

Implementing Quarantine to Reduce or Stop the Spread of a Contagious Disease

Implementation of quarantine by state, local, tribal, and territorial (SLTT) public health agencies is recommended to reduce disease transmission and associated morbidity and mortality during an outbreak only after consideration of the best available science regarding the characteristics of the disease, the expected balance of benefits and harms, and the feasibility of implementation.

Finding Statements and Certainty of Evidence

●●●● High ●●● Moderate ●● Low ● Very Low

Finding statement	Certainty
Quarantine can be effective at reducing overall disease transmission in the community in certain circumstances.	●●●●
Quarantine can reduce the time from symptom onset to diagnosis in quarantined individuals.	●●
Congregate quarantine for influenza and agents with similar transmissibility can increase risk of infection among those in the shared setting	●●●●
Quarantine can result in psychological harms among quarantined individuals, including PTSD, anxiety, and anger, the risk of which increases with the duration of quarantine.	●●●
Quarantine can be associated with individual financial hardship for quarantined individuals.	●●●●
Emphasis on health by those leading the outbreak response (i.e., health-promoting leadership) can reduce depression and anxiety symptoms in quarantined individuals.	●
While adherence to quarantine measures can vary by culture, disease, and socioeconomic status, use of various strategies, including risk communication and messaging and access to employment leave can improve adherence.	●●●

Implementation Guidance

Considerations for *when* to implement quarantine

- » Early on in the outbreak, especially when there is a shortage or absence of available medical countermeasures
- » Only after weighing the resources required for quarantine against the expected benefits
- » When the basic reproductive number (R_0) of a given pathogen is in a range in which quarantine can be expected to reduce transmission importantly. Quarantine may be more effective for a pathogen with moderate R_0 , or for a pathogen with a higher R_0 that has previously produced durable immunity in a population
- » When quarantine can reliably separate identified individuals from the general population for durations commensurate with the expected duration of asymptomatic infectiousness
- » When the asymptomatic infectious period is short or there is no asymptomatic infectious period
- » When exposed individuals can be identified reliably and quickly
- » When isolation of individuals once they become symptomatic is slow or unreliable without quarantine

Considerations for *how* to implement quarantine

- » Consider voluntary before legally enforced quarantine
- » Avoid congregate quarantine whenever possible to reduce the risk of disease transmission among those in the shared setting
- » Implement quarantine at a smaller scale before considering implementation at a large scale
- » Understand the population on which quarantine will be imposed. At-risk populations will require greater consideration because of the potential for greater harms
- » Allow reasonable modifications of policies to suit the needs of the situation and the people placed under quarantine
- » Ensure that a legal framework is in place and develop options for different levels of quarantine that are matched to the pathogen and risk of exposure

Considerations for *during* and *after* the implementation of quarantine

- » Use culturally informed approaches to quarantine, and use an orientation of care approach rather than enforcement
- » Ensure transparent risk communications. Provide clear messaging on the rationale for quarantine
- » Provide financial, food, and social and psychological support to quarantined individuals
- » Plan for what will happen as and after quarantine measures are lifted

Context Considerations



Setting

Settings reflected in this evidence review were primarily non-US settings



Population

Populations reflected in this evidence review were primarily general public and health care workers. Some studies examined quarantine and at-risk population groups



Emergency phase

Primarily response phase studies



Emergency type

Emergencies were primarily real events, with some simulated events, and covered all infectious disease events (Ebola, Influenza, SARS, MERS, measles, Lassa Fever)



Quarantine setting

The quarantine settings primarily reflected in this evidence review were home quarantine and health care facility quarantine, not quarantine set in some other designated facility