

Ideal public health infrastructure required before reopening Hawaii's local and tourist¹ industries

	People	Process	Technology	Policy
Screening	<p><u>Where would screening occur (i.e., any enclosed space)?</u></p> <ol style="list-style-type: none"> 1) Private businesses 2) Ports of entry (air & sea) 3) Tourist related (e.g., hotels, attractions, etc.) 4) Schools 5) Government 6) Health care 7) Residential complexes <p><u>Who performs the screening?</u></p> <ol style="list-style-type: none"> 1) Business/Government would primarily use their own employees, particularly if they have personnel already dedicated (e.g., TSA/Customs at airports) 2) For businesses that are unable to screen on their own, they could use a Dedicated State/Private supported team (e.g., Red Cross or new entity) <ol style="list-style-type: none"> a) Mobilized only during outbreaks/pandemics b) Consists of volunteers/paid 3) For places that might create operational challenges to screening (e.g., Taxi, bus, etc.) <ol style="list-style-type: none"> a) Create designated screening places (e.g., certain bus stops) which could be performed by dedicated team in #2 <p><u>Resources (location dependent)</u> Each point of entry would need the following people (prefer one entry point; varies by volume)</p> <ol style="list-style-type: none"> 1) Directing people to/from screening (1-2 people) 2) Actual screening (estimate 2 min per screen so 1-2 people) 3) Help with questions (1-2 people) 4) Counsel about any positive screens (1-2 people) 5) Manager (1 person) 	<ol style="list-style-type: none"> 1) Upon entering any enclosed space <ol style="list-style-type: none"> a) Hand sanitation b) Everybody is screened via questions and fever checked if not already screened that day <ol style="list-style-type: none"> i) Symptomatic/fever <ol style="list-style-type: none"> (1) No entry (2) Referral for testing (3) Post screening confirmation ii) All others <ol style="list-style-type: none"> (1) Face masks required at all times (2) Post screening confirmation c) Specific to health care settings <ol style="list-style-type: none"> i) Can modify to be more restrictive ii) Consider "shoulder to toes" body suit for all visitors to minimize contamination from personal clothes d) Points of entry into state (air & sea) <ol style="list-style-type: none"> i) Same screening as above but completed as soon as get off/on the plane or boat <p>2) Transportation</p> <ol style="list-style-type: none"> a) Fever check only if person was not already screened that day b) Face mask required c) Hand sanitation d) Taxi/Ride shares: <ol style="list-style-type: none"> i) Cleaning required after dropping off passengers ii) Passengers only allowed to sit in back seat and either the car has a plexiglass divider between front/back seats or back windows need to stay open e) Buses/Mass Transit: <ol style="list-style-type: none"> i) Sanitation wipes for each passenger to clean where they sit/stand ii) Sit/Stand to ensure social distancing 	<ol style="list-style-type: none"> 1) Symptom Screening <ol style="list-style-type: none"> a) Standardized symptom questionnaire b) Phone app 2) Temperature Screening <ol style="list-style-type: none"> a) Digital ear thermometer b) Thermometer linked to phone app to enable data sharing 3) Post screening confirmation <ol style="list-style-type: none"> a) Green sticker for no symptoms/fever (Singapore) b) Phone app that would track time of screening and ability to share results with other app users (Singapore; China) <p>Note: The ideal method of tracking symptoms, fever and visualization of any screening (i.e., stickers) would be through a single phone app to allow for data sharing, tracking and provide notification if a person was in "close contact" with a known positive case prior (e.g., 7 days) to symptoms (e.g., use of Bluetooth or GPS location)</p>	

