



**Centers for Disease Control and Prevention
Division of Global Migration and Quarantine
(DGMQ)**

**MITRE Improving Traveler Data Exchange
Between Health Departments and CDC Division
of Global Migration and Quarantine (DGMQ)
Project Protocol**

November 21, 2022

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1 Investigator Team

Listed below are the investigation team and collaborators.

1.1 Principal Investigators

The principal investigators (PI) will lead and be responsible for this project. The principal investigators include Kristin Delea, MPH, REHS ((NCEZID/DGMQ/QBHSB) and Abbey Wojno, PhD (NCEZID/DGMQ/OD/IDEA)

1.2 Co-Investigators

The co-investigators will facilitate interviews, take notes, and summarize findings. They include:

MITRE Corporation Personnel:

- Julia Painter, MITRE Project Lead
- Ken Bodenheimer
- Jean Colbert
- Justin Irving
- Erica Harp
- Katie Hogan
- Gordon Olsen
- David Winters
- Sarah O'Dell

CDC Personnel

- Alida Gertz
- Deborah (Daisy) Christensen
- Kelly Epps
- Argelia (Argie) Figueroa

2 Background

Within the U.S. Department of Health and Human Services, the Centers for Disease Control and Prevention (CDC) is the primary federal agency responsible for safeguarding national public health through the control and prevention of disease, injury, and disability. To accomplish its mission, CDC conducts critical contact investigations and surveillance, performs analysis, provides health information that protects our nation against expensive and dangerous health threats, and responds when threats arise.

Within CDC's National Center for Emerging and Zoonotic Infectious Disease (NCEZID), the Division of Global Migration and Quarantine (DGMQ) plays a critical role in maintaining health security by limiting the introduction, transmission, and spread of infectious diseases into the United States. DGMQ collaborates with other federal agencies and state and local health officials to protect public health at U.S. ports of entry, keep Americans healthy during travel and while living abroad, ensure the health of individuals coming to live and work in the U.S., and protect the health of U.S. communities across the U.S.-Mexico border. Air travel can play a role in quickly spreading communicable diseases across the world and throughout communities. Thus, as a critical aspect of securing the health of travelers, DGMQ plays a key role in contact tracing for air travel—the process of identifying and notifying passengers who may have come into contact with a person infected with a communicable disease during a flight.

Data exchange between states and DGMQ is essential for effective public health investigations, surveillance and monitoring. States and DGMQ regularly need to exchange information about cases of notifiable diseases, close contacts, arriving travelers, other individuals who require public health follow-up and would benefit from intervention or the other outcomes of contact tracing, public health monitoring and interventions. States and DGMQ use a variety of manual and technical systems and processes to share information, including traveler information critical to conducting air contact investigations and intervening to mitigate public health threats. The COVID-19 pandemic has exacerbated issues in information flow and personnel and agency bandwidth and has demonstrated that current ways of sharing information are not scalable.

Standardization of electronic data and information exchange between DGMQ and state health departments is minimal. Although some travel data value sets exist, defined data standards do not, which can make sharing, integrating, and interpreting traveler data cumbersome for DGMQ and the health departments. These factors can contribute to inconsistent or incomplete information sharing and more burdensome follow-up, making it difficult for states and DGMQ to act in meaningful and timely ways to address public health concerns. With respect to air contact investigations, these factors limit CDC's ability to collect timely, accurate, and complete air passenger information to support contact tracing by local public health authorities and provide science and evidence about if contacts became infected with the disease of public health concern they were exposed to on a flight.

3 Project Objectives & Goals

The purpose of this project is to gather information through interviews to better understand the current system capabilities, processes, needs, and potential solutions to reduce burdens and bottlenecks in traveler data collection and exchange among DGMQ, jurisdictional health departments, and key stakeholders.

Project objectives include:

- 1) Explore the current state of data exchange between DGMQ, state health departments, and other relevant stakeholders
- 2) Develop recommendations and a roadmap to improve information exchange
- 3) Apply the recommendations to air contact investigations and other data exchange situations.

To achieve these objectives, DGMQ and MITRE will conduct a four-phase project including: Phase 1) Conducting a landscape analysis to investigate the current state of information exchange between DGMQ and jurisdictional health departments; Phase 2) Developing a Concept of Operations (CONOPS) and roadmap for modernizing information exchange in general; Phase 3) Developing a CONOPS and roadmap for modernizing information exchange specifically for air contact investigations; and Phase 4) Developing and executing a pilot with up to four jurisdictions to test the approach for modernizing air contact investigations developed under Phase 3.

