

# **Quarantine: Community Response and Containment for SARS**

**Division of Global Migration and  
Quarantine**

**Centers for Disease Control and  
Prevention**



# Outline

- Definitions
- Principles of quarantine
- Strategies that may be used in a future response to SARS
- Planning and preparedness activities
- Planned modifications to current draft



# Definitions

- **Isolation**

- Separation and restricted movement of **ill** persons with contagious disease
- Often in a hospital setting
- Primarily individual level, may be populations

- **Quarantine**

- Separation and restricted movement of **well** persons presumed exposed to contagion
- Often at home, may be designated residential facility
- Applied at the individual or community level

- **May be voluntary or mandatory**



# Historic Roots of Quarantine

- Biblical accounts of quarantine practices for persons with leprosy
- Epidemic plague in 14th century Europe had profound impact on commerce
  - 1348: System for treatment of infected ships, travelers, and merchandise
  - 1485: Venice established 40-day (Latin *Quadragesima*) harbor detention or quarantine



# Quarantine Dichotomy

- “Quarantine” may have negative connotations
  - Black Death, Yellow fever, Pandemic Flu
  - Detention camps equate disease with crime
  - Stigmatizes victims (e.g., foreign born)
  - Historical abuses of power
- Quarantine works
  - Effective tool to prevent spread of contagion
  - As good or better than other tools in the box



# Modern Quarantine

*A collective action for the common good predicated on aiding individuals infected or exposed to infectious agents while protecting others from the dangers of inadvertent exposure*



*Meeting needs of individuals infected and exposed is paramount*



# Principles of Modern Quarantine

1. Modern Quarantine may be used if:
  - A person or group of people has been exposed to a highly **dangerous** and **contagious** disease
  - Exposed **well** persons are separated from **ill** cases
  - Resources are available to implement, support and maintain the quarantine



# Principles of Modern Quarantine contd.

2. Modern quarantine encompasses a range of strategies
3. Modern quarantine is used *in combination* with other interventions
4. Quarantined persons must be among the *first* to receive all available disease-preventing interventions





# Principles of Modern Quarantine contd.

5. Modern quarantine lasts only as long as necessary to ensure that quarantined persons do not become ill
6. Modern quarantine does not have to be absolute to be effective
7. Modern quarantine is more likely to involve small numbers of exposed persons in small areas



# Principles of Modern Quarantine contd.

8. Implementation requires clear understanding of roles and legal authorities at the local, state, and federal levels
9. Implementation requires coordinated planning by many partners
10. Implementation requires **trust and participation** of the general public



# SARS Containment Strategy: Elements of Response

- Case management
- Contact management
- Hospital/facility infection control
- Community response and quarantine
- Border responses



# SARS Containment Strategy: Levels of Response

## Basic and Enhanced Activities

- Magnitude and scope of outbreak
- Patterns of transmission
- Resources available for response
- Community cooperation and trust



# SARS Containment Strategy: Case Management

## Basic Activities

- Home isolation
  - Suitable for providing adequate care
  - Adequate infection control measures possible
- Hospital isolation if medically necessary

## Enhanced Activities

- Community-based facility isolation
- Facility must meet patient care and infection control requirements



# SARS Containment Strategy: Contact management

- **Basic Activities**

- Monitoring without activity restrictions
  - Assessment for signs and symptoms in well person(s) exposed to a contagious disease
  - May be passive or active
- Furlough of HCWs with unprotected high-risk exposures (e.g., intubation) in certain situations



# SARS Containment Strategy: Contact management

## Enhanced Activities

- Monitoring with activity restrictions
  - Home quarantine
  - Working quarantine
  - Facility-based quarantine
- Active monitoring for all in quarantine
- May be voluntary or mandatory
- Range of options for optimizing compliance



# Quarantine 2003: Lessons Learned

- Clear messages about need for quarantine increased public acceptance
- Quarantine can be voluntary in most cases
- Mental health support is a critical need for those in quarantine
- Implementation of large-scale quarantine is complex and resource-intensive





# SARS Containment Strategy: Community Response

## Basic Activities

- Public information and education
- Promote “respiratory hygiene” and hand washing

## Enhanced Activities

- Focused measures to increase social distance
- Community-wide measures to increase social distance
- Widespread community quarantine



# Ways to Increase Effective Social Distance

- Implement “Snow Day” restrictions
  - Close schools, daycare centers, etc.
  - Cancel large public gatherings (concerts, theaters)
  - Minimize other exposures (markets, churches, public transit)
- Ask non-essential workers to stay home
- Consider additional measures
  - Distribution of surgical masks?
  - Temperature screening in public venues
  - Scaling back transportation services



# Community Responses to SARS

- Number of cases/exposed
- Exposure category
  - Known
  - Unknown (unlinked)
- Generations of transmission
- Morbidity and mortality
- Ease/ rapidity of spread
- Movement in /out of community
- Resources for response
- Risk of public panic

No restrictions



Targeted population-specific restrictions



Community-wide measures to increase social distance



Compulsory activity restrictions

- Curfews on activities
- Closing of mass transit
- Closing access routes
- Closing borders



