Evaluation of Jurisdictional & Federal Public Health Responses to Past & Current Outbreaks & Implementation of CSTE Protocol for Health Department Notification to CDC Quarantine Stations of Infectious Persons with Recent Travel

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# Table of Contents

- **Executive Summary** .................................................................................................................. 2
- **Background** ................................................................................................................................. 4
- **Methods** ......................................................................................................................................... 4
  - Workgroup Selection ....................................................................................................................... 4
  - Electronic Assessment ....................................................................................................................... 5
  - Focus Group Discussions .................................................................................................................... 5
  - Recommendations Development ......................................................................................................... 5
- **Results** ............................................................................................................................................ 6
  - Electronic Assessment ....................................................................................................................... 6
  - Focus Group Results ............................................................................................................................ 16
- **Recommendations** ......................................................................................................................... 21
- **Limitations** ..................................................................................................................................... 22
- **Conclusion** ....................................................................................................................................... 22
- **References** ....................................................................................................................................... 23
- **Appendix** ......................................................................................................................................... 24
  - I. Map of CDC Quarantine Stations and Their Jurisdictions .............................................................. 24
  - II. Workgroup Members ..................................................................................................................... 25
  - III. Electronic Assessment Tool ......................................................................................................... 26
  - IV. Focus Group Guide ...................................................................................................................... 39
  - V. Focus Group Codebook ............................................................................................................... 53
Executive Summary

Over the past several years, jurisdictional and federal public health agencies have been challenged by various infectious disease outbreaks on a global scale. Agencies and dedicated public health professionals have worked tirelessly to adapt to ever-changing outbreak response needs. However, there has not yet been an evaluation of these jurisdictional and federal public health responses to past and current outbreaks in the context of infectious travelers. The objectives of this project were to: 1) evaluate jurisdictional and federal public health responses to past and current outbreaks (e.g. Ebola, measles, SARS-CoV-2, etc.) to identify best practices and areas for improvement and 2) develop recommendations for best practices for public health responses and revise the CSTE Protocol and Data Collection Guidance for Health Department Notification to CDC Quarantine Stations of Infectious Persons with Recent Travel. 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/DGMQ.

The following findings are presented with the overall goal of preventing the spread of communicable diseases to and within the United States by improving outbreak responses and the relevant tools and resources, as well as strengthening the relationship between CDC quarantine stations and jurisdictions. A mixed-methods approach was used to assess the current reporting processes and areas for improvement.

Key recommendations:

<table>
<thead>
<tr>
<th>No.</th>
<th>Recommendation</th>
<th>Responsible Party</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td><strong>Outbreak Response</strong></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Reduce multiple instances of communication by requesting all missing data elements for infectious traveler notifications at one time</td>
<td>CDC</td>
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<tr>
<td>1.2</td>
<td>Build a strong working relationship with jurisdictions and quarantine stations through regular communication and check-in meetings</td>
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<td>1.3</td>
<td>Ensure that information sent to jurisdictions for follow-up is sent within the actionable period</td>
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<td>1.4</td>
<td>Ensure call center surge staff are cross trained on other outbreaks</td>
<td>CDC</td>
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<td>1.5</td>
<td>Develop shorter, on-demand webinar training for various outbreak response topics including awareness of HD local realities</td>
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<td>1.6</td>
<td>Develop clear protocols, requirements, and data collection tools for jurisdictional health departments in the Do Not Board process</td>
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<td>1.7</td>
<td>Address delays partners face when calling EOC call center</td>
<td>CDC</td>
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<tr>
<td>2.</td>
<td><strong>CSTE Notification Protocol and Optional Form</strong></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Ensure additional promotion of the CSTE Notification Protocol and Optional Form</td>
<td>CSTE</td>
</tr>
<tr>
<td>2.2</td>
<td>Add link to CSTE Notification Protocol and Optional Form to DGMQ website</td>
<td>CDC</td>
</tr>
<tr>
<td>2.3</td>
<td>Update the PDF to allow for text wrapping</td>
<td>CSTE</td>
</tr>
<tr>
<td>2.4</td>
<td>Add overall onset date (in addition to onset per symptom)</td>
<td>CSTE</td>
</tr>
<tr>
<td>2.5</td>
<td>Add additional space for comments/free text</td>
<td>CSTE</td>
</tr>
</tbody>
</table>
2.6 Add space or field for local identifier  
2.7 Add “information not available” check box where space allows  
2.8 Remove or make optional the following fields: specific symptoms, purpose of travel, route-specific information, seat information, companion information  

<table>
<thead>
<tr>
<th>3. Information Sharing</th>
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<tbody>
<tr>
<td>3.1 Create a secure, bi-directional portal for submitting/sharing information to improve timeliness and efficiency, especially for data that requires public health action</td>
</tr>
<tr>
<td>3.2 Develop a standardized data dictionary to allow jurisdictions to export data directly from their case management systems instead of manually completing the form for large volumes</td>
</tr>
<tr>
<td>3.3 Ensure there is ability to submit infectious traveler notifications in “batch” notifications for large volumes. Identify minimum data requirements and review current forms HDs use to submit multiple cases.</td>
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**Acknowledgement Statement:** This product was developed by the CSTE Evaluation of Reports of Ill Travelers to QBHSB Workgroup, the CSTE Program Analyst, and CSTE consultants with subject matter support and review from CDC/DGMQ/QBHSB. This publication was supported by CDC Cooperative Agreement Number 1 NU38OT000297-03-00.

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 jpeart@cste.org.
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) and the U.S. Mexico Unit (USMU). QBHSB and USMU protect 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.1

QBHSB and USMU operate 20 quarantine stations located at U.S. ports of entry, which together cover all 328 ports of entry into the United States (Appendix I). USMU covers the El Paso and San Diego quarantine stations on the US-Mexico border, while QBHSB covers the other 18 quarantine stations. The US. 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, and international partners. One aspect of these partnerships involves relying on state, local, and territorial public health departments to notify QBHSB and USMU 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.2–4

Information about symptoms or diagnoses 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 (revised April 2018).4 CSTE serves as the professional organization for almost 2,000 epidemiologists representing all 50 states and territories and many local and tribal jurisdictions (hereafter referred to as jurisdictions). CSTE works to establish more effective relationships among jurisdictional 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 developing standards for practice.

The objectives of this project were to 1) evaluate jurisdictional and federal public health responses to past and current outbreaks (e.g. Ebola, measles, SARS-CoV-2, etc.) to identify best practices and areas for improvement and 2) develop recommendations for best practices for public health responses and revise the CSTE Notification Protocol and accompanying Data Collection Guidance document. 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 and USMU.

Methods

Workgroup Selection

In December 2020, a workgroup was formed to support and guide this project. The workgroup was comprised of 25 individuals from state and local jurisdictions, CDC QBHSB and USMU staff, plus the CSTE program analyst and project consultants (Appendix II). Workgroup members were identified by the CSTE
program analyst, the CSTE Border/International Health Subcommittee chair, and the CDC project leads. QBHSB was also invited to submit members from its branch and USMU to participate in the workgroup. Bi-weekly 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
The 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 evaluate jurisdictional and federal responses to past and current outbreaks (e.g., Ebola, measles, SARS-CoV-2, etc.) and identify best practices and areas for improvement, evaluate the implementation of the CSTE Notification Protocol and accompanying Data Collection Guidance and Optional Form, and to inform the subsequent focus group guide. The final assessment tool is available in Appendix III.