The purpose of this document is to outline the protocol for Phase 1, the landscape analysis. In this phase DGMQ, together with MITRE, will investigate the current state of operations for traveler data exchange and identify areas for improvement. To inform the landscape analysis, DGMQ and MITRE will conduct in-depth interviews with three groups of stakeholders: 1) Strategic / Higher-level CDC staff members with knowledge about how information flows around the broader information exchange system; 2) Practical / Program-level CDC staff and Quarantine station staff with knowledge about how traveler-related information is practically exchanged with jurisdictional health department; and 3) Jurisdictional health department staff with knowledge about how traveler-related information is exchanged with jurisdictional health departments.

The findings from the landscape analysis will inform Phases 2 and 3, where DGMQ and MITRE will work together to develop a CONOPS and roadmap to traveler health data modernization in general and specific to air contact investigations. In Phase 4, using the knowledge base developed through the landscape analysis and following the guidance of the concepts of operations and roadmaps, DGMQ and MITRE will operationalize the roadmap to pilot plans for improved air contact investigations and traveler information exchange between DGMQ and selected jurisdictional health departments.

Longer term, these activities will contribute to improved information exchange so that jurisdictional health departments can better monitor, notify, and isolate or quarantine infected or exposed individuals who travel into their jurisdictions as appropriate and DGMQ can efficiently coordinate contact investigations and other public health interventions in a timely manner to understand the outcomes of public health monitoring and describe the risk of transmission during travel.

4 Project Time Frame Overview

October – November 2022	November – March 2023	December 2022 – April 2023
Work with DGMQ to identify interview participants for the landscape analysis	Ongoing recruitment and scheduling of interviews with identified participants	Analyze data and summarize findings
Recruit participants	Conduct interviews	Present findings to DGMQ and other stakeholders as appropriate
Schedule meetings with health departments	Analyze data and summarize findings	

Table 1. Project Time Frame Overview

5 Methods

5.1 Participants

As described above, participants will include the following:

Practical/Program-level DGMQ staff –DGMQ will identify no more than 20 representatives with knowledge about how traveler-related information is practically exchanged with jurisdictional health department. Each representative will be interviewed separately using the interview guide in Appendix A.

Jurisdictional health department staff - DGMQ will identify no more than 15 representative jurisdictions who have expressed interest in working to improve information sharing and air contact investigations. Each jurisdiction will be interviewed separately using the interview guide in Appendix B.

For the selected jurisdictions, DGMQ will work with health department liaisons and Quarantine Station Regional Officers to identify 1 to 3 representatives that currently manage and/or work with traveler information. The goal is to recruit participants with experience as epidemiologists, IT and systems engineer staff, or key decision-makers (e.g., health department leadership).

Informed by these interviews, DGMQ may identify up to 10 relevant **Strategic/Higher-level CDC staff** with knowledge about relevant and/or broader information exchange systems between CDC and the jurisdictional health departments. If we decide to move forward with these interviews, the interview guide will also be informed by the jurisdictional health department and DGMQ interviews. As such, it is not included as an appendix in this protocol and will be added as an amendment once developed. Each representative will be interviewed separately.

5.2 Interviewers

The MITRE team will staff each interview with one moderator and at least two notetakers. Additional observers and notetakers from both DGMQ and MITRE may be present as schedules allow. Interviews will be led by one primary moderator from MITRE. The interviewing team will meet to discuss the project goals, background, and interview guide before starting the interviews.

5.3 Data Collection

Representatives from DGMQ and selected health jurisdictions will be invited to participate in one semi-structured qualitative interview. Each interview will last approximately 60 minutes, depending on the interviewees' responses and availability. All interviews will be scheduled during work hours.

The moderator will use a semi-structured interview guide to help facilitate the interview. The notetakers will take typed notes during each session. The interviews will be conducted over the computer using videoconferencing software (i.e., Microsoft Teams).

The interview sessions will be audio recorded and transcribed using built-in recording and auto-generated transcription capabilities of the Microsoft Teams software.

All interview audio recordings will be destroyed after the final transcript is created. Transcript files and typed notes will be stored and saved on the secure MITRE network in compliance with the federal records retention schedule.