# SARS Containment Strategy: Border and travel responses

- Basic Activities
  - Travel advisories and alerts
  - Distribution of health alert notices
  - Responding to ill passengers
- Enhanced Activities
  - Pre-departure and arrival screening
  - Quarantine of travelers from areas with SARS
  - Restriction of non-essential travel



## Health Alert Notice

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DEPARTMENT OF HEALTH AND HUMAN SERVICES



## HEALTH ALERT NOTICE

FOR INTERNATIONAL TRAVELERS ARRIVING IN OR RETURNING TO THE USA FROM HONG KONG AND GUANGDONG PROVINCE, PEOPLE'S REPUBLIC OF CHINA, AND HANOI, VIETNAM

**TO THE TRAVELER:** During your recent travel, you may have been exposed to cases of severe acute respiratory disease syndrome. You should monitor your health for at least 7 days. If you become ill with fever accompanied by cough or difficulty in breathing, you should consult a physician. To help your physician make a diagnosis, tell him or her about your recent travel to these regions and whether you were in contact with someone who had these symptoms. Please save this card and give it to your physician if you become ill.

**TO THE PHYSICIAN:** The patient presenting this card may have recently traveled to Hong Kong or Guangdong Province in the People's Republic of China or Hanoi, Vietnam, where cases of atypical pneumonia have been identified. If you suspect atypical pneumonia (also being called severe acute respiratory disease syndrome [SARS]), please contact your city, county, or state health officer (see <http://www.cdc.gov> or call the CDC Emergency Operations Center 770-488-7100).

*For public inquiries, call Centers for Disease Control and Prevention (CDC) hotline:  
English 888-246-2675, Español 888-246-2857, TTY 866-874-2646.*

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DEPARTMENT OF HEALTH AND HUMAN SERVICES



HEALTH ALERT NOTICE  
For International Travelers  
Arriving in the United States  
from Toronto, Ontario, Canada

**TO THE TRAVELER:** During your recent travel to areas affected by severe acute respiratory disease syndrome (SARS), including Toronto, you may have been exposed to cases of SARS. You should monitor your health for at least 10 days. If you become ill with fever, cough, or difficulty in breathing, you should consult a physician. In advance of your visit to the physician, tell him or her about your recent travel to these regions and whether you were in contact with someone who had these symptoms. Please save this card and give it to your physician if you become ill.

**TO THE PHYSICIAN:** The patient presenting this card may have recently traveled to SARS-affected areas, including Toronto, where cases of SARS have been identified. If you suspect that this patient may have SARS, please contact your city, county, or state health officer (see <http://www.cdc.gov> or call the CDC Emergency Operations Center at 770-488-7100).

English

Distributed at 13 US-Canada land crossings and the Toronto airport

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# Range of Responses to SARS at Borders

- Number of global cases/exposed
- Adequacy of global surveillance/control
- Volume of travel
- Ease/ rapidity of spread
- Characteristics of local outbreaks
- Community response levels
- Border and local resources
- Risk for public panic

- Travel alerts, advisories, press releases
- Meet all arriving flights from SARS-affected countries
- Evaluate ill passengers

- Intensified arrival screening
- Pre-departure screening

- Restrict departures and flights
- Suspend travel and other visa issuance
- Quarantine any arrivals from affected areas
- Consider closure of borders





# Preparedness Planning: General

- Establish incident command structure
- Establish relationships with essential partners
- Plan for monitoring and assessing appropriate response
- Develop message strategies for various responses and groups





# Preparedness Planning: Case and Contact Management

- Ensure management protocols up to date
- Establish supplies for non-hospital management
- Establish telecommunications plan
- Plan for ensuring essential services



# Preparedness Planning: Community Containment

- Ensure that necessary legal authorities and procedures are in place
- Identify key partners and personnel for quarantine
- Develop training programs and drills
- Develop plans for mobilization and deployment



# Preparedness Planning: Non-hospital facility management

- Identify community-based facilities for quarantine of contacts
- Ensure procedures for assessment of sites are in place
- Develop protocols for evaluation and management of arriving ill passengers



# Conclusions

- Modern quarantine
  - Represents a range of interventions
  - Can be resource- and labor-intensive
  - Is an important tool used in conjunction with other containment measures
- Effective implementation of modern quarantine and other containment measures is impossible without planning and preparedness.



# Acknowledgements

- CDC, and State and Local Health Department staff who responded to SARS 2003
- Staff of the 8 US Quarantine Stations that protect our ports of entry
- Members of the Community Preparedness and Response Team



# Planned additions and revisions

- Revised guidelines for home and facility-based isolation and quarantine
- Descriptive summary of various containment measures and rationale for their use
- Forms and checklists for monitoring of persons in quarantine



# Public Health Guidance for Community-Level Preparedness and Response to Severe Acute Respiratory Syndrome (SARS)

Full Text available at:

<http://www.cdc.gov/ncidod/sars/sarsprepplan.htm>

Please send comments/suggestions to:

[sars-plan@cdc.gov](mailto:sars-plan@cdc.gov)