The CSTE electronic assessment was initially distributed on April 8, 2021. An invitation email was sent to several CSTE email listservs (State and Large Urban Area and City Epidemiologists, Border/International Health Subcommittee, and Vaccine Preventable Diseases Subcommittee) for an initial data collection period of two weeks. The assessment was later shared directly with CDC Quarantine Stations to forward to jurisdictional partners in order to gather additional responses. The final assessment closed on April 30, 2021. Descriptive statistics were performed for each assessment question and overall results were summarized.

Focus Group Discussions
The focus group guide was developed by the consultants and workgroup members based on results from the electronic assessment (see Appendix IV). The focus group guide was piloted with the workgroup. Two virtual focus groups were held with state and local jurisdictional epidemiologists, and were hosted and recorded on RingCentral. 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 (Appendix V) 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.

Recommendations Development
The results from the electronic assessment and focus group discussions were reviewed with the workgroup. The consultants created draft recommendations that were then discussed with the workgroup members for revision. Final recommendations were assigned to responsible parties.
Results

Electronic Assessment

Section I: Demographics

The CSTE electronic assessment received a total of 100 responses. The majority were from state public health agencies (64, 64.0%) followed by local public health agencies (28, 28.0%).

![Figure 1. Which option best represents the organization where you work?](image)

Respondents were primarily in Epidemiologist positions (87, 87.0%) and worked in infectious/communicable disease programs or departments (87, 87.0%) with an average of 11.05 years of experience (standard deviation [SD] 8.07) in the applied epidemiology field. Almost three quarters of respondents were CSTE members (73, 73.0%).

![Figure 2. Primary Program/Department](image)

*Assessment missing specify option for “Other”*
The geographical distribution of respondents was diverse, covering jurisdictions that report to 19 of the 20 quarantine stations (QS). There were no respondents from jurisdictions reporting to the San Diego QS (however they were subsequently contacted to participate in focus group discussions. See Methods – Focus Group Discussions). Over half of the respondents were from jurisdictions that are located in the QS area of coverage but not in the same city where the QS is located (56, 56.0% not in same location as QS; 39, 39.0% in same location as QS; 5, 5.0% not sure)

Section II: Responses to Past and Current Outbreaks
Eighty-nine percent (89) of respondents have participated in a SARS-CoV-2 (2020-present) outbreak response that warranted assistance from or collaboration with a QS, while about half (52, 52.0%) were involved in the Ebola (2014-2016) response.

During these outbreak responses, the majority of respondents (73/93, 78.5%) communicated or collaborated directly with a QS to notify them of potentially infectious travelers. Seventeen percent (16/93, 17.2%) of respondents’ agencies communicated with a state health department representative who notified a QS. Four percent (4/93, 4.3%) of respondents did not communicate or collaborate with a QS due to not being able to locate contact information (1), unaware of notification request or request was not clear (1), and state handling the notifications (2).

The roles of respondents in outbreak responses included outbreak lead (35/73, 48.0%) and other roles such as epidemiologist (8/73, 11.0%), multiple roles within the response (6/73, 8.2%), and leadership roles (4/73, 5.5%).

Outbreak response activities that respondents collaborated with a QS on included notification to QS of infectious traveler (67/79, 84.8%), do not board orders (DNB; 54/79, 68.4%), contact investigations
(50/79, 63.3%), symptomatic/exposed traveler’s disposition (45/79, 57.0%), consulted for advice (36/79, 45.6%), and other activities (6/79, 7.6%)

A little over half (40/73, 54.8%) of respondents indicated that they used a protocol, template, or tool in their interaction with the QS and eight participants uploaded their document via the Qualtrics survey. Common descriptions of the protocol, template, or tool used included the 2020 CSTE Notification Protocol; jurisdiction-specific protocols, SOPs, guidance documents, and reporting forms; Excel spreadsheet templates for collecting traveler information; protocols specifically for local jurisdictions to notify their state health department of infectious travelers; and communication/email templates.

Overall, respondents indicated that their interactions with the quarantine stations during outbreak responses have been very positive. Some of the commonly mentioned strengths included prompt responses from the QS, clear guidance, and knowledgeable QS staff. Respondents were appreciative of a continuous improvement mindset and noted that the QS staff were receptive to feedback and demonstrated good follow-through on action steps. Good communication was mentioned including the accessibility (available 24/7) and ease of contacting a station. Well established relationships were also noted as strength as well as being mutually beneficial to both the QS and the jurisdiction.

Weaknesses of jurisdiction interactions with QS were often focused on specific interactions or stations. Many responses indicated that communication and availability severely waned during the peak of outbreak responses. For example, during the SARS-CoV-2 pandemic, many respondents had negative experiences when calling a CDC central call center as opposed to contacting the personnel at their local quarantine station directly. Some respondents described a lack of transparency with respect to guidelines and expectations, particularly during the early stages of an outbreak when jurisdictions may...
need the clearer guidance and follow-up steps. There were also reported frustrations with Do Not Board (DNB) processes, such as a lack of clarity, no available resources, and pressure for DNB consultations when the jurisdiction felt it was not needed.

**Of the 55 respondents who indicated that they would like additional trainings or exercises related to notification of infectious travelers to CDC quarantine stations and outbreak responses, 67.3% indicated they would attend webinars, while almost half were interested in tabletop exercises (26, 47.3%) and outbreak simulations (26, 47.3%).**

![Figure 8. What trainings or exercises would you like to attend related to notification of infectious travelers to CDC quarantine stations and outbreak responses? (n=55)](image)

<table>
<thead>
<tr>
<th>Training Type</th>
<th>Number (Percentage)</th>
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<tbody>
<tr>
<td>Webinars</td>
<td>37 (67.3%)</td>
</tr>
<tr>
<td>Tabletop exercises</td>
<td>26 (47.3%)</td>
</tr>
<tr>
<td>Outbreak simulations</td>
<td>26 (47.3%)</td>
</tr>
<tr>
<td>Internal training</td>
<td>20 (36.4%)</td>
</tr>
<tr>
<td>Other*</td>
<td>6 (10.9%)</td>
</tr>
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* DGMQ presentation or engagement (2), Workgroup participation (1), manual (1), data management (1), do not want training (1)

Feedback relating to communication and timeliness included many positive points as well as helpful suggestions and areas for improvement. **Many respondents felt that the quarantine stations were very responsive and direct and noted that the communication and timeliness of responses was a strength. Some respondents indicated that their QS was difficult to reach by phone, and the call center for fielding calls to quarantine stations was not well received.** However, it was noted that communication with quarantine stations during COVID-19 have currently been good. Additionally, follow-up communication regarding notifications and alerts for new travelers were suggested areas for improvement.