Personally identifiable information and contact information will be kept in a password protected Excel spreadsheet and used to facilitate and organize communication (e.g., names, phone numbers, email addresses) and track interview participation. The spreadsheet will include the name, position, email address, and affiliated jurisdiction of each interviewee (as relevant) along with a unique jurisdiction and individual code to de-identify the participant in transcript and note files. The spreadsheet will be stored in a secure folder separate from the interview notes, audio files, and audio transcriptions.

Each set of files associated with each interview sessions will be saved with the following file name using each jurisdiction unique code:

- **UniqueCode_DateOfInterview_HDInterviewNotes**
- **UniqueCode_DateOfInterview_HDInterviewTranscript**
- **UniqueCode_DateOfInterview_HDInterviewAudioFile**

The Excel spreadsheet used to track participation containing PII will be destroyed after submission of final report and deliverables to DGMQ. All copies of the notes, documents, and files used to develop final reports and deliverables will be stored and saved on the secure MITRE network in compliance with the federal records retention schedule.

6 Disposition of Data

Throughout the duration of the project, the qualitative data collected will be retained by the project team and stored on a secure password protected shared drive behind the MITRE firewall. Only the principal investigators and co-investigators listed at the start of this document will have access to the data and it will only be used for this specified activity. All records will be retained according to federal records retention schedules.

7 Ethical Considerations

Prospective participants will be provided information about the project, the information to be collected, and the time commitment. Participation will be voluntary; only those who agree to participate will participate in the interviews. No information will be collected on those who decide not to participate.

Participants will be asked to provide verbal consent to participation and audio recording prior to responding to any questions during the interview session. Participants can decline audio recording of interview sessions and continue to participate in the session. If a participant consents to participate but does not consent to audio recording, detailed notes will be utilized in data analysis.

The project team will protect the identity of the participants by not attributing observations or comments to specific individuals nor reference their names, titles, or organizational affiliations in any written reports or internal CDC publications or oral presentations.

No incentives for participation will be provided to participants.

The only potential risk to participation is feeling uncomfortable sharing negative information about the data exchange and air contact investigation process if CDC staff are present in interviews. This risk will be mitigated by reiterating that participation is voluntary, let participants know that there are no right or wrong answers, and emphasizing the goal is to understand the current gaps and issues to improve the data exchange system.

It is anticipated that participants, as well as MITRE and CDC, will benefit from the opportunity to inform efforts to collect and share traveler information and improve on these efforts - ultimately enhancing their day-to-day efforts and public health mission.

8 Dissemination of Results

Dissemination of results to the general public is not intended. De-identified, aggregated information may be shared with key stakeholders and partners via reports and presentations.

9 Human Subjects Review

We are requesting this project be reviewed as non-research as the purpose is to understand how jurisdictions exchange traveler-related information with DGMQ and any challenges they experience with the information. There are no human subjects in this project as the information collected is about organizational processes.

10 OMB/PRA Approval

We are seeking approval for the jurisdictional health department interviews under NCEZID's service delivery generic OMB package (OMB Control No. 0920-1071).

Appendix A Improving Traveler Data Exchange Between Health Departments and CDC Division of Global Migration and Quarantine (DGMQ) Moderator Guide for Practical / Program-level CDC/DGMQ and Quarantine station staff

Moderator Name:	
Note Taker Name:	
Date/Time:	
Location:	
Unique Interviewee Code:	
Consent obtained:	

Moderator – Please sign and date the box above to confirm that consent has been obtained.

1. Introduction and Welcome:

Welcome! It is a pleasure for us to meet you virtually. Thank you for joining us, we appreciate you taking time to speak with us today. As we mentioned in our invitation, we anticipate this meeting will last no longer than 60 minutes.

(Note: Interview lead will introduce DGMQ and MITRE Team)

2. Discussion Preview and Purpose:

Just to review why we are meeting today, the Division of Global Migration and Quarantine (DGMQ) is working to gain insight into how traveler and air contact investigation data is collected, exchanged, and used by jurisdictions, state health departments, other relevant stakeholders, and DGMQ. Kristin from QB and Abbey from IDEA are leading this work. We hope to learn from your experiences of working with traveler data and the states. We'll use information from this project to inform recommendations to improve data exchange between DGMQ and states. We'll then see how those recommendations can be applied to improving processes and systems around air contact investigations. On a broader level, this information can help inform CDC data system modernization.

