. This may have restricted our participant pool and biased results to more senior-level epidemiologists if they did not forward the link to their colleagues. We noticed a wider spread in participants' experience level once the assessment was distributed to a broader audience, however the results still may not be representative of more entry- or mid-level professionals' experiences. This expanded participant pool did not affect the geographic distribution of respondents. Additionally, the response rate for the electronic assessment was low (14%, 52/368). Similarly, because most of the focus group participants were recruited from the electronic survey, most were senior-level professionals despite the expanded distribution.

To preserve confidentiality, the data from specific jurisdictions or quarantine stations are not able to be disaggregated. Therefore, this report will not be able to provide recommendations specific to any particular quarantine station or jurisdiction, but only to the public health surveillance community as a whole.

Because these methodologies used a convenience sample of existing listservs, many potential respondents were likely missed. Additionally, because we did not collect data from every state or every quarantine station jurisdiction, these results may not be generalizable to all station jurisdictions.

#### Conclusions & Future Directions

This evaluation sheds light on several strengths and weaknesses of the reporting of ill travelers to QBHSB, and on the varied relationships between jurisdictions and their quarantine stations. Given that diseases of interest to QBHSB are often highly infectious or of grave public health concern, further steps should be taken at the federal, state, and local levels to standardize processes, build relationships, clarify communications, and improve disease reporting. This report and its findings should be shared widely to facilitate conversation and improvement around the key recommendations. A webinar discussing the key recommendations will be presented and archived on CSTE's website. Additionally, the evaluation may be presented on future CSTE subcommittee calls, at public health conferences, and to other parties as requested.

#### References

- 1. Division of Global Migration and Quarantine (DGMQ): Quarantine & Border Health Services. May 2019. https://www.cdc.gov/ncezid/dgmq/focus-areas/quarantine.html. Accessed June 1, 2019.
- 2. Division of Global Migration and Quarantine (DGMQ): Fact Sheet. August 2013.
- 3. Division of Global Migration and Quarantine (DGMQ): Fact Sheet. March 2017.
- Communicable Diseases of Public Health Concern among International or Interstate
  Travelers on Commercial Conveyances: A Framework for Mutual Notification between CDC
  and State and Territorial Health Departments. April 2018.
  https://cdn.ymaws.com/www.cste.org/resource/resmgr/2018\_position\_statements/11-CC01\_RevisedApr2018.pdf. Accessed June 1, 2019.

#### **Appendices**

- 1. CSTE Position Statement
- 2. Electronic Assessment
  - a. Electronic Assessment Invitation Email
  - b. Electronic Assessment Tool
  - c. Electronic Assessment Full Results
- 3. Focus Group Discussions
  - a. Focus Group Guideb. Codebook
- 4. Map of CDC US Quarantine Stations
- 5. In-Person Workgroup Meeting Agenda

#### Appendix 1. CSTE Position Statement

#### 11-CC-01

Committee: Cross Cutting

Title: Communicable Diseases of Public Health Concern among International or Interstate Travelers on Commercial Conveyances: A Framework for Mutual Notification between CDC and State and Territorial Health Departments

#### I. Statement of the Problem:

Disease transmission during travel is a relatively rare occurrence; however, instances of probable or confirmed transmission have been documented. (1-11) The Centers for Disease Control and Prevention's (CDC) Division of Global Migration and Quarantine (DGMQ) relies on notifications from partner agencies, including state and territorial health departments, of suspected or confirmed communicable diseases to contain the introduction and spread of communicable diseases into and within the United States. While CDC/DGMQ has provided syndrome definitions to US Customs and Border Protection, emergency medical service personnel and the airline and shipping industries to guide reporting of illnesses identified during travel, to date no detailed guidance has been provided to health departments regarding the communicable diseases for which CDC/DGMQ requests notification.

This position statement outlines a standard bidirectional notification framework (Attachment) for state health and territorial health departments and CDC/DGMQ regarding communicable diseases associated with international or interstate travel on commercial conveyances that could pose a public health threat. To the extent possible, the framework has been designed to be consistent with position statement 09-SI-04. Tables 1 and 2 describe specific situations and diseases for which mutual notification will be conducted, as well as guidance on time frames and parameters for such notifications. The list of diseases for which notification to CDC/DGMQ is requested has been limited to those for which a specific response by CDC/DGMQ would be indicated. The appendix describes notification procedures for CDC/DGMQ and state and territorial health departments.

This notification framework is not intended to supplant existing disease notification processes or surveillance systems such as the National Notifiable Disease Surveillance System (NNDSS), but to facilitate the timely investigation of and response to specific cases or situations that might have resulted in the exposure of travelers or communities to a communicable disease of concern in order to reduce the risk of disease spread. Reliance on NNDSS would likely result in unacceptable delays in public health response due to intermittent reporting to NNDSS and lack of identifying information needed to obtain travel manifests.

CDC/DGMQ actions in response to communicable disease threats may include providing health information to exposed travelers; initiating contact investigations of exposed travelers to facilitate case finding and provision of post-exposure interventions (immunization or antimicrobial prophylaxis) if available, or earlier recognition and intervention for secondary cases; issuing federal isolation or quarantine orders in the event of an incident involving a federally quarantinable disease§.

<sup>&</sup>lt;sup>†</sup> Title 42, Code of Federal Regulations, Parts 70, 71– Public Health, Chapter I – Public Health Service, Department of Health and Human Services,

Part 70 - Interstate Quarantine: <a href="http://www.access.gpo.gov/nara/cfr/waisidx">http://www.access.gpo.gov/nara/cfr/waisidx</a> 08/42cfr70 08.html

Part 71 - Foreign Quarantine: <a href="http://www.access.gpo.gov/nara/cfr/waisidx">http://www.access.gpo.gov/nara/cfr/waisidx</a> 08/42cfr71 08.html

<sup>§</sup> Under section 361 of the Public Health Service Act (42 USC § 264), the CDC Director may apprehend, detain, examine, or conditionally release persons believed to be carrying certain communicable diseases that are specified in an executive order of the president. This list of diseases

currently includes cholera, diphtheria, infectious tuberculosis, plague, smallpox, yellow fever, viral hemorrhagic fevers (Lassa, Marburg, Ebola, Crimean-Congo, South American, and others not yet isolated or named), severe acute respiratory syndromes, and influenza caused by novel or reemergent influenza viruses that are causing, or have the potential to cause, a pandemic (Executive Orders 13295, April 4, 2003, and 13375, April 1, 2005).