In alignment with the positive feedback from respondents regarding good working relationships and communication, respondents also felt that their QS was very collaborative. **Some noted that a high turnover of QS staff makes long-term projects difficult and that it would be helpful for the QS to have more awareness of the local realities surround reporting and follow-up that the jurisdictions face in outbreak responses. The suggestion to establish regular monthly or quarterly meetings with the QS, however, could help alleviate these issues.**
Lessons learned from respondents in relation to past or current outbreak responses yielded helpful information to improve the notification process and communication with quarantine stations. Respondents noted that DGMQ and their QSs are great resources for requesting help or consultation. Forming a working relationship with the QS and ensuring communication were commonly mentioned lessons learned. Respondents noted it was helpful to notify the QS as soon as possible about a traveler and ensure complete information on the traveler is submitted to the QS. Suggestions for improvement included having additional staff to handle times with a high volume of notifications, strengthen cultural competency, and develop an electronic airline outcome form (e.g. fillable PDF or web-based form).

The contact investigation form feedback indicated that there was confusion and inconsistent awareness surrounding the form as a whole. Some respondents noted that the form was helpful for their internal documentation while some felt it was too burdensome.

The feedback from respondents regarding notification of infectious travelers and addressing emerging challenges during outbreak responses included many suggestions for improving the notification process and efficiency. Respondents felt that quick standardization of processes and protocols for an outbreak response is key. Additionally, there is a need for an improved secure system for timely reporting, communication, and data sharing between jurisdictions and quarantine stations. Respondents also suggested improvements be made to the do not board (DNB) process, as there is not a standardized protocol or instructions.

Additional feedback received on past or current outbreak responses included improvements to platforms for data collection and communication, processes for test result interpretation, processes for bus or train interstate outbreaks, and protocols to help reduce conflicting information and improve overall reporting and time efficiency.

Section III: 2020 CSTE Protocol for Health Department Notification to CDC Quarantine Stations of Infectious Persons with Recent Travel, Data Collection Guidance, and Optional Form

In section III, 56 (56.0%) of the overall respondents answered questions related to the 2020 CSTE Notification Protocol, Data Collection Guidance, and Optional Form. The majority (39/56, 69.6%) of these respondents were not aware of the form prior to seeing it in the assessment.

Of these section respondents, 41 (73.2%) selected at least one preferred method to receive more information, with the majority selecting email communication (34/41, 83.0%).
Among the 17 participants who were already aware of the protocol, the majority (n=10, 58.8%) heard about it from the CSTE notification email, 41.2% (n=7) heard about it from their QS, and nearly half (n=9, 52.9%) had used it.

The nine respondents who had used the protocol reported to QS in Atlanta (4), San Juan (2), San Francisco (1), Los Angeles (1), and Detroit (1). The respondents were asked questions about their experience using the protocol. All agreed (7, 77.8%) or strongly agreed (2, 22.2%) that the protocol was clearly written and easy to follow.
Nearly all respondents (n=8/9, 88.9%) indicated that no sections were confusing or vague. One respondent indicated that the instructions/background section could have been clearer or less confusing.

Suggestions for additions to the CSTE protocol and optional form include a more detailed section for Do Not Board (DNB) situations, vaccination information, travel companion information, and page numbers.

Seven out of nine (88.9%) respondents agreed or strongly agreed that the protocol improved efficiency of notification to quarantine stations. The two participants who neither agreed nor disagreed indicated that their jurisdiction already had an efficient system in place.

Additionally, all but three respondents indicated that there were no barriers to using the protocol (n=6/9, 66.7%). Two participants found their own internal protocol more convenient or efficient and one participant noted that the limited space on the form was a barrier.
A total of 10 out of 54 respondents (18.5%) indicated that they had used the Data Collection Guidance. Of the respondents who had used the form, 6/9 (66.7%) strongly agreed or agreed that the Data Collection Guidance and Optional Form made communications with QS more efficient; 1 respondent disagreed (1/9, 11.15%).

Most respondents did not feel there were any missing sections or data points or unnecessary fields (7/9, 77.8%) in the Data Collection Guidance (7/9, 77.8%). One respondent suggested adding space for additional comments about the overall situation of the infectious traveler, adding a space for a local identification code, and changing the symptom onset to allow an overall symptom onset date, not onset date for each individual symptom. One respondent indicated that Table 2. Disease Specific Notification Considerations in the Data Collection Guidance was unnecessary.

The majority of respondents did not feel any sections or data points were missing from the Optional Form (6/10, 60.0%). Symptom onset dates (1/10, 10.0%), companion information (1/10, 10.0%), and information on multiple routes (2/10, 20.0%) were sections of the Optional Form that respondents felt were missing information. One respondent suggested the same additions mentioned above for the Data Collection Guidance be made to the Optional Form. Comments also included adding more space for flight/route information and travel companions.

Several respondents indicated the following sections or data points in the Optional Form were unnecessary or not used: specific symptoms (1/14, 7.1%), purpose of travel (2/14, 14.3%), route-specific information (1/14, 7.1%), seat information (1/14, 7.1%), and companion information (3/14, 21.4%).
There were several sections of the Optional Form that respondents indicated they could not complete due to unavailability of information, the most common being companion information (5/28, 17.9%) and seat information (4/28, 14.3%).

![Figure 14. Fields in the Optional Form that were not able to be completed due to unavailability of information (n=28)](image)
Focus Group Results

Two focus group discussions were held on May 28, 2021 and June 4, 2021 with 7 participants and 10 participants, respectively. The 17 participants represented 11 jurisdictional health departments and 11 of the CDC Quarantine station jurisdictions.

Qualitative data revealed 5 key concepts and 7 key concept subthemes. Where relevant, statements were coded with multiple codes so that none of the key concepts were given preference over others. The key concepts are described below and the full code book is available in the Appendix.

Outbreak Response

Key Concept 1: Communication

“We have a very close relationship with our quarantine station, and during the earlier part of the COVID-19 outbreak, we had weekly meetings with our quarantine station...I think that close relationship that we have with our quarantine station has helped us to avoid a lot of the other communication issues.”

Communication remains a key component of outbreak response activities and the infectious traveler notification process. Overall, feedback on communication was positive, however several subthemes emerged from discussions on improvement:

- Key Concept Subtheme 1.1: Call Center
  - Participants expressed that the call center made it difficult to reach the correct person to answer. Moreover, the time waiting on the phone often lapsed 20-30 minutes, while the call was transferred several times, resulting in a message being taken to call the jurisdiction back. Sometimes the individual answering the phone did not seem to be cross-trained to answer questions other than those that were SARS-CoV-2 related (e.g. Ebola). One participant noted that it took 1 month to receive a response after asking a question.
Key Concept Subtheme 1.2: Consistency in Requested Data Elements

- Focus group participants discussed the consistency/inconsistency in requested data elements for the infectious traveler notification process. Participants noted that the requested data varied depending on the quarantine officer they spoke with. Additionally, information seemed to be requested with each call with a quarantine officer rather than all data requested at once. It was mentioned that often if a jurisdiction leaves a data element empty, it is because they do not have the information. However, they still get call or email requests from the quarantine station to provide the missing data. Participants also mentioned that it is helpful to have context or justification for data elements that are requested, and that some data elements requested are not useful for the jurisdiction but rather only requested for QBHSB’s needs.