3. Obtain Consent:

Before we begin, I need to obtain verbal consent. Participating in this discussion is completely voluntary. You may choose not to answer any questions and can stop participating at any time

without any consequences. Your decision to participate (or not) and any information you provide will not be used to evaluate your performance. We expect you to spend about 60 minutes total participating in this discussion. We will record our discussion and take notes to help capture your comments accurately. All audio recordings and notes will be destroyed once the project is completed. We will keep the information you give us confidential. Your name, title, and health department will not be used in any reports or presentations.

- **Do you agree to participate?**
- (Note: If “Yes,” proceed, if “No,” thank them for their time.)

We would like to record and transcribe this session so that we can use the transcript and notes for our analysis. However, we will remove any identifying information and the recording will be deleted after the final transcript is completed and will not be shared beyond the evaluation team.

- **Are you okay with us recording this session?**
- **If individual agrees to be recorded:** Thank you, based on your response it looks like you agree with this session being recorded. *[Insert name]* can you please start recording this session. *Primary notetaker begin recording and transcription.*
- **If individual does not agree to be recorded:** Thank you for your response. Since you do not feel comfortable with this session being recorded, we are not going to record this session and will only take notes to capture your feedback.

Please briefly introduce yourself, role, and agency you represent.

4. Interview Questions:

Section 1: What information is shared and who is it shared with?

We would like to start by learning about WHAT information is exchanged between health departments and DGMQ, and WHO else traveler’s health information is shared with.

1. **What activities/interventions do you work on that require the exchange of traveler-related information or data?**
2. **For activities that you work on, what information does your activity/DGMQ share with health departments?**
 - a. What type of information do you send health departments in general?
 - b. What type of information do you send regarding air contact investigations?
 - c. What is the most important information that you send to health departments?
3. **What information do health departments share with DGMQ?**
 - a. What type of information do health departments send for your program/activities?
 - b. What type of information do health departments send DGMQ for air contact investigations?
 - c. What is the most important information for you to receive from health departments?

4. Aside from health departments, with whom else do you share traveler-related information with?

(Specific stakeholders could include others at CDC, jurisdictions, etc.)

- a. What information does your program/activity send to those groups?
- b. What information does your program/activity collect from those groups?
- c. Is there anyone else you share information with related to air contact investigations?

Section 2: How information is shared?

Now we will discuss HOW information is exchanged between health departments and DGMQ; what is WORKING with the current process and what is NOT WORKING.

5. How does DGMQ share traveler-related information with health departments?

- a. What types of tools, software, or systems does your program/activity use to send/receive traveler-related data from health departments?
- b. Is the process different for air contact investigation than for other processes or activities? If so, how?
- c. Please describe your experience with the [mentioned tool/resource]. (Ex. EpiX, Redcap, Epi-Info)
 - a. What are the limitations of [mentioned tool/resource]?

6. What works WELL about the current process of sharing information with health departments?

- a. What works well in the current system/approaches to information exchange in general?
- b. Does this process work well for air contact investigations? Please explain.
- c. Does the process work equally well for everyone involved?

7. What does NOT WORK WELL about the current process of sharing information with health departments?

- a. What challenges have you experienced with the current process for sharing traveler health data?
- b. Are you able to send and receive all information that you need in general?
- c. Are you able to send and receive all information that you need for air contact investigations?
- d. Describe any specific challenges with the current systems or processes to data exchange for air contact investigations.
- e. Are there specific challenges for certain users? If so, please describe. Can you describe any solutions you have either implemented or would like to implement?

Section 3: Quality, actionability, and outcomes of information exchange

Now we will discuss what happens after the data is exchanged, with a focus on quality, actionability, and outcomes of information exchanged between health departments and DGMQ.

8. Please describe the quality of information exchanged between DGMQ and health departments.

- a. Are the data you receive from health departments typically complete and actionable?

- b. How do you handle incomplete traveler-related information from health departments?
 - c. How do you prioritize data received from health departments?
9. **What helps you share actionable, complete, and timely data with health departments?**
- a. What are barriers to you sharing actionable, complete, and timely data with health departments?
10. **Can you describe how data that health departments share leads to meaningful outcomes?**
- a. When health departments send you information about sick or exposed individuals, how does your program/activity follow up?
 - b. DGMQ has an Outcomes Reporting process and specific Outcome Reporting forms. Please describe your experience with health departments using these forms.

Section 4: Air Contact Investigation Focus

We have already discussed a bit about information sharing during air contact investigations. Now we will focus on the general utility of air contact investigations in general.

