

PURPOSE: This briefing note outlines the groups that should be prioritized when there are testing constraints.

BACKGROUND: Robust testing is needed to track and respond to the COVID-19 pandemic. Unfortunately, many locations have testing capacity constraints due to supply shortages, testing backlogs, test quality issues, and logistical challenges. Until there is much more testing capacity, jurisdictions and health care providers should prioritize people to be tested based on health benefit. Testing is highest priority if it may improve clinical outcomes or contribute to reduced spread of disease (particularly to medically vulnerable people). Additional testing will require health care and public health system capacity to follow up on positive results. The size of each group and therefore the number of tests needed, as well as the number of tests available, are also important considerations. Initially, only the highest priority groups should be tested. As testing becomes more widely available, testing should be expanded to other groups in a stepwise fashion, based on their priority.

PRIORITIZATION OF GROUPS

Group	Priority for testing	Risk of infection	Risk of spread to others	Size of group	Estimated tests/million people /day*	Notes
Patients with symptoms of COVID-19 who are being hospitalized, are over age 60, or have underlying health conditions	I	High	Medium	+	~100-300	Higher likelihood of severe disease
Congregate facility** (symptomatic)	I	High	High	+	<50	Potential for rapid spread/severe disease
Healthcare workers (symptomatic)	I	High	High	+	300-500	Prevent nosocomial spread
Contacts (symptomatic)	I	High	Low (if quarantined)	+	Depends on incidence and contact index	To inform subsequent contact tracing; less feasible as cases rise. Estimate 100-300 at low incidence and 2 symptomatic contacts per case), includes contacts in clusters with high risk of transmission
Hospitalized patients (non-COVID-19)	I	Medium	High	+	300	Prevent nosocomial spread
Public safety (EMS, Police, Fire) symptomatic	I	High	Medium	+	<50	Potential for community spread, protect workforce
Congregate facility** (asymptomatic)	II	Low	High	++	650	Potential for rapid spread/severe cases, if asymptomatic transmission a significant contributor to spread. Elevate to priority I in outbreak setting.
Healthcare workers (asymptomatic)	II	Medium	High	+++	7,000	If asymptomatic transmission a significant contributor to spread Can elevate to priority I if high transmission or nosocomial outbreak setting.

* based on national estimates in US

** includes residents of nursing homes, homeless shelters, correctional facilities, and other spaces where large numbers of people congregate and/or sleep

*** vulnerable (Age>60, underlying conditions)

+ < 500 tests per 1,000,000 people per day

++ 500-1,000 tests per 1,000,000 people per day

+++ more than 1,000 tests per 1,000,000 people per day

Group	Priority for testing	Risk of infection	Risk of spread to others	Size of group	Estimated tests/million people /day*	Notes
Contacts (asymptomatic)	II	Medium	Low (if quarantined)	+	250-450	If asymptomatic transmission a significant contributor to spread; less feasible as cases rise
Other essential (mass transit, grocery, sanitation) symptomatic	II	High	Medium	+	100-200	Potential for community spread, protect workforce
Patients with symptoms of COVID-19 (not medically vulnerable***)	II	High	Low (if self-isolate)	++	200-400	Most mild can self-isolate, but ideally all with symptoms should be tested.
Public safety (EMS, Police, Fire) asymptomatic	III	Medium	Medium	++	850	Potential for community spread, protect workforce. If asymptomatic transmission a significant contributor to spread.
Other essential (mass transit, grocery, sanitation) asymptomatic	III	Medium	Medium	+++	2,100	Potential for community spread, protect workforce. If asymptomatic transmission a significant contributor to spread.
Non-essential workers	IV	Low	Low	+++	>10,000	Periodic screening
Others in community	IV	Low	Low	+++	>10,000	Prioritize medically vulnerable

* based on national estimates in US

** includes residents of nursing homes, homeless shelters, correctional facilities, and other spaces where large numbers of people congregate and/or sleep

*** vulnerable (Age>60, underlying conditions)

+ < 500 tests per 1,000,000 people per day

++ 500-1,000 tests per 1,000,000 people per day

+++ more than 1,000 tests per 1,000,000 people per day

RECOMMENDATION

COVID-19 testing is an essential component of the **BoxItIn** strategy to support the rapid isolation of cases, elicitation of contacts, and quarantine of contacts. For the United States, the groups in Priority I represent approximately 350,000 – 700,000 tests per day (more if there are more cases and contacts), Priority II an additional 2.8 million, Priority III an additional 1 million, and Priority IV an additional 6.5 million. As testing capacity is being expanded, groups for testing should be prioritized as outlined above in order to maximize the goals of saving lives and preventing spread of infection.