Key Concept Subtheme 1.3: Timeliness

- Participants discussed timeliness of communication relating to several outbreak response topics. It was mentioned that timeliness of communication had decreased over time, likely with the worsening of the SARS-CoV-2 pandemic. More importantly, participants noted that often the timeliness of communication negatively impacted the ability to take public health action. When information such as flight referrals or contact investigation data was severely delayed, by the time the jurisdiction received it (for example outside of a 14-day monitoring period) the data became useless as they could not take any action.

Key Concept Subtheme 1.4: Information Sharing (HD to QS)

- Information sharing in the direction of a jurisdiction to a quarantine station was discussed. Participants suggested a secure portal (such as Epi-X or similar) for submitting information rather than email and the ability to submit a large volume of notifications at once rather than each notification individually. These suggestions would help improve efficiency for both parties involved. Participants specifically cited the secure data exchange (SDE) system that was used for the Ebola outbreak as a positive example.

- Additionally most participants agreed that they rarely have time to complete the outcome report form once a contact investigation is completed.

Key Concept Subtheme 1.5: Information Sharing (QS to HD)

- Focus group participants also discussed information sharing in the direction of a quarantine station to a jurisdiction. It was noted that at times, the quality of data was poor and not able to be used at all by the jurisdiction, for example, there were mix-ups in the contact information for follow-up of potential cases. Participants also mentioned a secure portal for sharing information bi-directionally would help improve the timeliness of data sharing. Beyond the timeliness issues reported above, they reported that overall satisfaction with Epi-X in its current use to transmit case data, however participants requested additional information about the case in the spreadsheets (such as departure city, airport, etc.) to reduce extra steps for the jurisdiction staff. Additionally, one jurisdiction commented on the frequently changing formats of data within Epi-X forms, which makes it challenging to
export and write programming code for subsequent analyses. They suggested reporting in a consistent format and notifying jurisdictions of those changes in advance.

- **Key Concept Subtheme 1.6: Relationship**
  - The overall discussion regarding the relationship between a jurisdiction and a quarantine station was very positive. Participants mentioned the strengths of their relationship with quarantine stations included responsiveness by the officers at any time of day, weekly meetings with the quarantine station to build a strong working relationship, and knowledgeable and helpful staff.

**Key Concept 2: Training**

Focus group participants were enthusiastic about providing suggestions for training that would help improve the overall outbreak response process for jurisdictions. The preferred format for training activities was webinar series, focusing on various topics. The participants suggested that the webinars be available on-demand.

"I think in particular a webinar would be very useful, especially if it were to be on-demand accessible, perhaps it was part of a packet with these guidance documents. It could be something that state and local health departments could then fold into their onboarding processes."

Suggested topics for webinar training include an introduction and basic “how-to” for the notification process, an explanation of the do not board process, an overview of DGMQ and the role of quarantine stations, and a primer on how to report infectious travelers and what happens after the notification process.

"I think that [on-demand webinars] would be extremely beneficial for our jurisdiction because as we were moving through the pandemic, we were getting an understanding of which data elements and variables were required from DGMQ and the QS stations, so we developed our own template and cross-training within the agency. But I think it would be extremely beneficial to have a standardized, on-demand webinar so that we can ensure we’re consistent with other states in reporting."

**CSTE Notification Protocol and Optional Form**

**Key Concept 3: Awareness**

Of participants who mentioned awareness of the CSTE Notification Protocol and Optional Form, the majority were either unaware of the protocol and optional form completely, or had some awareness
that the protocol and optional form were in development but did not know that it had been made available to jurisdictions. Those who were unaware of the protocol and optional form noted that they would have used it had they known and that its development is encouraging. However, the inconsistent awareness of this guidance suggests that there is a need for more robust promotion of resources and consistent communication from CDC, CSTE, and jurisdictions.

“Filling out the survey and participating in this focus group was the first time I had seen the CSTE guidance, which would have been incredibly helpful earlier on. And so I think just having that communication, making sure that folks are aware of the resources, and what to do in certain situations. We have internal training for the department of health here, but it would be nice to just have that communication and those refreshers from CSTE or DGMQ.”

“We do use it, we were aware. We found out about it sort of anecdotally last October when it was first coming out. I, one of us was in a conversation with someone from our Atlanta quarantine station who happened to mention it as an aside.”

Key Concept 4: Use of CSTE Notification Protocol and Optional Form

Participants had mixed experiences with the CSTE Notification Protocol and Optional Form. Many did not use the protocol and optional form because they were unaware of it prior to this evaluation (as described above) or because they already had a process in place that was working for their jurisdiction and QS. Others specifically did not use the optional form because it was too cumbersome to manually fill out a form for each case, particularly during the SARS-CoV-2 pandemic. Those that have used the optional form had overall positive feedback, but with some caveats. Some participants who used the optional form regularly reported that it replaced their old system and significantly reduced the amount of back and forth communication needed with their QS to make the notification process much more efficient with fewer “unnecessary requests”. However, others noted that manually filling out the optional form is too time-consuming and it takes a full-time staff member to keep up with it. If a field was left blank it is because they don’t have that information, yet they still receive calls from QS to complete it (even after hours). Participants also discussed that they are still being asked for information that is not on the optional form, so they requested that all information be included so it can only be asked once. Finally, some participants had been asked to fill out the optional form for travel companions who did not meet the notification criteria.

“...where I see that it added the most value for us, I did, or we did notice, a significant reduction in the number of follow-up questions from quarantine station one we started using this form. Not that the information collected in the form was vastly different than our internal form that we had developed. But there were a couple of questions that obviously we didn’t include, but it definitely helped streamline our interactions with quarantine station.”
“I will say that the unnecessary requests did decline after we started using the form you all developed...”

Key Concept Subtheme 4.1: Suggestions for CSTE Notification Protocol and Optional Form

- Suggestions for improving the protocol/form included:
  - Make tool more flexible/with space for things like new variant, etc.
  - Need overall symptom onset date (not for each symptom)
  - Add “information not available” checkbox where space allows
  - Increase size of general comments box for free text
  - Allow PDF to wrap text
  - Manual input is tedious especially with high volumes – would prefer spreadsheet
  - Would use form for other diseases, but COVID has too many cases for this manual form

Key Concept 5: Development of Own Tool

Several participants did not use the protocol and optional form because they either had an existing tool or system in place for their jurisdiction, or they created one based on the content of the data collection guidance. These tools were often described as simpler than the CSTE form, or for high volume notifications, they used a spreadsheet that had been agreed upon by the QS and the jurisdiction. Formats included general case intake or interview forms, spreadsheets, exports from surveillance systems, and simplified forms specific to SARS-CoV-2.