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

- 1. CSTE and CDC will agree on adopting the proposed framework for bidirectional notification between CDC and state and territorial health departments for communicable diseases on commercial conveyances, ensuring that DGMQ is notified.
- 2. CSTE and CDC will agree on collecting travel histories for people with suspected cases of the communicable diseases listed in the framework including dates, places and modes of travel.
- 3. CSTE and CDC/DGMQ will agree to evaluate the proposed notification framework to estimate the public health impact in terms of reducing communicable disease risks to travelers and communities, and the impact to health departments in terms of time and resources required.

#### III. Public Health Impact:

Adoption of these recommendations will

- Facilitate bidirectional notification between CDC and state health departments regarding communicable disease risks related to international or interstate travel on commercial conveyances
- 2. Clarify for health departments the situations and diseases for which CDC/DGMQ requests notification in order to facilitate rapid response to communicable disease risks on commercial conveyances
- 3. Outline situations for which CDC/DGMQ will notify state health departments

#### **IV. Revision History**

Past Position Statement Number	Section of Document	Revision Description
11-CC-01	I. Statement of the Problem	Minor grammatical edits, added current references
11-CC-01	III. Public Health Impact	Minor grammatical edits
11-CC-01	V. References	Added current references 10-11
11-CC-01	Attachment	CDC's Division of Global Migration and Quarantine (DGMQ) routinely works internally and with CDC subject matter experts to evaluate the effectiveness and epidemiologic soundness of CDC's disease-specific protocols for airplane contact investigations (CIs). Since adoption of the position statement in 2011, changes have been made to selected disease-specific contact investigation criteria, primarily for tuberculosis and meningitis. The "Attachment" of the position statement has been updated to reflect these changes. In addition, DGMQ formalized a disease-specific SOP for hepatitis A in flight attendants, which, while already included in the position statement under "Foodborne diseases with fecal-oral spread", merited its own protocol due to the complexities of disease transmission and the public health response.

#### V. References

- 1. Centers for Disease Control and Prevention. Measles transmission associated with international air travel --- Massachusetts and New York, July--August 2010. MMWR Morbid Mortal Wkly Rep 2010;59(33);1073.
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#### **VI.Coordination**

#### **Agencies for Response:**

Thomas R. Frieden
Director
Centers for Disease Control and Prevention
1600 Clifton Road, NE
Atlanta, GA 30333
404-639-7000
txf2@cdc.gov

#### **VII.Submitting Author:**

Gilberto F. Chavez, MD, MPH
State Epidemiologist
California Department of Public Health
E-mail address: Gil.Chavez@cdph.ca.gov

Phone: 916.445.0062 Fax: 916.445.0274

#### **Co-Authors:**

(1) Ken Komatsu, MPH State Epidemiologist Arizona Department of Health Services 150 N. 18th Avenue, Suite 150 Phoenix, AZ 85007-3237 Ken.komatsu@azdhs.gov

(2) Nicole J. Cohen, MD, MS

Associate Chief for Science, Quarantine and Border Health Services Branch Division of Global Migration and Quarantine Centers for Disease Control and Prevention 1600 Clifton Road NE MS E03 Atlanta, GA 30333

Phone: 404-639-7018 Email: ncohen@cdc.gov

(3) Nina Marano, DVM, MPH, Dipl ACVPM
Chief, Quarantine and Border Health Services Branch
Division of Global Migration and Quarantine
Centers for Disease Control and Prevention
1600 Clifton Road NE MS E03

Atlanta, GA 30333 Phone: 404-639-3831 Email: nmarano@cdc.gov

#### **Attachment**

### Framework for Standard Bidirectional Notifications between CDC and State and Territorial Health Departments regarding Travel-related Communicable Disease Threats

When conducting notifications in accordance with procedures approved in position statement 09-SI-04, CDC and state health departments will ensure notification of CDC/DGMQ in the event of situations posing a communicable disease risk to either the traveling public or destination communities within the United States or internationally. Such situations may include but are not limited to the following:

- Communicable diseases in passengers or crew members on commercial conveyances with the potential for transmission to others onboard
- Clusters of infectious or toxin-related disease in recent travelers where it is suspected that the
  exposure occurred on board a commercial conveyance or at a U.S. port of entry or transit point
  including suspected bioterrorism events
- Cases or clusters of communicable disease in passenger(s) or crew member(s) on a commercial
  conveyance, that are unusual or unexpected or that might have serious public health impact or the
  potential for widespread international and domestic spread, including diseases that might require
  CDC's notification of the World Health Organization as a public health emergency of international
  concern in accordance with the International Health Regulations (IHR) 2005. These diseases
  would include but are not limited to the following:
  - o Diphtheria (Corynebacterium diphtheriae)
  - o Influenza an identified novel or zoonotic strain considered to be a public health risk
  - o Plague (Yersinia pestis)
  - o Rabies
  - Severe acute respiratory syndromes (e.g., SARS, MERS)
  - Smallpox (Variola)
  - Viral Hemorrhagic Fevers (filoviruses [e.g., Ebola, Marburg] and arenaviruses [e.g., Lassa, Machupo])
  - Zoonotic poxviruses
- An individual reasonably suspected of being infectious with a communicable disease that poses a
  public health threat, and unaware of or likely to disregard public health recommendations against
  travel on commercial airlines and for whom federal travel restrictions may be warranted
- Cases or clusters of communicable or toxin-related disease among recently arrived refugees that may represent an outbreak in a refugee camp or overseas transit site

Specific infectious diseases for which notification to CDC/DGMQ is requested are listed in Table 1. Situations for which CDC/DGMQ will notify health departments are listed in Table 2.

Procedures for contacting CDC/DGMQ for the purpose of disease notification and procedures for CDC/DGMQ to notify state health departments are described in the Appendix.