<p>Testing</p>	<ol style="list-style-type: none"> 1) Department of Health 2) Health Care Facilities 3) Private labs 4) Community health care providers 	<p>Key: Low threshold for testing due to lack of vaccine or treatment to identify cases, those with prior exposure but asymptomatic and those that developed natural immunity</p> <p>Assumption: Hawaii has the ability to test all patients deemed eligible for one.</p> <p>Excluded from this process: For patients in facilities, facility/statewide specific testing protocols (perhaps developed the Health Care Association of Hawaii) would be used and therefore would not follow the below criteria.</p> <p><u>Testing process for residents/tourists in the community</u></p> <ol style="list-style-type: none"> 1) People who should have a RT-PCR test performed <ol style="list-style-type: none"> a) (Hawaii DOH criteria) Fever and/or symptoms of acute respiratory distress (e.g., cough) b) Asymptomatic plus clinical judgement (e.g., high-risk individuals²) and epidemiologic considerations c) Close contact with exposure up to 7 days prior to symptom development in a confirmed positive case [CDC MMWR (1-3 days); NEJM (1-5 days); NEJM (5 days); Lancet (4 days); CDC MMWR (7 days)] d) Patients with influenza-like illness who are tested for flu (may adjust after control of outbreak) 2) People who should have a Serology IgG/IgM performed that identifies recent or past infection (<u>availability should increase over the next few weeks</u>) <ol style="list-style-type: none"> a) Asymptomatic but recent travel history from a country/state with community widespread <p>Point-of-Care testing should be considered in the following situations</p> <ol style="list-style-type: none"> 1) Prior to boarding an airplane 2) Health care workers 3) Other essential workers needing to return to work 	<ol style="list-style-type: none"> 1) Serology IgG/IgM <ol style="list-style-type: none"> a) State b) Private lab (if available) to allow for multiple tests to performed at same time c) Point-of-Care (see below) 2) RT-PCR test <ol style="list-style-type: none"> a) Point-of-Care (see below) b) Private labs for all others 3) Antibody testing for immunity (when available) <ol style="list-style-type: none"> a) Private labs b) State <p><u>Rapid tests currently or potentially available (as of 4-5-2020)</u></p> <ol style="list-style-type: none"> 1) Currently available <ol style="list-style-type: none"> a) RT-PCR test <ol style="list-style-type: none"> i) Cepheid (45 minutes; Approved March 20, 2020; first point-of-care approved by FDA) ii) Mesa (30 minutes; Approved March 23, 2020) iii) Abbot (5 to 15 minutes; Approved March 27, 2020) b) Serology test for IgG/IgM <ol style="list-style-type: none"> i) (Not Point-of-care) Cellestis (20 minutes; Approved April 1, 2020) ii) Becton Dickson (15 minutes; Approved April 2, 2020) 	
<p>Tracking</p>	<ol style="list-style-type: none"> 1) Dedicated team for contact tracing (Department of Health) plus other ad hoc workers if need to scale up (e.g., Red Cross, National Guard) 2) Collaboration with private industry (Boston) <p><u>Resources (CDC; PDF 9-11) that may need to scale up/down and could be decreased via technology</u></p> <ol style="list-style-type: none"> 1) (One) Lead Epidemiologist – oversee 	<ol style="list-style-type: none"> 1) Standard contract tracing procedures for those who test positive (CDC) <ol style="list-style-type: none"> a) Identify and interview any new case b) Find and interview any close contacts and continue to monitor for 14 days c) Follow-up by tracking team to ensure close contacts are tested, if appropriate 2) For all tourists to Hawaii <ol style="list-style-type: none"> a) Give information card/pamphlet indicating what to do when get symptoms b) Require daily tracking and reporting of symptoms 	<ol style="list-style-type: none"> 1) iPad/Phone app for contact tracing (e.g., Speridian, TraceTogether, South Korea) 2) iPad/Phone app to assist with symptom tracking (Harvard) 3) Ideally, would have one iPad/Phone app to replace Agricultural Form (for those who travel) as well as integrate contact tracing, symptom tracking, provide timely updates from the COVID-19 Command Center and test results reporting for tourists and Hawaii residents 	

	<p>all Field Supervisors and should be dedicated full-time during outbreak</p> <ol style="list-style-type: none"> 2) (One for every 5 to 10 Tracers) Field Supervisor – Epidemiologist or health care worker trained in contact tracing 3) (One) Data Manager 4) (≥ Two per team) Tracer Team – visiting/contact all contact-persons daily 5) (≥ Two per team) Ready Team – on call 24 hours to conduct initial investigation of any potential new cases 6) (≥ Two per team) Investigative Team – interview all people who may have been in contact with new case. 	<p>for 14 days</p> <ol style="list-style-type: none"> c) Follow-up by tracking team to ensure testing is completed, if appropriate 3) Implementation of a local surveillance system in ED/Hospitals similar to the CDC influenza-like surveillance system to monitor for outbreaks (Duke Center for Health Policy) 		
<p>Quarantine</p>	<ol style="list-style-type: none"> 1) Public health nurses plus other ad hoc workers (e.g., Red Cross, National Guard) 2) Enforcement by police <p><u>Resources:</u> Would use same team that is tracking patients above.</p>	<ol style="list-style-type: none"> 1) Those who test positive <ol style="list-style-type: none"> a) Resident/tourist quarantine at a designated location other than home/hotel 2) Asymptomatic who had close contact for 14 days (Singapore) <ol style="list-style-type: none"> a) Wear masks, social distancing, etc. b) Quarantine location <ol style="list-style-type: none"> i) Resident → home, unless unable to safely quarantine (e.g., one bathroom, living with high-risk individuals) ii) Tourist → hotel, unless unable to safely quarantine iii) If unable to safely quarantine at home (residents)/hotel (tourists) → need to stay at designated location 3) Penalty (fines/imprisonment) if violate quarantine <p><u>Monitoring compliance with quarantine (Singapore)</u></p> <ul style="list-style-type: none"> • Hard copy explaining 14-day quarantine • Text messages sent at random times of the day and person needs to give location with GPS on mobile phone (via WhatsApp) • Random phone calls and house visits from authorities • If get a phone call, need to take a photo of surroundings 	<ul style="list-style-type: none"> • Electronic wristband linked to phone app (Hong Kong) • Phone app (e.g., WhatsApp) to provide GPS location (Singapore, South Korea) 	

¹Note: Items highlighted in YELLOW affect or may need adjustment (e.g., translators) for the tourist industry

²High-risk definition: Hawaii DOH - 65 years or older, living in congregate settings (e.g., long-term care homes), chronic conditions, immunocompromised, critically ill patients