“Before we were provided the CSTE form, we did have our own internal form that we used, and it was an Excel spreadsheet. So we would include basically all of the individuals we were reporting in that one file, and then we’d send that one file. So it’s different in that, obviously this optional form, it’s a PDF, and it’s one for every traveler. But where I see that it added the most value for us, I did, or we did notice, a significant reduction in the number of follow-up questions from quarantine station one we started using this form. Not that the information collected in the form was vastly different than our internal form that we had developed. But there were a couple of questions that obviously we didn’t include, but it definitely helped streamline our interactions with quarantine station.”
Recommendations

The work described above culminates to the following set of recommendations. The recommendations are divided into sections based on the structure of this project, but content may apply across sections.

<table>
<thead>
<tr>
<th>No.</th>
<th>Recommendation</th>
<th>Responsible Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Outbreak Response</strong></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Reduce multiple instances of communication by requesting all missing data elements for infectious traveler notifications at one time</td>
<td>CDC</td>
</tr>
<tr>
<td>1.2</td>
<td>Build a strong working relationship with jurisdictions and quarantine stations through regular communication and check-in meetings</td>
<td>CDC</td>
</tr>
<tr>
<td>1.3</td>
<td>Ensure that information sent to jurisdictions for follow-up is sent within the actionable period</td>
<td>CDC</td>
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<tr>
<td>1.4</td>
<td>Ensure call center surge staff are cross trained on other outbreaks</td>
<td>CDC</td>
</tr>
<tr>
<td>1.5</td>
<td>Develop shorter, on-demand webinar training for various outbreak response topics including awareness of HD local realities</td>
<td>CDC</td>
</tr>
<tr>
<td>1.6</td>
<td>Develop clear protocols, requirements, and data collection tools for jurisdictional health departments in the Do Not Board process</td>
<td>CDC</td>
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<tr>
<td>1.7</td>
<td>Address delays partners face when calling EOC call center</td>
<td>CDC</td>
</tr>
<tr>
<td>2.</td>
<td><strong>CSTE Notification Protocol and Optional Form</strong></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Ensure additional promotion of the CSTE Notification Protocol and Optional Form</td>
<td>CSTE</td>
</tr>
<tr>
<td>2.2</td>
<td>Add link to CSTE Notification Protocol and Optional Form to DGMQ website</td>
<td>CDC</td>
</tr>
<tr>
<td>2.3</td>
<td>Update the PDF to allow for text wrapping</td>
<td>CSTE</td>
</tr>
<tr>
<td>2.4</td>
<td>Add overall onset date (in addition to onset per symptom)</td>
<td>CSTE</td>
</tr>
<tr>
<td>2.5</td>
<td>Add additional space for comments/free text</td>
<td>CSTE</td>
</tr>
<tr>
<td>2.6</td>
<td>Add space or field for local identifier</td>
<td>CSTE</td>
</tr>
<tr>
<td>2.7</td>
<td>Add “information not available” check box where space allows</td>
<td>CSTE</td>
</tr>
<tr>
<td>2.8</td>
<td>Remove or make optional the following fields: specific symptoms, purpose of travel, route-specific information, seat information, companion information</td>
<td>CSTE</td>
</tr>
<tr>
<td>3.</td>
<td><strong>Information Sharing</strong></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Create a secure, bi-directional portal for submitting/sharing information in order to improve timeliness and efficiency, especially for data that requires public health action</td>
<td>CDC</td>
</tr>
<tr>
<td>3.2</td>
<td>Develop a standardized data dictionary to allow jurisdictions to export data directly from their case management systems instead of manually completing the form for large volumes.</td>
<td>CDC</td>
</tr>
<tr>
<td>3.3</td>
<td>Ensure the ability to submit infectious traveler notifications in “batch” notifications for large volumes. Identify minimum data requirements and review current forms HDs use to submit multiple cases.</td>
<td>CDC</td>
</tr>
</tbody>
</table>
Limitations
The electronic assessment was initially sent to CSTE listservs (State and City and Large Urban Area Epidemiologists, Border/International Health Subcommittee, and Vaccine Preventable Diseases Subcommittee). This may have restricted our participant pool and biased results to those who are actively engaged in a CSTE subgroup, who were forwarded the notification from a colleague, and are typically represented in the CSTE membership as a whole. Additionally, there was a branching logic error in the assessment which may have led to incomplete data collection for several questions.

The focus group participants were recruited through the electronic assessment as well as snowball sampling through electronic assessment respondents of individuals who didn’t take the assessment but were interested in participating in the focus groups. Therefore, results may be biased in the same manner as the electronic assessment results. There were technical difficulties with the conferencing platform during one focus group, which may have interrupted participant’s train of thought and therefore data collection, however, the issue was quickly resolved and the focus group continued successfully.

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, 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.

Conclusion
This evaluation sheds light on several strengths and weaknesses of jurisdictional and federal public health responses to past and current outbreaks and the communication between jurisdictions and their quarantine stations. The evaluation also assessed the implementation of the CSTE Notification Protocol and Optional Form. Considering the SARS-CoV-2 pandemic, outbreak response and notification of infectious travelers to CDC is more relevant now than ever. Therefore, it is important that further steps 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


Appendix

I. Map of quarantine stations
II. Workgroup members
III. Electronic Assessment
IV. Focus Group Guide
V. Focus Group Codebook

I. Map of CDC Quarantine Stations and Their Jurisdictions
II. Workgroup Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allen Stout</td>
<td>Michigan Department of Health and Human Services</td>
</tr>
<tr>
<td>Andre Berro</td>
<td>Centers for Disease Control, Division of Global Migration and Quarantine</td>
</tr>
<tr>
<td>Andrea Pachecoa</td>
<td>Puerto Rico Department of Health</td>
</tr>
<tr>
<td>Anna Shaum</td>
<td>Centers for Disease Control, Division of Global Migration and Quarantine</td>
</tr>
<tr>
<td>Antionette Jean</td>
<td>New York City Department of Health and Hygiene</td>
</tr>
<tr>
<td>Chas DeBolt</td>
<td>Washington State Department of Health</td>
</tr>
<tr>
<td>Emily Spence Davison</td>
<td>Colorado Department of Public Health</td>
</tr>
<tr>
<td>Erin Rothney</td>
<td>Centers for Disease Control, Division of Global Migration and Quarantine</td>
</tr>
<tr>
<td>Esmeralda Iniguez-Stevens</td>
<td>California Department of Public Health</td>
</tr>
<tr>
<td>Jordan Peart</td>
<td>CSTE</td>
</tr>
<tr>
<td>Kathleen Harriman</td>
<td>California Department of Public Health</td>
</tr>
<tr>
<td>Kristen Allen</td>
<td>Consultant, Allen &amp; Lai Consulting LLC</td>
</tr>
<tr>
<td>Kristina Lai</td>
<td>Consultant, Allen &amp; Lai Consulting LLC</td>
</tr>
<tr>
<td>Leigh Ellyn Preston</td>
<td>Centers for Disease Control, Division of Global Migration and Quarantine</td>
</tr>
<tr>
<td>Lindsey Kinsinger</td>
<td>Nevada Department of Health and Human Services</td>
</tr>
<tr>
<td>Olivia Arizmendi</td>
<td>California Department of Public Health</td>
</tr>
<tr>
<td>Reena Gulati</td>
<td>Centers for Disease Control, Division of Global Migration and Quarantine</td>
</tr>
<tr>
<td>Rita Espinoza</td>
<td>San Antonio Metro Health</td>
</tr>
<tr>
<td>Shreya Khuntia</td>
<td>DC Department of Health</td>
</tr>
<tr>
<td>Sonia Contreras</td>
<td>Centers for Disease Control, Division of Global Migration and Quarantine</td>
</tr>
<tr>
<td>Stacey Moyer</td>
<td>Wisconsin Department of Health Services</td>
</tr>
<tr>
<td>Tai-Ho Chen</td>
<td>Centers for Disease Control, Division of Global Migration and Quarantine</td>
</tr>
</tbody>
</table>
III. Electronic Assessment Tool