Table 1: Specific communicable diseases for which notification to CDC/DGMQ is requested, and parameters for notification

Disease	Parameters <sup>1</sup>	Conveyance Type	
Foodborne diseases with fecal-oral spread	Any confirmed case of foodborne infection transmitted by the fecal-oral route in a crew member with food- or beverage-handling responsibilities	Aircraft Cargo ships²	
Legionellosis (Legionella pneumophila)	Any confirmed case of legionellosis in an individual who traveled by <i>ship</i> (cruise or cargo) within 10 days prior to the onset of symptoms and for whom no other source of exposure is known.	All ships	
	Note: The primary notification mechanism for legionellosis cases is by emailing travellegionella@cdc.gov. If this has been done, additional notification to the CDC Quarantine Station is not necessary.		
Measles (Rubeola)	Any confirmed, probable or suspected case of measles in an individual with a history of international or commercial interstate travel during the period of infectivity: 4 days before to 4 days after onset of rash.	All	
Meningococcal disease (Neisseria meningitidis), invasive	Any confirmed, probable or suspected case of invasive meningococcal disease (meningitis or meningococcemia) in an individual with a history of international or commercial interstate travel during the period of infectivity: one week prior to the onset of symptoms until 24 hours after initiation of effective antimicrobial therapy.	All	
	For air travel:		
	1) Time on aircraft (flight plus time spent on tarmac) ≥ 8 hours		
	OR		
	Flights of any duration if person was reported to have been coughing or vomiting during the flight		
Mumps	Any confirmed or probable case of mumps in an individual with a history of international or commercial interstate travel on a <i>cruise or cargo ship</i> during the period of infectivity: 2 days before to 5 days after onset of parotitis.	All ships <sup>3</sup>	
Pertussis (Bordetella pertussis)	Any confirmed or probable case of pertussis in an individual with a history of international or commercial interstate travel during period of infectivity: the first three weeks after cough onset until 3 days after initiation of azithromycin or until 5 days after initiation of antimicrobial therapy with other macrolides.	All	

Rubella	Any confirmed or probable case of rubella in an individual with a history of international or commercial interstate travel during the period of infectivity: 7 days before to 7 days after the onset of rash.	All
Tuberculosis, infectious ( <i>Mycobacterium</i> tuberculosis complex)	A confirmed case of infectious pulmonary or laryngeal tuberculosis meeting clinical/laboratory criteria below in an individual with a history of international or commercial interstate travel during the period of infectivity: from 3 months prior to diagnosis (or initiation of the work-up that led to the diagnosis) until there is evidence of presumptive non-infectiousness based on appropriate treatment and laboratory testing.	All
	Clinical/laboratory criteria  Isolate susceptible to isoniazid and rifampin:  Sputum positive for <i>M. tuberculosis</i> by culture or nucleic acid amplification test  AND	
	Sputum smear positive for AFB <b>or</b> cavitation (of any size on chest x-ray or >= 1 cm on CT scan)  • Isolate multidrug-resistant:	
	All regardless of sputum smear or chest x-ray results  DGMQ conducts investigations until three months after travel.  For air travel: time on aircraft (flight plus time spent on tarmac) ≥ 8 hours.	
Varicella (Varicella- zoster virus)	Any confirmed or probable case of varicella in an individual with a history of international travel on a cargo ship during the period of infectivity: 2 days before onset of rash until all lesions crusted.	Cargo ships⁴

<sup>&</sup>lt;sup>1</sup> Case definitions provided by the National Notifiable Diseases Surveillance System should be used. State and territorial health departments should consider the urgency of the response to determine the time frame for notification. Less urgent notifications may be made during business hours.

<sup>&</sup>lt;sup>2</sup> Gastrointestinal disease on *cruise ships* is managed by the CDC Vessel Sanitation Program. The purpose of notification to CDC/DGMQ is to ensure the airline or shipping company is aware of infection in a food- or beverage-handler and that interventions are conducted as indicated.

<sup>&</sup>lt;sup>3</sup> Mumps cases on aircraft are no longer being investigated.

<sup>&</sup>lt;sup>4</sup> Varicella cases on aircraft are not investigated. Guidance for the investigation and management of uncomplicated varicella cases on cruise ships has been provided to the cruise industry; CDC/DGMQ assistance is available to cruise ships on request.

Table 2: Situations for which CDC/DGMQ will notify state health departments and time frames for notification

Situation	Time Frame
CDC/DGMQ will provide names and contact information by jurisdiction for individuals exposed to a communicable disease on a conveyance if a contact investigation is warranted.	Variable <sup>1</sup>
CDC/DGMQ will notify the health department of jurisdiction if a traveler with a communicable disease requiring isolation intends to disembark within the jurisdiction.	Variable <sup>1</sup>
CDC/DGMQ believes that issuance of isolation or quarantine orders for a traveler with known or suspected to be infected with a quarantinable communicable disease is warranted.	Extremely urgent (< 4 hours)
CDC/DGMQ activates a Memorandum of Agreement with a hospital in the health department's jurisdiction to facilitate isolation, evaluation or treatment of a traveler with a communicable disease.	Extremely urgent (< 4 hours)
CDC/DGMQ receives notification from a foreign health authority in accordance with the IHR 2005 of a communicable disease in a US resident, or in a foreign traveler if the exposure may have occurred in a US community.	Variable <sup>1</sup>
CDC/DGMQ requests health department assistance with performing or coordinating diagnostic testing for a traveler with suspected communicable disease or provision of post-exposure prophylaxis to exposed travelers.	Variable <sup>1</sup>
CDC/DGMQ learns of an unusual occurrence involving imported animals or animal products into a health department's jurisdiction where a communicable disease risk is suspected.	Variable <sup>1</sup>

<sup>&</sup>lt;sup>1</sup>Timing will depend on time-frame for conveyance arrival, disease severity and transmissibility, availability of and window period for post-exposure prophylaxis, and logistical issues related to obtaining data.

#### **APPENDIX**

#### Procedures for notifying CDC/DGMQ

Urgent notifications<sup>1</sup> should be made by telephone via the CDC Emergency Operations Center (EOC) at 770-488-7100.

- The EOC can connect callers directly with the CDC Quarantine Station with jurisdiction over the state reporting the case or the on-call DGMQ Duty Officer
- o If working with a CDC Division other than CDC/DGMQ, arrangements may be made with that CDC Division for notification of CDC/DGMQ.

Less urgent disease notifications may be made by telephone, email or fax during business hours to the CDC Quarantine Station with jurisdiction over the state of residence of the case.

A list of CDC Quarantine Stations, their jurisdictions, and 24-hour contact information is available at: http://www.cdc.gov/ncidod/dq/quarantine\_stations.htm.

#### Procedures for notifying state health departments

Simultaneous notifications to multiple jurisdictions will be provided through CDC's Epidemic Information Exchange (Epi-X).

Notifications to individual state health departments will be made by CDC Quarantine Station staff using established communication channels.

<sup>&</sup>lt;sup>1</sup> Urgent notifications include (but are not limited to) those involving diseases for which effective prophlyaxis can be offered to exposed passengers, (e.g., measles, meningitis, pertussis, and hepatitis A), and for which the window for effective prophylaxis is still open.

