Border Health Strategies for Mitigating the International Spread of COVID-19

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2019 Novel Coronavirus Response

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Objectives

- Describe travel-associated spread of SARS-CoV-2
- Discuss limitations of screening at Points of Entry (POEs) with regards to COVID-19
- Describe border health strategies for COVID-19
Travel-associated cases

▪ “Travel-associated” refers to a probable or confirmed case of COVID-19 in which
  o The person travelled from another country while contagious or during the incubation period
  o The person could have acquired the infection in another country
  o The person had close contact with sick or infected travellers
  o The person has imminent plans to travel to another country
▪ Collaboration with other countries is needed for investigation and control of the disease

Travel-associated exposures

- Global spread of SARS-CoV-2, the virus that causes COVID-19, places travellers at risk for acquiring or transmitting the virus during or after travel.
- Travellers should monitor themselves for signs and symptoms of COVID-19 and limit international spread by following local public health authority's guidance.

Travel-associated case surveillance and reporting

- Responses during an investigation that should alert the surveillance system to take additional steps
  - Responds yes to having travelled from another country
  - Responds yes to having contact with someone who has recently travelled from another country
  - Has plans to travel to another country

- Recommended steps to follow if above criteria are met
  - Surveillance officer conducts a follow-up interview to gather more information about travel history or intent to travel and provide COVID-19 travel recommendations
  - Regional and/or national authorities are notified, according to protocol
  - Counterparts in other countries are notified, according to protocol

Rapid assessment of POE Capacity (RAPC) Tool

- A qualitative assessment tool for determining the needs and capacities at a POE to address COVID-19
- The tool can be:
  - Tailored to all types of POE
  - Used by Ministry of Health (MOH), port health leaders, as well as national and local stakeholders
  - Used to develop action plans to further develop capacities at POE
- The RAPC tool is available in six languages: Arabic, English, French, Portuguese, Russian, and Spanish

Screening at Point of Entry (POE)

- May be useful for diseases with only symptomatic transmission (e.g., Ebola)
  - Potentially infected travellers can be detected at POE by presence of compatible signs and symptoms
- Screening may not be useful for infections that can be transmitted asymptotically or pre-symptomatically (e.g., COVID-19)
  - People do not always present with signs and symptoms of disease, but may still spread infection across borders without being detected at POE

Limitations of screening for COVID-19 at POE

- Large-scale symptom screening may not be an effective way to prevent the spread of COVID-19
- Symptom screening can only detect overtly ill travellers
  - May miss infected people who are asymptomatic, presymptomatic, or have only mild symptoms
    - Incubation period of COVID-19 is 2-14 days
  - Will detect people with other illnesses that have similar signs/symptoms
- Travellers may:
  - Deny their illness
  - Take medicine to mask symptoms (e.g., fever or cough suppressants)
  - Fail to disclose exposure history
Mitigation strategies for travel-associated spread
Community mitigation measures

- Community mitigation measures are actions that are taken to slow the spread of infectious diseases such as:
  - Personal protective measures (e.g., wear masks and maintain physical distance during travel)
  - Water, sanitation, and hygiene (e.g., border communities establish handwashing stations)
  - Cleaning and disinfection (e.g., enhanced cleaning of frequently touched surfaces)
- Strategies can be scaled up or down depending on capacities
- Adapt interventions to POE, border communities, and mobile population needs

# COVID-19 Travel Recommendations

<table>
<thead>
<tr>
<th></th>
<th>Not Vaccinated</th>
<th>Fully Vaccinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get tested 1-3 days before traveling out of the US</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Mandatory test required before flying to US</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Get tested 3-5 days after travel</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Self-quarantine after travel for 7 days with a negative test or 10 days without test</td>
<td>✅</td>
<td>✅</td>
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<tr>
<td>Self-monitor for symptoms</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Wear a mask and take other precautions during travel</td>
<td>✅</td>
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Testing for COVID

- Options to test for current infection include nucleic acid amplification tests (NAAT) and antigen tests (viral tests)
  - When establishing testing requirements or recommendations, MoH should consider test availability, time to obtain results, sensitivity, specificity, cost, and other factors
  - Antibody (serology) tests should not be used for detection of current infection
- CDC does not recommend testing for people who have tested positive for COVID in the past 3 months unless symptomatic
- Removing testing requirements or recommendations for fully vaccinated travellers may be considered