11. **What has been your experience with air contact investigations?**
- a. Describe circumstances where air contact investigations ARE worthwhile.
 - b. Describe circumstances where air contact investigations ARE NOT worthwhile.
12. **How burdensome are air contact investigations?**
- a. Please describe the time, staffing, and resources your program/activity needs to initiate an air contact investigation and conduct outcomes follow-up and analysis.
 - b. To what extent do you have the time, staffing, and resources that you need to adequately initiate and conduct outcomes follow-up on air travel contacts?
13. **How feasible are air contact investigations? (**this section is only needed if not covered by information shared in sections above**)**
- a. What information or data does your program/activity need to be able to initiate an air contact investigation or public health follow-up?
 - b. To what extent do you have access to all of the information or data you need to initiate an air contact investigation?
 - c. To what extent are the current systems and processes for information sharing with health departments working?
 - d. What is needed to improve the utility of data related to air contact investigations?
14. **What are the ideal outcomes of exchanging traveler health data? (*Outcomes referring to ability to take public health action/Does it result in public health action?*)**

- a. To what extent do air contact investigations result in meaningful public health outcomes?
- b. What successes have you had with air contact investigations and when did they result in meaningful public health outcomes?
- c. What barriers have you encountered with air contact investigations and when did they not result in meaningful public health outcomes?

Section 5: Lessons Learned and Future state

Now that we have discussed successes and challenges with information sharing between DGMQ and health departments in general – and specifically regarding air contact investigations – we will close by asking for suggestions about how to improve the process.

15. What are some lessons learned regarding information sharing with health departments during recent public health emergencies (COVID-19, monkeypox, Ebola)?

- a. How has your project/activity team responded to significantly increased traveler-related public health activities or interventions?
- b. What adaptations have you had to make in response to the recent outbreaks? Was this adaptation used by the whole project/activity or just you?

16. What should the future of data sharing between health departments and DGMQ look like?

- a. Based on your experience, what suggestions do you have for how to improve traveler-related data sharing between DGMQ and health departments in the future?
- b. Based on your experience, what suggestions do you have for how to improve air contact investigations in the future?
- c. What would the perfect data exchange system look like?
- d. If you had to prioritize, what are the top 3 issues to fix / improve regarding information exchange between health departments and DGMQ in general?

Thank you for taking the time to meet with us today. We may follow up with you if we need additional input or any points of clarification. If you have any questions, or if you think of anything additional, feel free to send your feedback to gqi7@cdc.gov and travelerdataexchange@mitre.org by the end of this week (or next week if the FG takes place on Thursday or Friday).

NOTE: ADD email to the chat.

Thank you!

5. Discussion Conclusion:

- a. **Signal termination** of interview but not the relationship.
- b. **Summarize** the interview.

- c. **Obtain consent** at end of first interview and determine interest in continued engagement:

We wish to thank you for your time and insights. As we previously mentioned we will be forwarding you a copy of the notes we have collected during our conversation as well as we can provide access to the recording. We would also ask if we had any clarification questions could we arrange to contact you and set up a brief call (15 to 30 minutes) to obtain the clarifications? Likewise, if you think of any additional information or feedback in the coming weeks, please feel free to email me and I will share your comments with the DGMQ Team.

(Note: If the answer is no to additional contact: That is ok, I understand you are busy. Thank you again for your time.)

Bring interview to a positive close by expressing appreciation, pleasure, or intention of future contacts.

Appendix B Improving Traveler Data Exchange Between Health Departments and CDC Division of Global Migration and Quarantine (DGMQ) Interview Guide for Jurisdictional Health Department Staff

Form Approved
OMB Control No.: 0920-1071
Expiration date: 05/31/2024

Moderator Name:	
Note Taker Name:	
Date/Time:	
Location:	
Unique Interviewee Code:	
Consent obtained:	

Moderator – Please sign and date the box above to confirm that consent has been obtained.

1. Introduction and Welcome:

Welcome! It is a pleasure for us to meet you virtually. Thank you for joining us, we appreciate you taking time to speak with us today. As we mentioned in our invitation, we anticipate this meeting will last no longer than 60 minutes.

(Note: Interview lead will introduce DGMQ and MITRE Team)

2. Discussion Preview and Purpose:

Just to review why we are meeting today, the Division of Global Migration and Quarantine (DGMQ) is working to gain insight into how traveler-related information, like aircraft contact investigation data is collected, exchanged, and used by jurisdictions, state health departments, other relevant stakeholders, and DGMQ. We hope to learn from your experiences working with traveler-related data and other collaborators. We will use information from this project to inform recommendations to improve data exchange in general and air contact investigations, more specifically. On a broader level, this information can help inform CDC data system modernization.