#### Appendix 2a. Electronic Assessment Invitation Email



Border/International Health Subcommittee



Council of State and Territorial Epidemiologists

Sent to State Epidemiologists and CLUE

Good afternoon,

CSTE is conducting an assessment to evaluate the current procedures state, local, and territorial epidemiologists use for reporting ill persons with recent or upcoming travel to the Quarantine and Border Health Services Branch (QBHSB), part of CDC's Division of Global Migration and Quarantine (DGMQ). The results will be used to formulate additional evaluation tools, with the goal to inform development of policy, resources and best practices for more robust processes for reporting ill travelers with diseases of public health concern to QBHSB.

CSTE would truly appreciate your jurisdiction's participation in this assessment; we estimate that it will take approximately 15 minutes to complete. Please complete the assessment by **Friday, March 22, 2019**. Responses are anonymous and CSTE will not share any jurisdiction-specific information. You may provide your contact information toward the end of the assessment if you would like to participate in a focus group to further discuss your jurisdiction's reporting processes. Please contact me (jpeart@cste.org) with any questions.

All the best,

Jordan

Jordan Peart, MPH

Program Analyst



Council of State and Territorial Epidemiologists

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#### Appendix 2b. Electronic Assessment Tool

NOTE: The assessment was distributed electronically via Qualtrics. All questions are the same, but this document is a mock-up word processing version of the Qualtrics version.

# **Evaluation of Reports of III Travelers to Quarantine and Border Health Services Branch**

#### **Electronic Assessment**

#### Background

This assessment aims to gather information on current procedures for reporting ill persons with recent or upcoming travel to the Quarantine and Border Health Services Branch (QBHSB), part of CDC's Division of Global Migration and Quarantine (DGMQ). The results will be used to formulate additional evaluation tools and to improve reporting processes.

#### **Current Reporting Procedures**

- 1. Does your agency have a specific protocol in place for reporting ill persons with recent or upcoming travel?
  - a. Yes
  - b. No
  - c. Not sure
- 2. [If Yes] Please select the components that are currently in your protocol (select all that apply):
  - a. Timeline for reporting (e.g. time from knowledge of case to reporting to QBHSB)
  - b. Specific contact person(s) at a quarantine station
  - c. Disease-specific recommendations
  - d. Time of travel (e.g. illness after recent travel or before planned travel)
  - e. Coordination with other partners
  - f. Communication with other states
  - g. Clinical history (e.g. signs, symptoms, onset dates, hospitalization)
  - h. Diagnostic laboratory results
  - i. Conveyance information completed and scheduled(e.g. flight number, ship voyages, etc.)

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3.	If your jurisdiction were to receive a report of an ill person with recent or upcoming travel
	please briefly describe the next steps taken:

[Free	text
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- 4. Are you aware of the CSTE position statement "Communicable Diseases of Public Health Concern among International or Interstate Travelers on Commercial Conveyances: A Framework for Mutual Notification between CDC and State and Territorial Health Departments"
  - a. Yes
  - b. No
- 5. [If Yes] Do you follow the guidance in this position statement for reporting ill persons with recent or upcoming travel to the QBHSB?
  - a. Yes
  - b. No

#### **Experience with QBHSB**

- 6. Are you aware of your jurisdiction's quarantine stations/how to contact the quarantine station?
  - a. Yes
  - b. No
- 7. Are you aware of which diseases/illnesses fall under section 361 of the Public Health Service Act (42 U.S. Code § 264) as quarantinable?
  - a. Yes
  - b. No
- 8. Are you aware of which diseases/illnesses are of interest for reporting to QBHSB?
  - a. Yes
  - b. No
- 9. Have you ever interacted with QBHSB or your local quarantine station in relation to notification of diseases of public health concern?
  - a. Yes
  - b. No [Skip to next section]
- 10. [If Yes] Which of the following illnesses did you contact the QBHSB about, for which conveyance type, and what is the average timeframe from learning about a case and notification to QBHSB (select all that apply)?

<u>Disease/Illness</u>	Conveyance Type (all, aircraft, cargo ships, all ships), select ALL that apply	about a case to	from learning o notification to e specify hours days)
		<u>Hours</u>	<u>Days</u>

Cholera	<ul><li>Aircraft</li><li>Ship</li><li>Train</li><li>Bus</li><li>Other</li></ul>	
Diphtheria	O Aircraft O Ship O Train O Bus O Other	
Infectious tuberculosis	O Aircraft O Ship O Train O Bus O Other	
Plague	<ul><li>Aircraft</li><li>Ship</li><li>Train</li><li>Bus</li><li>Other</li></ul>	
Smallpox	O Aircraft O Ship O Train O Bus O Other	
Yellow fever	<ul><li>Aircraft</li><li>Ship</li><li>Train</li><li>Bus</li><li>Other</li></ul>	
Viral hemorrhagic fevers	Aircraft     Ship	

	<ul><li>Train</li><li>Bus</li><li>Other</li></ul>	
Severe acute respiratory syndromes	<ul><li>Aircraft</li><li>Ship</li><li>Train</li><li>Bus</li><li>Other</li></ul>	
Flu that can cause a pandemic	<ul><li>Aircraft</li><li>Ship</li><li>Train</li><li>Bus</li><li>Other</li></ul>	
Foodborne diseases with fecal-oral spread in a crew member with food- or beverage-handling responsibilities (aircraft and cargo ships)	<ul><li>Aircraft</li><li>Ship</li><li>Train</li><li>Bus</li><li>Other</li></ul>	
Legionellosis (Legionella pneumophila) in an individual who traveled by ship (cruise or cargo) within 1- days prior to onset of symptoms and for whom no other source of exposure is known	<ul><li>Aircraft</li><li>Ship</li><li>Train</li><li>Bus</li><li>Other</li></ul>	
Note: The primary notification mechanism for legionellosis cases is by emailing travellegionella@cdc.gov. If this has been done, additional notification to the CDC Quarantine Station is not necessary.		
Measles (Rubeola)	<ul><li>Aircraft</li><li>Ship</li></ul>	

Meningococcal disease (Neisseria meningitidis), invasive	O Train O Bus O Other  O Aircraft O Ship O Train	
	O Bus O Other	
Mumps	<ul><li>Aircraft</li><li>Ship</li><li>Train</li><li>Bus</li><li>Other</li></ul>	
Pertussis (Bordetella pertussis)	<ul><li>Aircraft</li><li>Ship</li><li>Train</li><li>Bus</li><li>Other</li></ul>	
Rubella	<ul><li>Aircraft</li><li>Ship</li><li>Train</li><li>Bus</li><li>Other</li></ul>	
Varicella (Varicella-zoster virus)	<ul><li>Aircraft</li><li>Ship</li><li>Train</li><li>Bus</li><li>Other</li></ul>	