COVID testing information from CDC: https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/testing.html
Predeparture testing

- Predeparture testing (1-3 days before travel) may detect infected travellers before they travel
  - Test results should be available prior to travel
  - Testing should be combined with education about protective behaviors:
    • Self-monitoring for symptoms
    • Wearing a mask
    • Maintaining physical distance
    • Hand hygiene
  - Travel should be postponed or cancelled if test results are positive
- Travellers should follow testing requirements for their destination

COVID-19: TESTING BEFORE TRAVEL

Get tested **no more than 3 days before** you travel.
Postpone travel if you are waiting for test results.
Watch for symptoms of COVID-19.

If you test **NEGATIVE**...
- Keep a copy of your test results with you during travel
- Take precautions to protect yourself and others from getting COVID-19

If you test **POSITIVE** or develop symptoms of COVID-19...
- Do NOT travel
- Immediately isolate yourself
- Follow public health recommendations

www.cdc.gov/covid19travel
When Not to Travel to Avoid Spreading COVID-19

- People should not travel if they:
  - Are sick with symptoms of COVID-19, even if fully vaccinated or have recovered from COVID within the past 3 months
  - Tested positive for SARS-CoV-2, even if asymptomatic
  - Have had close contact someone with suspected or diagnosed COVID, unless they are fully vaccinated or recovered from COVID-19 in the past 3 months

Travel postponement advice from CDC: https://www.cdc.gov/coronavirus/2019-ncov/travelers/when-to-delay-travel.html
Post-arrival testing

▪ Post-arrival testing (3-5 days after arrival at destination) can detect people who were incubating infection during travel.

▪ Testing should be combined with other precautions, including:
  – Maintaining physical distance outside of home
  – Wearing a mask outside of home
  – Hand hygiene
  – Self-monitoring for symptoms of COVID-19
  – Avoiding contact with people at higher risk for severe illness

▪ Can combine with a stay-at-home period to reduce travel-associated spread

CDC recommends 7 days with testing, 10 days without testing

COVID-19: TESTING AFTER TRAVEL

Get tested 3-5 days after you travel.

If you test **NEGATIVE**...
- Stay home for 7 days and self-quarantine
- Watch for symptoms of COVID-19
- Take precautions to protect others
- Do NOT travel

If you test **POSITIVE** or develop symptoms of COVID-19...
- Immediately isolate yourself
- Follow public health recommendations

If you don’t get tested...
- Stay home for 10 days and self-quarantine
- Watch for symptoms of COVID-19
- Take precautions to protect others

www.cdc.gov/covid19travel
Risk communication

▪ One of the most important and effective interventions when responding to a public health event
▪ Prevents
  – excessive amount of information that can lead to confusion
  – spread of incorrect information
▪ Builds trust in the response
  – Increases the likelihood that advice will be followed
▪ Regular communication and engagement with the community and travelling public can avoid misunderstandings and minimize social disruption

Communication at POE

- Alerts travellers to signs and symptoms of COVID-19 and what to do if they are sick
- Provides an opportunity to educate travellers on how to protect themselves and others during and after travel
- Informs travellers how to access local health resources
- Ensures travellers receive accurate information

Communication at POE examples

- Health information cards to arriving or departing travellers
- Health messages posted at POE
- Audio or video messages about signs, symptoms, and what to do if sick
- Social media campaigns to share information about current guidance for travel

Example CDC Travel Health Alert Notice for distribution to arriving travellers regarding COVID-19

Traveller Health Alert Notice from CDC: https://www.cdc.gov/coronavirus/2019-ncov/communication/print-resources.html?Sort=Date%3A%3Adesc&Search=symptoms
Assessing individual-level risk in mobile populations

- Develop procedures for assessing individual-level risk to inform appropriate risk-mitigation intervention (monitoring or movement restrictions)
  - Lower risk
    - No history of being in an area with ongoing community transmission
    - Negative molecular or antigen test for SARS-CoV-2 within a timeframe before departure as defined by the receiving country or upon arrival
  - Intermediate risk
    - Traveller arriving from or with recent travel to a country with a high level of COVID-19
    - History of attending a mass gathering or large social gathering
  - Higher risk
    - Close contact with a person with confirmed COVID-19
    - Symptomatic or positive test result