3. Obtain Consent:

Before we begin, I need to obtain verbal consent. Participating in this discussion is completely voluntary. You may choose not to answer any questions and can stop participating at any time

without any consequences. Your decision to participate (or not) and anything you say will not affect your or your organization's relationship with CDC or DGMQ. We expect you to spend about 60 minutes total participating in this discussion. We will record our discussion and take notes to help capture your comments accurately. All audio recordings and notes will be destroyed once the project is completed. We will keep the information you give us confidential. Your name, title, and health department will not be used in any reports or presentations.

- **Do you agree to participate?**
- (Note: If "Yes," proceed, if "No," thank them for their time.)

We would like to record and transcribe this session so that we can use the transcript and notes for our analysis. However, we will remove any identifying information and the recording will be deleted after the final transcript is completed and will not be shared beyond the research team.

- **Are you okay with us recording this session?**
- **If individual agrees to be recorded:** Thank you, based on your response it looks like you agree with this session being recorded. *[Insert name]* can you please start recording this session. *Primary notetaker begin recording and transcription.*
- **If individual does not agree to be recorded:** Thank you for your response. Since you do not feel comfortable with this session being recorded, we are not going to record this session and will only take notes to capture your feedback.

Please briefly introduce yourself, role, and agency you represent.

4. Interview Questions:

Section 1: What information is shared and who is it shared with?

We would like to start by learning about WHAT information is exchanged between your health department and DGMQ, and WHO else traveler's health information is shared with.

- 1. What activities/interventions do you work on with DGMQ that require the exchange of traveler-related information or data?**
- 2. What traveler-related information does DGMQ share with your health department?**
 - a. What information does DGMQ send your health department in general?
 - b. What information does DGMQ send your health department for air contact investigations?
 - c. What is the most important information for you to receive from DGMQ?
- 3. What traveler-related information does your health department share with DGMQ?**
 - a. What information do you send DGMQ in general?
 - b. What information do you send regarding air contact investigations?
 - c. What is the most important information that you send to DGMQ?
- 4. Aside from DGMQ, who else do you share traveler-related information with? (Specific stakeholders could include others at CDC, jurisdictions, etc.)**

- a. What information do you send to those groups?
- b. What information do you collect from those groups?
- c. Is there anyone else you share information with related to air contact investigations?

Section 2: How information is shared?

Now we will discuss HOW information is exchanged between your health department and DGMQ; what is WORKING with the current process and what is NOT WORKING.

5. **How does your health department share traveler-related information with DGMQ?**
 - a. What barriers exist for sharing traveler-related information with DGMQ?
 - b. What types of tools, software, or systems do you use to send traveler-related data to DGMQ?
 - c. What types of tools, software, or systems do you use to receive traveler-related data from DGMQ?
 - d. Is the process different for air contact investigation compared to other processes or activities? If so, how?
 - e. Please describe your experience with the [mentioned tool/resource]. (Ex. EpiX, Redcap, Epi-Info)
 - f. What are the limitations of [mentioned tool/resource]?
6. **What works WELL about the current process of sharing information with DGMQ?**
 - a. What works well in the current system/approaches to information exchange in general?
 - b. Does this process work well for air contact investigations? Please explain.
 - c. Does the process work equally well for everyone involved?
7. **What does NOT WORK WELL about the current process of sharing information with DGMQ?**
 - a. What challenges have you experienced with the current process for sharing traveler health data?
 - b. Are you able to send and receive all information you need in general?
 - c. Are you able to send and receive all information you need for air contact investigations?
 - d. Describe any specific challenges with the current systems or processes to data exchange for air contact investigations.
 - e. Are there specific challenges for certain users? If so, please describe. Can you describe any solutions you have either implemented or would like to implement?

Section 3: Quality, actionability, and outcomes of information exchange

Now we will discuss what happens after the data is exchanged, with a focus on quality, actionability, and outcomes of information exchanged between your health departments and DGMQ.

8. **What has been your experience with the timeliness, completeness and actionability of the information DGMQ shares?**
 - a. What barriers are there to acting on the data you receive?