- 11. In past interaction(s), did you contact the QBHSB/quarantine station? (Select all that apply)
  - a. Yes, someone from my agency contacted them to report an ill person with recent or upcoming travel
  - b. No, another agency in my state contacted them
  - c. No, they contacted my agency
  - d. Other: \_\_\_\_\_
- 12. During past interaction(s), were you aware of any official reporting protocols specifically for ill persons with recent or upcoming travel?
  - a. Yes, from my jurisdiction
  - b. Yes, from CDC/CSTE
  - c. Yes, from my jurisdiction and CDC/CSTE
  - d. No

Please rate your agreement with the following statements:

- 13. I have sufficient information to know when and what to report to QBHSB regarding ill persons with recent or upcoming travel:
  - a. Strongly disagree
  - b. Disagree
  - c. Neutral
  - d. Agree
  - e. Strongly agree
- 14. The process of reporting ill persons with recent or upcoming travel to QBSHB is straightforward:
  - a. Strongly disagree
  - b. Disagree
  - c. Neutral
  - d. Agree
  - e. Strongly agree
- 15. It's important to report cases of ill persons with recent or upcoming travel to QBHSB:
  - a. Strongly disagree
  - b. Disagree
  - c. Neutral
  - d. Agree
  - e. Strongly agree

#### **Participant Information**

- 16. Which region do you primarily work in?
  - a. Alaska (Anchorage Quarantine Station)

- b. Georgia, North Carolina, South Carolina, or Tennessee (Atlanta Quarantine Station)
- c. Massachusetts, Maine, New Hampshire, or Rhode Island (Boston Quarantine Station temporarily covered by New York)
- d. Illinois, Indiana, Iowa, or Wisconsin (Chicago Quarantine Station)
- e. Kansas, Missouri, Oklahoma, Arkansas, or North Texas (Health districts 1, 2, and 3) (Dallas Quarantine Station temporarily covered by Houston)
- f. Michigan, Kentucky, or Ohio (Detroit Quarantine Station)
- g. New Mexico, West Texas (Health districts 8, 9, and 10), or US-Mexico Border in TX or NM (El Paso Quarantine Station)
- h. Hawaii, Guam, Pacific Trust Territories (Honolulu Quarantine Station)
- i. Louisiana or East Texas (Health districts 4, 5, 6, and 7) (Houston Quarantine Station)
- j. Southern California (excluding US-Mexico Border counties), Nevada, Utah, or Colorado (Los Angeles Quarantine Station)
- k. Florida, Alabama, Mississippi (Miami Quarantine Station)
- I. Minnesota, Nebraska, North Dakota, or South Dakota (Minneapolis-St. Paul Quarantine Station)
- m. New York, Connecticut, or Vermont (New York Quarantine Station)
- n. New Jersey (Newark Quarantine Station)
- o. Pennsylvania or Delaware (Philadelphia Quarantine Station)
- p. Arizona, California (San Diego or Imperial County) or US-Mexico Border in AZ or CA (San Diego Quarantine Station)
- g. Central and Northern California or Wyoming (San Francisco Quarantine Station)
- r. Puerto Rico or US Virgin Islands (San Juan Quarantine Station)
- s. Washington, Idaho, Montana, or Oregon (Seattle Quarantine Station)
- t. Washington DC, Maryland, Virginia, or West Virginia (Washington DC Quarantine Station)
- 17. Which option best represents the organization where you work?
  - a. Local public health agency
  - b. State public health agency
  - c. Territorial public health agency
  - d. Federal agency
  - e. Academia
  - f. Non-governmental organization
  - g. Other (please specify) \_\_\_\_\_
- 18. How long have you worked in applied epidemiology?
  - a. Less than one year
  - b. 1 to 5 years
  - c. 6 to 10 years
  - d. 10 to 15 years
  - e. More than 15 years

19. Which best describes your current position?
a. Administrator
b. Deputy State Epidemiologist
c. Entry-Level Epidemiologist
d. Fellow
e. Informatician
f. Laboratorian
g. Medical Director
h. Mid-Level Epidemiologist
i. Nurse
j. Professor/Faculty
k. Program Manager
I. Public Health Professional
m. Public Health Veterinarian
n. Senior-Level Epidemiologist
o. State Epidemiologist
p. State Health Official
q. Student
r. Other:
20. Are you a CSTE member?
a. Yes
b. No
21. Would you be willing to participate in a focus group discussion to further discuss reporting to QBHSB?
a. Yes, in person in Atlanta, GA
b. Yes, virtually
c. No, I'm not interested
22. Do you have any other comments?
[Free text]

This concludes the assessment. Thank you for your time!

#### Appendix 2c. Electronic Assessment Full Results

#### CSTE Evaluation of Reports of III travelers to QBHSB Project Electronic Assessment

Table 1a. Geographic demographics of electronic assessment participants

Quarantine Region	Quarantine Station	Jurisdiction	N (%) N=52
	Atlanta	Georgia, North Carolina, South Carolina, or Tennessee	3 (5.8)
	Dallas <sup>1</sup>	Kansas, Missouri, Oklahoma, Arkansas, or North Texas (Health districts 1, 2, and 3)	4 (7.7)
Region 1	Houston	Louisiana or East Texas (Health districts 4, 5, 6, and 7)	2 (3.9)
	Miami	Florida, Alabama, Mississippi	3 (5.8)
	San Juan	Puerto Rico or US Virgin Islands	0 (0)
	Washington DC	Washington DC, Maryland, Virginia, or West Virginia	3 (5.8)
	Boston <sup>2</sup>	Massachusetts, Maine, New Hampshire, or Rhode Island	3 (5.8)
	Chicago	Illinois, Indiana, Iowa, or Wisconsin	6 (11.5)
	Detroit	Michigan, Kentucky, or Ohio	4 (7.7)
Region 2	Minneapolis-St. Paul	Minnesota, Nebraska, North Dakota, or South Dakota	3 (5.8)
	New York	New York, Connecticut, or Vermont	3 (5.8)
	Newark	New Jersey	0 (0)
	Philadelphia	Pennsylvania or Delaware	2 (3.9)
	Anchorage	Alaska	0 (0)
	Honolulu	Hawaii, Guam, Pacific Trust Territories	3 (5.8)
Region 3	Los Angeles	Southern California (excluding US-Mexico Border counties), Nevada, Utah, or Colorado	2 (3.9)
	San Francisco	Central and Northern California or Wyoming	2 (3.9)
	Seattle	Washington, Idaho, Montana, or Oregon	5 (9.6)
USMU	El Paso	New Mexico, West Texas (Health districts 8, 9, and 10), or US-Mexico Border in TX or NM	2 (3.9)
USIVIU	San Diego	Arizona, California (San Diego or Imperial County) or US-Mexico Border in AZ or CA	2 (3.9)