Monitoring approaches

- Ability to monitor potentially exposed individuals for symptoms and test post-arrival routinely or if symptoms develop

Monitoring Approaches

Risk mitigation level (moving from lower-level intervention on the left to higher-level intervention on the right)

Monitoring approaches

- Recommend travellers self-monitor for symptoms of COVID-19 for a specific period of time
- Conduct in-person monitoring at interval sites along approved routes, e.g., at truck weigh stations or designated trucker lodgings
- Link workers with public health authorities for remote monitoring via a phone application or SMS system for daily reporting while in country
- Develop strategies for post-arrival testing
- Establish multi-country regional surveillance systems for critical infrastructure workers who cross borders to allow for rapid notification of positive test results and facilitate contact tracing
Movement restrictions approaches

- Consider restricting movement into or out of country
- Consider restricting movement of travellers to facilitate surveillance once admitted into the country
  - Follow local requirements for quarantine after arrival

Movement Restriction Approaches

Risk mitigation level (moving from lower-level intervention on the left to higher-level intervention on the right)

Movement restrictions approaches

- Recommend limiting time spent in public places or travelling
- Require mandatory quarantine in government-approved locations
- Identify specific routes, stops along the route, and lodgings that workers are allowed to use
- For cargo transports: Offload trucks from other countries at the POE then load contents onto a local truck for transport into the country (this approach may not be suitable for all types of cargo)

Case investigation and contact tracing

See case investigation workflow

Contact begins self-isolation

Contact self-quarantine

Contact discontinues self-quarantine after 14 days from last exposure if asymptomatic

Test if available and aligns with country guidance*

Refer contact to healthcare worker if necessary

Follow up with contact daily

Contact assigned to local contact tracer

Contact notified

Test if available and aligns with country guidance*

Ensure contact has sufficient supplies (e.g., food, water, hygiene supplies)

Contact triaged for assignment

Patient identifies contacts

Patient with COVID-19 interviewed

Case investigation and contact tracing

- Assess the capacity for contact tracing and adaptations to fit the situation
  - Workforce adaptations
    - Who will do case investigations and contact tracing?
  - Epidemiologic adaptations
    - Which contacts will be followed?
  - System adaptations
    - How will cases and contacts be notified and monitored?
  - Operational adaptations
    - What resources will be available to support the system?
  - Border health adaptations
    - How will contacts on conveyances be identified (e.g., manifests, passenger locator forms)?
    - Will international notifications need to be made?

Understanding population mobility

- Human population movement is common, complex, and can increase the risk of geographic spread of communicable diseases, like COVID-19
- Understanding characteristics of population mobility patterns and connectivity:
  - Allow for effective allocation of resources
  - Inform tailored interventions to respond to public health events
  - Inform prioritization of POE for COVID-19 interventions, capacity building, reopening
  - Highlight at-risk communities within and across borders
  - Identify priority areas or infrastructure for sentinel and community surveillance
  - Enhance national and regional collaboration to strengthen cross-border information sharing and coordination
Strengthening cross-border coordination

- Improve procedures for public health information sharing
- Create a coordinated approach for preparedness and response activities across borders
- Develop relationships with cross-border counterparts
- Develop operational procedures for public health information sharing and coordination
Public health cross-border coordination

- Develop procedures for information sharing:
  - **When** to share
  - **Who** will share
  - **What** to share
  - **How** to share
Summary

▪ Travel-related exposure and spread of COVID-19 can be reduced through border health strategies and mitigation efforts, including:
  – Community mitigation and risk communications at POE
  – Testing (before or after travel)
  – Monitoring or restriction of movement
  – Case investigation and contact tracing
  – Strengthening of cross border collaborations

▪ Usefulness of symptom screening at POE for detecting COVID-19 cases is limited

▪ Determining the best use of border health resources involves many considerations

▪ Border health strategies complement other measures (e.g., community mitigation) in controlling spread of COVID-19
Contact information

- Presentation created by the Global Border Health Team, Centers for Disease Control and Prevention, April 2021
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For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.