The following assessment was imported to Qualtrics and distributed electronically:

**Evaluation of Public Health Agency Responses to Past and Current Outbreaks and Implementation of CSTE Protocol for Health Department Notification to CDC Quarantine Stations of Infectious Persons with Recent Travel**

**Background**

This assessment aims to evaluate jurisdictional and federal responses to past and current outbreaks (e.g., Ebola, measles, COVID-19, etc.) and identify best practices and areas for improvement. It will also evaluate the implementation of the CSTE Notification Protocol and accompanying Data Collection Guidance and Optional Form. The results of this assessment will inform qualitative focus group discussions. Complete evaluation results from the online assessment and focus groups will lead to recommendations for best practices and areas for improvement for jurisdictional and federal public health outbreak response activities. Additionally, the assessment will inform revisions to the CSTE Notification Protocol, Data Collection Guidance, and Optional Form to improve efficiency and standardize notification to CDC Quarantine Stations.

**Instructions**

Please answer the following questions to the best of your ability. If you did not personally notify CDC quarantine stations of cases or were not involved in outbreak response, you may report general experiences from your department/jurisdiction or refer this survey to another person in your department/jurisdiction who would be able to answer these questions.

Section I will collect basic professional information, Section II relates to your experience in recent outbreak responses, and Section III refers to specific experience with the 2020 CSTE Notification Protocol, Data Collection Guidance, and Optional Form. Finally, Section IV asks for your interest in participating in a follow-up focus group discussion.

**Section I. Professional Information**

1. 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. Tribal public health agency
   e. Federal agency
   f. Academia
   g. Non-governmental organization
   h. Other (please specify) ___________

2. Which option best represents your primary program/department when not deployed on an outbreak response?
   a. Infectious/communicable disease (General)
   b. Sexually Transmitted Infections
   c. HIV
   d. Tuberculosis
   e. Vaccine Preventable Diseases
   f. COVID-19
3. How long have you worked in applied epidemiology (in years)?
   *If you have worked in applied epidemiology for less than 1 year, use an appropriate decimal value (i.e. 6 months = 0.5 years).*
   
   
   
   4. Which best describes your current position?
   a. Communicable Disease Investigator
   b. Nurse
   c. Epidemiologist
   d. State Epidemiologist
   e. Other: ______________________

5. Are you a CSTE member?
   a. Yes
   b. No

6. Which CDC quarantine station does your jurisdiction send notifications to?
   *For map of CDC quarantine stations and jurisdictions see:*
   https://www.cdc.gov/quarantine/quarantinestationcontactlistfull.html

   a. Anchorage
   b. Atlanta
   c. Boston
   d. Chicago
   e. Dallas
   f. Detroit
7. Is your CDC quarantine station located in your jurisdiction? *(e.g. the Los Angeles quarantine station is not located in the Nevada State Health Department’s jurisdiction)*
   a. Yes
   b. No
   c. Not sure

Section II. Responses to Past and Current Outbreaks

1. Which disease responses have you previously participated in that warranted assistance from or collaboration with CDC quarantine stations? Select all that apply.

   NOTE: Feedback on responses other than those listed below are welcome. Indicate those in the “other” field.

   □ COVID-19 (2020-present)
   □ Ebola (2014-2016)
   □ H1N1 (2009)
   □ Measles (2019)
   □ MERS (2014)
   □ SARS (2003)
   □ Zika (2015-2016)
   □ Other: ________________
   □ None

2. [If selected one or more disease in #8] Did you communicate or collaborate with CDC quarantine stations to notify them of potentially infectious travelers?
   a. Yes, me or someone from my agency
   b. Yes, my agency communicated with a state health department representative who notified our CDC quarantine station
   c. No

3. [If No to #2] Why didn’t you communicate or collaborate with CDC quarantine stations?
   □ Was not indicated for the response
     i. Why not? ________________
   □ Did not know who to contact
   □ Could not locate contact information
   □ Was unaware of notification request or request was not clear
   □ Other: ________________

[If Yes (a or b) to #2]
In the following questions, we will ask you for feedback overall and on specific themes related to your past interactions with CDC quarantine stations. If you participated in multiple outbreaks, please specify which outbreak you are referring to in each part of your answer. Feedback on multiple outbreak responses is welcome.

4. What was your role in the outbreak response?
   - Data coordinator
   - Outbreak lead
   - Liaison
   - Outreach/communication
   - Other: ________________

   Explain:

5. What outbreak response activities did your jurisdiction collaborate on with CDC quarantine stations?
   - Notifying quarantine station of infectious traveler
   - Do not board (DNB)
   - Contact investigation
   - Consulted for advice
   - Symptomatic/exposed traveler’s disposition
   - Other: ________________

   Explain:

6. Did you use any protocols, templates, or tools in your interactions with CDC quarantine stations?
   - Yes
   - No

7. [If Yes to 6] Please describe protocol/template/tool and whether your jurisdiction is willing to share the protocol/tool/template. If so, please email it to athompson@cste.org.

8. What were the overall strengths of your interactions with the quarantine station?
9. What were the overall weaknesses of your interactions with the quarantine station?

The following themes in Questions 10-12 refer to your experiences specifically with CDC quarantine stations. For each theme, what do you feel were positives? What do you feel were areas for improvement?

10. Communication:

11. Timeliness:

12. Collaboration:

13. What lessons have you or your agency learned from past or current outbreak responses specifically related to infectious travelers or notification to CDC quarantine stations?

14. CDC has a Contact Investigation Outcome Reporting Form for jurisdictions to complete after collaborations with CDC quarantine stations. Have you completed this form before? Why or why not?
15. What feedback do you have for notification of infectious travelers to CDC quarantine stations and addressing emerging challenges during outbreak responses? (e.g. new variants of SARS-CoV-2?)

16. Looking ahead, what trainings or exercises would you like to attend related to notification of infectious travelers to CDC quarantine stations and outbreak responses?
   - Webinars
   - Outbreak simulations
   - Tabletop exercises
   - Internal training
   - Other: 

   Explain:

17. Please provide any other feedback on past or current outbreak responses.

This completes Section I. Please continue to the next section.