<sup>&</sup>lt;sup>1</sup>Temporarily covered by Houston

<sup>&</sup>lt;sup>2</sup>Temporarily covered by New York

Table 1b. Professional demographics of electronic assessment participants

Position/Title Administrator Deputy State Epidemiologist Entry-Level Epidemiologist Fellow Informatician Laboratorian Medical Director Mid-Level Epidemiologist Nurse Professor/Faculty Program Manager Public Health Professional Public Health Veterinarian Senior-Level Epidemiologist State Epidemiologist State Health Official Student Other	N=52 1 (1.9) 5 (9.6) 0 (0) 0 (0) 0 (0) 5 (9.6) 6 (11.5) 1 (1.9) 0 (0) 5 (9.6) 2 (3.9) 0 (0) 8 (15.4) 17 (32.7) 1 (1.9) 0 (0) 1 (1.9)
Years Experience 1 to 5 years 6 to 10 years 10 to 15 years More than 15 years	N=52 7 (13.5) 10 (19.2) 11 (21.2) 24 (46.2)

Table 2. Current reporting procedures

	N (%)
Does your agency have a specific protocol in place for reporting ill persons with recent or upcoming travel? (n=52)	N=52
Yes No Not sure	25 (48.1) 23 (44.2) 4 (7.7)
Components of protocol for reporting ill persons with recent or upcoming travel*  Timeline for reporting (e.g. time from knowledge of case to reporting to	N=25 15 (60.0)
QBHSB)	13 (00.0)
Specific contact person(s) at a quarantine station	19 (76.0)
Disease-specific recommendations	11 (44.0)
Time of travel (e.g. illness after recent travel or before planned travel)	22 (88.0)
Coordination with other partners	21 (84.0)

	1
Communication with other states	14 (56.0)
Clinical history (e.g. signs, symptoms, onset dates, hospitalization)	23 (92.0)
Diagnostic laboratory results	22 (88.0)
Conveyance information – completed and scheduled(e.g. flight number, ship voyages, etc.)	21 (84.0)
Other**	9 (36.0)
Do you follow the guidance in the CSTE position statement "Communicable Diseases of Public Health Concern among International or Interstate Travelers on Commercial Conveyances: A Framework for Mutual Notification between CDC and State and Territorial Health Departments" for reporting ill persons with recent or upcoming travel to the QBHSB?	N=30
Yes No	28 (93.3) 2 (6.7)
If your jurisdiction were to receive a report of an ill person with recent or upcoming travel, briefly describe the next steps taken (n=50)  Mentioned reporting to quarantine station/DGMQ  Mentioned following a specific protocol/guideline  Mentioned do not board (DNB) or isolation/exclusion order	32 (64.0) 9 (18.0) 10 (20.0)

<sup>\*</sup>Respondents were able to select more than one answer, therefore, percentages do not add to 100%

Communication with other states depends on the situation and whether the traveler is from another state or is traveling to another state. Some travelers are from another country and therefore, communication is initiated with the other country through CDC. Specific contact with Quarantine Station staff also depends on the disease and situation.

Travel plans

N/A

Note that communication with other states is done indirectly via our state health department.

Our protocol needs to be enhanced to include the details provided in the CSTE position statement. Our current protocol is very

notification to partners; EMS and receiving hospital

<sup>\*\*</sup>Includes components to the extent that they are relevant for a particular situation and focuses on cases with recent travel. Individuals with diseases of concern would be counseled not to travel so notification would not occur.

The current [jurisdiction] Communicable Disease Response Plan is currently in draft form and being revised and finalized.

Specific Quarantine station not person specific anymore. It used to be when [jurisdiction] had the information.

Table 3. Knowledge of reporting procedures

	N (%)
Are you aware of your jurisdiction's quarantine stations/how to contact the quarantine station?	N=52
Yes No	51 (98.1) 1 (1.9)
Are you aware of which diseases/illnesses fall under section 361 of the Public Health Service Act (42 U.S. Code § 264) as quarantinable?	N=52
Yes No	45 (86.5) 7 (13.45
Are you aware of which diseases/illnesses are of interest for reporting to QBHSB?	N=52
Yes No	39 (75.0) 13 (25.0)
Have you ever interacted with QBHSB or your local quarantine station in relation to notification of diseases of public health concern?	N=52
Yes No	46 (88.5) 6 (11.5)

Table 4. Prior reporting of cases

Prior Reporting of Diseases of Concern	N (%)	Time to notification to QBHSB – Hours, Median (IQR)
TOTAL REPORTED	319	12 (2-24)
Cholera Diphtheria Infectious tuberculosis Plague Smallpox Yellow Fever Viral Hemorrhagic Fevers Severe Acute Respiratory Syndromes Flu that can cause a pandemic Foodborne diseases¹ Legionellosis (Legionella pneumophila)² Measles (Rubeola) Meningococcal disease (Neisseria meningitidis), invasive Mumps Pertussis (Bordetella pertussis) Rubella	12 (3.8) 8 (2.5) 58 (18.2) 5 (1.6) 10 (3.1) 5 (1.6) 25 (7.8) 22 (6.9) 17 (5.3) 18 (5.6) 5 (1.6) 48 (15.0) 33 (10.3) 15 (4.7) 16 (5.0) 9 (2.8)	18 (2.5-24) 14 (1.75-24) 24 (21-24) 4 (1.5-24) 2 (1-14) 14 (2.5-24) 4 (1-12) 2 (1-4) 3 (1.25-4) 24 (4-24) 24 (24-24) 4 (2-24) 3 (2-8) 24 (7-24) 8 (4-24) 24 (2-24)

Varicella (Varicella-zoster virus)	13 (4.1)	24 (11-24)
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<sup>&</sup>lt;sup>1</sup>Foodborne diseases with fecal-oral spread in a crew member with food- or beverage-handling responsibilities (aircraft and cargo ships)