- b. How do you handle incomplete traveler-related information?
 - c. How do you prioritize data received from DGMQ?
9. **What helps you share actionable, complete, and timely data with DGMQ?**
- a. What are barriers exist to share actionable, complete, and timely data with DGMQ?
10. **Can you describe how data that DGMQ shares with you leads to meaningful outcomes?**
- a. When DGMQ sends you information about sick or exposed individuals, how do you follow up?
 - b. What helps you share outcomes with DGMQ?
 - c. DGMQ has a voluntary outcome reporting process, primarily using standardized Outcomes Reporting forms. Please describe your experience with this process and/or forms.

Section 4: Air Contact Investigation Focus

We have already discussed a bit about information sharing during air contact investigations. Now we will focus on the general utility of air contact investigations in general.

11. **What has been your experience with air contact investigations?**
- a. Describe circumstances where air contact investigations ARE worthwhile.
 - b. Describe circumstances where air contact investigations ARE NOT worthwhile.
12. **How burdensome are air contact investigations?**
- a. Please describe the time, staffing, and resources your health department needs to conduct any public health follow-up on air contacts sent by DGMQ.
 - b. To what extent do you have the time, staffing, and resources that you need?
13. **How feasible are air contact investigations? (**this section is only needed if not covered by information shared in sections above**)**
- a. What information or data do you need to be able to conduct an air contact investigation or public health follow-up?
 - b. To what extent do you have all of the information or data you need?
 - c. To what extent are the current systems and processes for information sharing working?
 - d. What is needed to improve the utility of data related to air contact investigations?
14. **What are the ideal outcomes of exchanging traveler health data? (*Outcomes referring to ability to take public health action/Does it result in public health action?*)**
- a. To what extent do air contact investigations result in meaningful public health outcomes?

- b. What successes have you had with conducting air contact investigations and when did they result in meaningful public health outcomes?
- c. What barriers have you encountered conducting air contact investigations and when did they not result in meaningful public health outcomes?

Section 5: Lessons Learned and Future state

Now that we have discussed successes and challenges with information sharing between DGMQ and health departments in general – and specifically regarding air contact investigations – we will close by asking for suggestions about how to improve the process.

- 15. What are some lessons learned regarding information sharing with DGMQ during recent public health emergencies (COVID-19, monkeypox, Ebola)?**
 - a. How has your jurisdiction responded to significantly increased traveler-related public health activities or interventions?
 - b. What adaptations have you had to make in response to the recent outbreaks?
- 16. What should the future of data sharing between the health department and DGMQ look like?**
 - a. Based on your experience, what suggestions do you have for how to improve traveler-related data sharing between DGMQ and health departments in the future?
 - b. Based on your experience, what suggestions do you have for how to improve air contact investigations in the future?
 - c. What would the perfect data exchange system look like?
 - d. If you had to prioritize, what are the top 3 issues to fix / improve with the way information is shared between health departments and DGMQ in general?

Thank you for taking the time to meet with us today. We may follow up with you if we need additional input or any points of clarification. If you have any questions, or if you think of anything additional, feel free to send your feedback to gqi7@cdc.gov and travelerdataexchange@mitre.org by the end of this week (or next week if the FG takes place on Thursday or Friday).

NOTE: ADD email to the chat.

Thank you!

6. Discussion Conclusion:

- d. **Signal termination** of interview but not the relationship.
- e. **Summarize** the interview.
- f. **Obtain consent** at end of first interview and determine interest in continued engagement:

We wish to thank you for your time and insights. As we previously mentioned we will be forwarding you a copy of the notes we have collected during our conversation as well as we can provide access to the recording. We would also ask if we had any clarification questions could we arrange to contact you and set up a brief call (15 to 30 minutes) to obtain the clarifications? Likewise, if you think of any additional information or feedback in the coming weeks, please feel free to email me and I will share your comments with the DGMQ Team.

(Note: If the answer is no to additional contact: That is ok, I understand you are busy. Thank you again for your time.)

Bring interview to a positive close by expressing appreciation, pleasure, or intention of future contacts.

Public reporting burden of this collection of information is estimated to average 60 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB Control Number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC/ATSDR Reports Clearance Officer, 1600 Clifton Road NE, MS D-74, Atlanta, Georgia 30333; ATTN: PRA 0920-1071

Appendix C Target Participants – Health Departments

We intend to include one to three representatives from each of the following jurisdictions in the project. Jurisdictions below were selected to include a spread of geographic representation, to capture varying types of governance structures and resource levels, and ultimately based on likelihood of interest and responsiveness based on previous experiences interacting with departments.