Section III. 2020 CSTE Notification Protocol, Data Collection Guidance, and Optional Form

The following section contains questions related to the 2020 CSTE Notification Protocol, Data Collection Guidance, and Optional Form, which can be found here:
1. Prior to this assessment, were you aware of the 2020 CSTE Notification Protocol, Data Collection Guidance, and Optional Form, released in October 2020?
   a. Yes
   b. No

2. [If No to #1] How would you like to receive more information about it?
   a. Email
   b. EpiX
   c. CSTE webinar
   d. Other: _______________

3. [If Yes to #1] How did you hear about it?
   a. CSTE notification email
   b. CSTE webinar
   c. Quarantine Station
   d. Other: _______________

4. Since its release in October 2020, have you used the Notification Protocol, Data Collection Guidance, and Optional Form to notify CDC quarantine stations of infectious persons with recent travel?
   a. Yes
   b. No

Notification Protocol:

Please refer to the 2020 CSTE Notification Protocol (pages 1-6) when answering the following questions:

5. Please indicate your agreement with the following statement on a scale of 1-5.
   The protocol was clearly written and easy to follow.
   a. Strongly disagree (1)
   b. Disagree (2)
   c. Neither agree nor disagree (3)
   d. Agree (4)
   e. Strongly agree (5)

Explain:
6. What was the most useful part of the protocol?
   a. Introduction/Background
   b. Criteria for Health Department Notification to Quarantine Stations of Infectious Persons with Recent Travel
   c. How to Notify Quarantine Stations of Infectious Persons with Recent Travel
   d. Table 1. CDC’s Quarantine Station Contact Information
   e. Other: 

   Explain:

7. Were there any sections that were confusing or vague (select all that apply)
   a. Introduction/Background
   b. Criteria for Health Department Notification to Quarantine Stations of Infectious Persons with Recent Travel
   c. How to Notify Quarantine Stations of Infectious Persons with Recent Travel
   d. Table 1. CDC’s Quarantine Station Contact Information
   e. Other: 

   Explain:

8. Where there any missing sections that you would like to be included?
9. Please indicate your agreement with the following statement on a scale of 1-5.

Using the protocol made notifying quarantine stations of cases more efficient.

   a. Strongly disagree (1)
   b. Disagree (2)
   c. Neither agree nor disagree (3)
   d. Agree (4)
   e. Strongly agree (5)

   Explain:

10. What suggestions do you have for improvements to the protocol?

   Explain:

11. Were there any barriers to using the protocol?

   a. Use internal protocol
   b. Don’t contact CDC quarantine station often
   c. Protocol not useful
   d. Other: __________________

   Explain:

12. Please indicate your agreement with the following statement on a scale of 1-5.

How has COVID-19 has impacted the use of this protocol for notification of infectious travelers to CDC quarantine stations?

   a. Insignificant impact (1)
   b. Minor impact (2)
   c. Moderate impact (3)
   d. Major impact (4)
e. Severe impact (5)

Explain:


13. Are there elements you suggest adding to the CSTE protocol and optional form?


Data Collection Guidance and Optional Form:

Please refer to the Data Collection Guidance and Optional Form (pages 7-16) when answering the following questions: https://cdn.ymaws.com/www.cste.org/resource/resmgr/crosscuttingi/CSTE_Notification_Protocol_a.pdf

14. Did you use the Data Collection Guidance and Optional Form to notify your CDC quarantine station of an infectious traveler?
   a. Yes
   b. No

15. Please indicate your agreement with the following statement on a scale of 1-5.
   The Data Collection Guidance and Optional Form made communications with CDC quarantine stations more efficient.
   a. Strongly disagree (1)
   b. Disagree (2)
   c. Neither agree nor disagree (3)
   d. Agree (4)
   e. Strongly agree (5)

   Explain:


16. Where there any missing sections/data points in the Data Collection Guidance?
a. Introduction/Background
b. Requested Data Elements
c. Table 2. Disease-Specific Notification Considerations
d. Other: ______________________

Explain:


17. Where there any sections/data points in the **Data Collection Guidance** that you felt were unnecessary or you did not use?
   a. Introduction/Background
   b. Requested Data Elements
   c. Table 2. Disease-Specific Notification Considerations
   d. Other: ______________________

Explain:


18. Where there any missing sections/data points in the **Optional Form**?
   a. Infectious Person contact information
   b. Temporary/Travel address
   c. Temporary/Travel phone
   d. Specific Symptom(s)
   e. Symptom Onset Date(s)
   f. Laboratory Confirmation (either attached lab report, manual entry, or secure email)
   g. Dates of Travel
   h. Purpose of Travel
   i. Route-specific information
   j. Seat information (if applicable)
   k. Companion information (if applicable)
   l. Information on multiple routes
   m. Other: ______________________

Explain:
19. Where there any sections/data points in the **Optional Form** that you felt were unnecessary or you did not use?
   a. Infectious Person contact information
   b. Temporary/Travel address
   c. Temporary/Travel phone
   d. Specific Symptom(s)
   e. Symptom Onset Date(s)
   f. Laboratory Confirmation (either attached report, manual entry, or secure email)
   g. Dates of Travel
   h. Purpose of Travel
   i. Route-specific information
   j. Seat information (if applicable)
   k. Companion information (if applicable)
   l. Information on multiple routes
   m. Other: ________________

   Explain:

20. Were there any fields in the **Optional Form** that you were unable to complete because the information was not available? If so, what fields could not be completed and why?
   a. Infectious Person contact information
   b. Temporary/Travel address
   c. Temporary/Travel phone
   d. Specific Symptom(s)
   e. Symptom Onset Date(s)
   f. Laboratory Confirmation (either attached report, manual entry, or secure email)
   g. Dates of Travel
   h. Purpose of Travel
   i. Route-specific information
   j. Seat information (if applicable)
   k. Companion information (if applicable)
   l. Information on multiple routes
   m. Other: ________________
Section IV. Focus Group Interest

1. Would you be willing to participate in a 1 - 1.5 hour focus group to further discuss challenges and best practices related to this assessment? If so, please provide your contact information here:
   - Name:______________________________
   - Position Title:________________________
   - Jurisdiction:__________________________
   - Email Address:________________________

This concludes the assessment. Thank you for your time!
IV. Focus Group Guide
As presented to participants on May 28, 2021 and June 4, 2021.

Focus Group Discussion:
CSTE Evaluation of Outbreak Responses and the Protocol for Notification of Infectious Travelers to CDC Quarantine Stations
JUNE 4, 2021

Welcome
• Introduce Facilitators
• Background on Project
• Objectives of Focus Group
• Why we asked you to participate
• Explanation of Focus Groups and Ground Rules
Facilitators

Allen & Lai Consulting LLC

Kristen Allen, MPH

Kristina Lai, MPH

Background

CDC’s Quarantine Stations (QS) protect 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).

- 20 quarantine stations
- 2 stations covered by DGMQ’s US-Mexico Unit (USMU)
- San Diego, CA and El Paso, TX
- 18 covered by DGMQ’s Quarantine and Border Health Services Branch (QBHSB)
- Over 300 points of entry into the United States
- Official and Unofficial Land Borders
Objectives

The purpose of this project is to evaluate jurisdictional and federal responses to past and current outbreaks (e.g., Ebola, measles, COVID-19, etc.) and identify best practices and areas for improvement. It will also evaluate the implementation of the CSTE Notification Protocol and accompanying Data Collection Guidance and Optional Form.