Table 5. Conveyance type of prior reported cases

	N (%)
Conveyance Type Aircraft Ship Train Bus Other	N=319 170 (53.3) 45 (14.1) 28 (8.8) 42 (13.2) 34 (10.7)

Table 6. Knowledge and attitudes regarding case reporting

	N (%)
I have sufficient information to know when and what to report to QBHSB regarding ill persons with recent or upcoming travel Strongly disagree	N=46
Disagree Neutral Agree Strongly agree	4 (8.7) 2 (4.4) 8 (17.4) 23 (50.0) 9 (19.6)
The process of reporting ill persons with recent or upcoming travel to QBSHB is straightforward Strongly disagree	N=46
Disagree Neutral Agree Strongly agree	1 (2.2) 3 (6.5) 10 (21.7) 24 (52.2) 8 (18.4)
It's important to report cases of ill persons with recent or upcoming travel to QBHSB Strongly disagree	N=46
Disagree Neutral Agree Strongly agree	2 (4.4) 0 (0) 5 (10.9) 17 (37.0) 22 (47.8)

<sup>&</sup>lt;sup>2</sup>Legionellosis (Legionella pneumophila) in an individual who traveled by ship (cruise or cargo) within 1- days prior to onset of symptoms and for whom no other source of exposure is known

#### Other comments:

"With regards to the question "The process of reporting ill persons with recent or upcoming travel to QBSHB is straightforward", the information the quarantine station wants us to provide is often unclear and inconsistent, so we provide a bunch of information, then are asked for more information that we don't have so we have to contact the case again, then sometimes are asked for even more information we weren't aware was needed."

"Our interactions with our Quarantine Station have been quite variable. Sometimes they are very helpful and others they seem not to understand our requests for assistance. I am sure that we have contacted the Quarantine Station for more diseases on different conveyances over the years, I have only included the more recent situations."

"We have a very good working relationship with our DGMQ. I believe more work could be done to increase awareness of diseases of interest that should be reported to DGMQ. Question 7A and 7B are somewhat problematic as you didn't specify a timeframe for reporting. It's unclear to me whether I should be considering the past 3 months, 6 months, 1 year, or 5 years."

"I think this is an area where more training and education are needed and am glad that CSTE and CDC are reaching out to state and city public health partners."

"This is a two way relationship - our quarantine station tells us about ill passengers but only on international flights. We have great relationships with them so we just communicate when we think something is important. No clear understanding of every disease, other conveyances, domestic travel. They did present on using the do not board list and so we just communicate with them when there is a potential problem."

#### Appendix 3a. Focus Group Discussion Guide

## CSTE Evaluation of Reports of III Travelers to QBHSB Focus Group Discussion Guide

#### **Background**

CDC's Quarantine and Border Health Services Branch protects the public's health through detection of, and response to, communicable diseases related to travel and imported pathogens and improves the health of globally mobile populations transitioning to U.S. communities (CDC 2018). The purpose of this project is to assess the current processes that state, local, and territorial epidemiologists use to report ill travelers with diseases of public health concern to the Quarantine and Border Health Services Branch to identify areas for improvement for both state, local, and territorial epidemiologists and the Quarantine and Border Health Services Branch. CDC is working with the Council of State and Territorial Epidemiologists (CSTE) to support this assessment. CSTE serves as the voice for state, tribal, local, and territorial epidemiologists through on-going technical assistance, coordinated information sharing, and resource development for communicable diseases.

The objectives of the focus group are to discuss: your jurisdiction's specific processes for reporting ill persons with recent or upcoming travel to the Quarantine and Border Health Services Branch (QBHSB), barriers to reporting or communicating with QBHSB, the CSTE position statement (Communicable Diseases of Public Health Concern among International or Interstate Travelers on Commercial Conveyances: A Framework for Mutual Notification between CDC and State and Territorial Health Departments), and areas for improvement and next steps.

#### **Consent Process**

Thank you for agreeing to participate in this focus group to evaluate processes for reporting ill persons with recent or upcoming travel to the Quarantine and Border Health Services Branch (QBHSB). This focus group will last approximately 60-90 minutes. We'll discuss your jurisdiction's specific processes for reporting, barriers to reporting or communicating with QBHSB, the CSTE position statement that was sent to you for review prior to this group, and areas for improvement and next steps.

- The information you give us is completely confidential, and we will not associate your name or jurisdiction with anything you say in the focus group.
- We would like to tape the focus groups so that we can make sure to capture the thoughts, opinions, and ideas we hear from the group. No names will be attached to the transcripts.
- You may refuse to answer any question
- If you have any questions now or after you have completed the focus group you can always contact the consultants or CSTE program analyst on this project.
- Your acceptance of the calendar invite for this focus group indicates your consent.

#### Introduction:

#### 1. Welcome

Introduce yourself and the notetaker, and send the Sign-In Sheet with a few quick demographic questions around to the group while you are introducing the focus group. *Review the following:* 

- Who we are and what we're trying to do
- What will be done with this information
- Why we asked you to participate

#### 2. Explanation of the process

Ask the group if anyone has participated in a focus group before.

#### About focus groups

- We learn from you (positive and negative)
- Not trying to achieve consensus, we're gathering information
- No virtue in long lists: we're looking for priorities
- In this project, we are doing both an electronic assessment and focus group discussions. The reason for using both of these tools is that we can get more in-depth information from a smaller group of people in focus groups. This allows us to understand the context behind the answers given in the assessment and helps us explore topics in more detail than we can do in a written survey.

#### Logistics

- Focus group will last about 60-90 minutes
- Feel free to move around
- Where is the bathroom? Emergency exit?
- Help yourself to refreshments

#### 3. Ground Rules

Ask the group to suggest some ground rules. After they brainstorm some, make sure the following are on the list.

- Everyone should participate.
- Information provided in the focus group must be kept confidential
- Stay with the group and please don't have side conversations
- Please stay focused on the project objectives
- There is no bad question or contribution
- Try to contribute with shorter responses, if possible, for clarity
- Turn off cell phones if possible
- Have fun

#### 4. Start Recording

5. Ask the group if there are any questions before we get started, and address those questions.

#### 6. Introductions

• Go around table: jurisdiction, job title, why participating in this group

Discussion begins, make sure to give people time to think before answering the questions and don't move too quickly. Use the probes to make sure that all issues are addressed, but move on when you feel you are starting to hear repetitive information.