- California Department of Public Health
- L.A. County Department of Public Health
- Colorado Department of Public Health and Environment
- Georgia Department of Public Health
- Minnesota Department of Health
- Nevada Department of Health
- New Jersey Department of Health
- New York State Department of Health
- New York City Health Department
- Florida Department of Health

Appendix D Interview Scheduling and Outreach Materials

D.1 Outreach to DGMQ staff

Subject: Your Expertise is Needed! Interview Invitation: Exchanging traveler-related data with health departments

Dear <xxxx>:

I am writing to invite you to participate in a new project sponsored by DGMQ. The goals are to: 1) Explore the current state of data exchange between DGMQ, health departments, and other relevant stakeholders; 2) Develop recommendations and a roadmap to improve data exchange; and 3) Apply the recommendations to air contact investigations as an initial use case.

DGMQ is working with MITRE to learn about current data exchange processes and identify opportunities for improvement. We are asking DGMQ staff to participate in interviews to inform this effort. Participation in this project is voluntary.

What is the ask?

- Participation in a 60-minute interview about your experiences exchanging traveler-related data with health departments.

When will the interviews be held?

- Between 11/28/2022-1/31/23 using Microsoft Teams. The specific day and time will be determined based on participant availability.

How do I participate?

- Please indicate your availability to participate in an interview by kindly filling out this survey: <https://forms.office.com/g/mqSqPx5ew8>
- After completing the form, you will receive a calendar invitation from: travelerdataexchange@mitre.org

Who should I contact if I have questions?

- If you have any questions about this project, please contact Kristin Delea at gqi7@cdc.gov.
- If you believe there are alternate or additional experts we should talk with, we would appreciate their contact information as well.

Thank you in advance for your time and participation!

Best regards,

Kristin C. Delea, MPH, REHS
Health Scientist/Deputy Team Lead
Quarantine Travel and Epidemiology Team
Quarantine and Border Health Services Branch
Division of Global Migration and Quarantine
Centers for Disease Control and Prevention
Office: 770.488.7065

Cell: 470.487.6348

D.2 Outreach to Jurisdictional Health Department Staff

Subject: Your Expertise is Needed! Interview Invitation: Exchange of Traveler-related data with DGMQ

Dear <state health dept/jurisdiction>:

I am writing to invite you to participate in a project sponsored by CDC's Division of Global Migration and Quarantine (DGMQ). The goal is to evaluate and modify approaches to exchanging traveler's health data between DGMQ and health departments. Through this project, DGMQ hopes to inform efforts to modernize data exchange with health departments.

DGMQ is working with MITRE to learn about current data exchange processes and identify opportunities for improvement. We are asking health department staff to participate in interviews to inform this effort. Participation in this project is voluntary.

What is the ask?

- Participation in a 60-minute interview about your experiences exchanging traveler-related data with DGMQ.

When will the interview be held?

- Between 11/28/2022-3/31/23 using Microsoft Teams. The specific day and time will be determined based on participant availability.

How does my jurisdiction participate?

- Please indicate your availability to participate in an interview by kindly filling out this survey: <https://forms.office.com/g/mqSqPx5ew8>
- After completing the form, you will receive a calendar invitation from: travelerdataexchange@mitre.org

Who from my jurisdiction should participate?

- Epidemiologists, IT staff, and/or leadership from your jurisdiction involved in the use and exchange of traveler-related health data.
- If you believe there are alternate or additional experts we should talk with, we would appreciate their contact information as well.

Who should I contact if I have questions?

- If you have any questions about this project, please contact Kristin Delea at gqi7@cdc.gov.

We look forward to working with <state health dept/jurisdiction> and thank you in advance for your time and participation.

Thank you in advance for your time and participation!

Best regards,

Kristin C. Delea, MPH, REHS

Health Scientist/Deputy Team Lead

Quarantine Travel and Epidemiology Team

Quarantine and Border Health Services Branch

Division of Global Migration and Quarantine
Centers for Disease Control and Prevention
Office: 770.488.7065
Cell: 470.487.6348

Appendix E Thank You Note

Subject: Thank you for your participation!

Dear <name(s)>:

Thank you very much for participating in the Improving Exchange of Traveler Health Data Interview on [date]. Your insights will help DGMQ learn more about current information exchange processes and identify opportunities for improvement.

To share additional materials or experiences with our team, please contact Kristin Delea, gqi7@cdc.gov, and the MITRE team at travelerhealth@mitre.org.

We appreciate you taking the time to contribute to this effort.

Best Regards,

[sender]