Complete evaluation results from the online assessment and focus groups will lead to recommendations for best practices and areas for improvement for jurisdictional and federal public health outbreak response activities, and it will inform revisions to the CSTE Notification Protocol, Data Collection Guidance, and Optional Form to improve efficiency and standardize notification to CDC Quarantine Stations.

Objectives (cont.)

The objectives of the focus group are:

1) To understand your jurisdiction’s specific experiences with recent outbreak responses, including your interactions with CDC’s Quarantine Stations (QS), areas for improvement and next steps
2) To understand your experience using and feedback on the 2020 CSTE Notification Protocol, Data Collection Guidance, and Optional Form for reporting infectious traveler’s to CDC’s QS

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.
About the Focus Group

- 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

Ground Rules

- Everyone should participate. You don’t need to answer any question that you are uncomfortable with, but we ask that you try to answer as many questions as possible
- Information provided in the focus group must be kept confidential
- Please stay focused on the project objectives
- There is no bad question or contribution
- Try to contribute with shorter responses, if possible, for clarity
Logistics

- Focus group will last about 60-90 minutes
- Turn off distractions/close other tabs if possible
- Please mute your line when you aren’t speaking
- For transcript purposes, please announce your name each time you speak
- Allow others to speak, but feel free to add or state agreement/disagreement when you see fit

Questions before we begin?

TRANSCRIPT WILL START AFTER THIS SLIDE
Participant Introductions

Please introduce yourself:
- Name
- Jurisdiction
- Job title
- Why participating in this group

Part I: Feedback on Outbreak Responses Involving CDC Quarantine Stations

These questions focus on your experience with CDC quarantine stations specifically in the context of past and current outbreak responses (e.g. Ebola, COVID-19, measles, H1N1)
Question 1

Tell us about your overall experience during the outbreak response collaborations with QS.

- What worked well? What could have been improved? Please reference which outbreak response and your role in that response with your answer.
  - Were there any barriers to reaching the QS?
  - How could it be improved?
- Were there specific outbreak response activities that were more challenging or difficult in terms of QS collaboration? In what ways?
  - If so, what were the activities and challenges?
  - What are your suggestions for improvement?

Question 2

What feedback do you have for notification of infectious travelers to CDC quarantine stations and addressing emerging challenges during outbreak responses? (e.g. new variants of SARS-CoV-2?)

- Suggestions to improve efficiency and timeliness?
- Tools or information for reporting, secure data sharing, and communication?
Question 3
Do you recommend any trainings, communications/updates or ongoing refreshers related to notification of infectious travelers to quarantine stations?
- If so, what would be your preference? (type, frequency, method, content)

Question 4
Any other overall feedback or suggestion on responses to past or current outbreaks and QS interaction?
Part II: Feedback on the 2020 CSTE Protocol for Notification of Infectious Travelers, Data Collection Guidance, and Optional Notification Form

Question 5
Have you used the 2020 CSTE Protocol for Notification of Infectious Travelers, Data Collection Guidance, and Optional Notification Form?
- Why or why not?
- Were you aware of it prior to the assessment or focus group?
- Did you use the optional notification form?
  - Why or why not?
Question 6

Does your department or organization have an internal form or protocol that you use to submit reports to the quarantine stations?

- How is this form different or similar to the Optional Notification Form?
- How can the CSTE optional form add value (vs. duplicate work) to the notification protocols/processes your S/LHD already have in place?

Question 7

If you notified DGMQ of infectious travelers both before and after the release of the Protocol, how did having this document affect your experience? Think in terms of efficiency, duplication of work, clarity, satisfaction with the outcome, etc.

- How did the SARS-CoV-2 pandemic affect your use of the protocol? Data collection guidance? Optional Notification Form?
- Did the tool help or hinder your reporting? While using this tool, what went well? What could be improved?
- What data points were missing?
- What data points were unnecessary or you were unable to obtain?
- Is there a section that is difficult to use?
- How could this be improved for use with a large volume of notifications? What suggestions would you have for using a protocol/data collection guide for notifying QS of infectious travelers during a future outbreak?
Question 8
Do you have suggestions on how to modify this optional form to avoid duplication with your internal forms/processes? Currently the optional notification form is a fillable PDF. How else would you ideally like to submit this information?
- What could make it more efficient?
- What format would you prefer?
- How do you share this information with the OS? (e.g. phone, secure email, fax)
- How could this be improved for use with a large volume of notifications?

Question 9
Do you have any other feedback or suggestions that we haven’t discussed?
Question 10

We will be revising the 2020 CSTE Protocol for Notification of Infectious Travelers, Data Collection Guidance, and Optional Notification Form based on feedback from this discussion. Would anyone be willing to pilot test it between mid-June and mid-July?

Next Steps

- We will send you a follow-up email as an opportunity to share anything else that we did not get to discuss today
- Second focus group next week
- We will analyze the results and summarize them in a report with recommendations and revisions to the protocol
- A final summary webinar will be held in July with the written report to follow
Thank you

Kristen Allen, MPH & Kristina Lai, MPH

Supplemental Questions

IF TIME ALLOWS
Supplemental Question 1

Regarding information received from CDC quarantine stations:
- What feedback do you have on the daily transmission of info, via SDX, for travelers arriving from countries with an outbreak of public health concern into your jurisdiction?
  - Did you use the contact information provided in following up on these travelers?
  - With hundreds or thousands of records of travelers records shared per day, what tools did you employ in reaching or monitoring these travelers?
  - What kind of challenges/barriers faced in reaching these travelers?
  - For any positive cases identified among these travelers, how did you annotate in your state disease surveillance systems that these cases were linked to DGMQ notifications?
  - What suggestions do you have in optimizing the process by which you acquire data about travelers arriving from risk areas in your jurisdiction?

Supplemental Question 2

Regarding information received from CDC quarantine stations:
- What feedback do you have on the occasional transmission of info, via Epi-X, about travelers associated with contact investigations on conveyances (those potentially exposed to confirmed diseases of public health concern on flights or cruise ships)?
  - Did you use this information to contact travelers?
  - What kind of challenges/barriers faced in reaching out these exposed travelers?
  - For any positive cases identified among these travelers, how did you annotate in your state disease surveillance systems that these were linked to DGMQ notifications?
  - What suggestions do you have about optimizing the process by which you report back to the CDC the information about these travelers?
## V. Focus Group Codebook

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Final Key Concept</th>
<th>Key Concept Subtheme (if applicable)</th>
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<tr>
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<td>Mentions prior awareness of CSTE protocol and/or form</td>
<td>Awareness of Protocol and Optional Form</td>
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<td>Training</td>
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<td>Information Sharing (QS to HD)</td>
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<tr>
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<td>Planning/preparation for outbreak response</td>
<td>Training</td>
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<tr>
<td>Training</td>
<td>Reference to suggestions for training, previous training attended, preferred formats</td>
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