#### Questions:

- 1. Does your jurisdiction report cases of ill persons with recent or upcoming travel to QBHSB?
  - a. Why or why not?
- 2. Does your jurisdiction follow a specific protocol or algorithm for reporting cases of ill persons with recent or upcoming travel to QBHSB?
  - a. What protocol or algorithm? Details?
    - i. Written protocol?
    - ii. Who developed/how was this protocol developed?
    - iii. Who is the point of contact in your jurisdiction for updating reporting guidance, etc.?
  - b. Jurisdiction specific, CDC/CSTE developed?
    - i. DGMQ/QBHSB, TB division, other CDC?
- 3. Briefly describe your jurisdiction's process for reporting cases of ill persons with recent or upcoming travel to QBHSB
  - a. Is reporting done to a specific contact at QBHSB/quarantine station?
  - b. Are you aware of the 24/7 quarantine phone line?
- 4. You should have all received this position statement to review before the focus group: "Communicable Diseases of Public Health Concern among International or Interstate Travelers on Commercial Conveyances: A Framework for Mutual Notification between CDC and State and Territorial Health Departments". Is this implemented or used in your jurisdiction?
  - a. What are the strengths of the guidance?
  - b. What are the weaknesses of the guidance?
  - c. What additional information should be included?
  - d. Does any of the guidance in the document differ from protocols that are followed in your jurisdiction? Can you give an example?
  - e. Can you give an example of when the guidance in section II (Statement of the desired action(s) to be taken) was followed in your jurisdiction?
- 5. Does your jurisdiction routinely communicate with QBHSB?
  - a. Does your jurisdiction generally contact QBHSB or does QBHSB generally contact your jurisdiction first?
  - b. Do you know who to contact and QBHSB and how to get in contact?
  - c. Are you able to get assistance/responses in a timely manner?
  - d. What could make communication with QBHSB better? More efficient?
- 6. Are there any disease-specific barriers to communication or reporting to QBHSB?

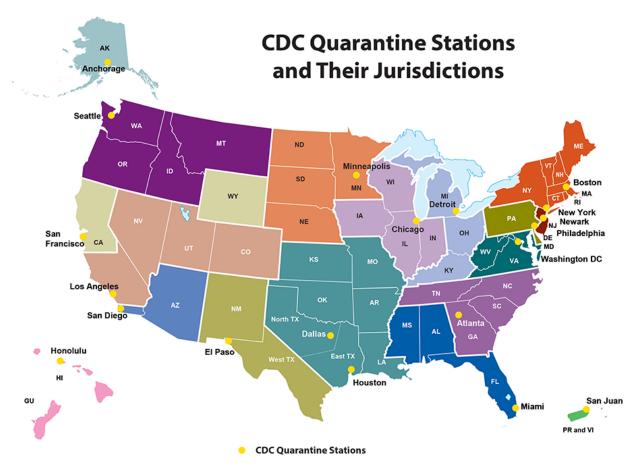
- a. Does reporting differ by disease?
- b. Are the types of communication different?
- 7. What recommendations or next steps can you suggest for improving communication and reporting to QBHSB?
  - a. Improvement in which areas?
    - i. Contact with QBHSB?
    - ii. What specific tools or documents would be helpful? What kind?
      - 1. Information/education?
      - 2. Standardized reporting form?

That concludes our focus group. Thank you so much for coming and sharing your thoughts and opinions with us. We have a short evaluation form that we would like you to fill out if you time. If you have additional information that you did not get to say in the focus group, please feel free to write it on this evaluation form.

Appendix 3b. Focus Group Codebook

<u>Code</u>	<u>Description</u>	<u>Example</u>
Algorithm/protocol/standard operating procedure/guideline	Describing an algorithm or protocol	"With regard to a protocol, I mean — we just know with the measles case, what their infectious period is, and if they flew while they were potentially infectious, then we do a notification."
Standardization	Describing reporting procedures	"They may be flying under the radar if that information's not being captured in a standardized questionnaire where we can review the information later to say what may have fallen through the gaps."
Clarity	Describing the clarity of reporting guidelines or communications	"We never quite know what information they're going to ask for. It does seem like sometimes they look for more specifics."
Communication	Relating to general communication between jurisdictions and QBHSB	"We don't routinely hear from the DGMQ unless they're reporting to us a contact that we need to follow up with or something like that. And so it might be good annually if the quarantine stations — I mean I'm sure states like New York and California have pretty routine communication, but those of us that don't have a lot of vaccine-preventable diseases or TB cases, it might be good if they just reach out annually or every couple of years just to kind of maintain that contact and remind us even of protocols, I think that would be helpful."
Relationships	Relating to relationships between CDC/DGMQ/QBHSB and CSTE	"We have really close relationships with SFO and LAX. Um, and we have everybody's email addresses, we have phone numbers, um - you know, we have pretty easy ways to reach them about any time of day or night and certainly cases come in over the weekend"
Reporting/notification	Reporting ill travelers to QBHSB	"We — normally we would encourage people who have upcoming travel, if they're infectious, to cancel their travel. So, I don't know that we would — you know — notify the quarantine station unless we knew for sure they were gonna travel. But otherwise if they did have travel in the past then we would call the quarantine station and usually it's been for vaccine-preventable diseases or tuberculosis."
Trust	Jurisdictions sometimes feel like QBHSB does not trust them to respond to cases in the correct manner	"Well it just seems to me DGMQ should trust a state when they have a case."

Appendix 4. Map of CDC US Quarantine Stations



Source: Centers for Disease Control and Prevention.

https://www.cdc.gov/quarantine/quarantinestationcontactlistfull.html.

#### Appendix 5. In-Person Workgroup Meeting Agenda

# CSTE Evaluation of Reports of III Travelers to Quarantine and Border Health Services Branch Project In-Person Workgroup Meeting Monday, June 24, 2019

#### <u>Agenda</u>

<u>Session</u>	<u>Time</u>
Arrivals	8:00am-8:15am
Welcome and Introductions	8:15am-8:45am
Project Background	8:45am-9:00am
Electronic Assessment Results	9:00am-9:15am
Discuss Key Takeaways and Recommendations	9:15am-10:00am
Break	10:00am-10:15am
Focus Group Results	10:15am-11:15am
Discuss Key Takeaways and Recommendations	11:15am-12:00pm
Lunch	12:00pm-1:00pm
Review Draft Preliminary Report	1:00pm-2:45pm
Break	2:45pm-3:00pm
Discussion of Next Steps	3:00pm-3:45pm
Closing	3:45pm-4:00pm