

ELC ENHANCING DETECTION: PALAU TESTING PLAN

2020 Overarching Jurisdictional SARS-COV-2 Testing Strategy

Jurisdiction:	Palau
Population Size:	17,661 (2015 Census)

1. Describe the overarching testing strategy in your state or jurisdiction.

Prior to March 2020, the Palau Ministry of Health (MOH) relied on a referral system for testing through the Hawaii State Laboratory Division and Guam Public Health Laboratory. The MOH began efforts to establish local diagnostic capacity in February and by April had secured a molecular diagnostic testing platform with 3,000 test kits and worked quickly to train laboratory staff to conduct testing. In March, all commercial flights were suspended, effectively cutting off Palau from access to all reference laboratories for COVID-19 testing. There are currently two full-time laboratory technologists who are trained to perform COVID-19 diagnostic testing using a high-throughput RT-PCR testing platform, the COBAS Z 480, which is able to analyze 48 samples per run with a turnaround time of 24 - 48 hours. Given that this assay is not FDA-approved, plans are to procure an ABI 7500 by October and to procure test supplies using ELC COVID-19 Supplemental Funds. In addition to the COBAS Z 480, the BNH Lab also has one (1) GeneXpert and one (1) Abbott ID NOW available for COVID-19 testing. The GeneXpert and Abbott ID NOW test kits are intended for testing of PUI's, with 200 tests designated as a "First Case Reserve" for investigation of the first COVID-19 case and contacts identified. Given concerns over false negative results from the Abbott ID NOW, specimens are run in parallel on the Abbott ID NOW and GeneXpert. The Palau MOH has relied on supplies of test kits for the Abbott ID Now and the GeneXpert from external partners. There are earmarked funds (ELC COVID-19 Supplemental Funds) to procure additional test kits when the need arises, but this effort may be hampered by current supply chain delays. Diagnostic testing is a vital part of the Palau Ministry of Health's (MOH) strategy to prevent the importation of COVID-19 into the country and to contain the spread of the disease if it is introduced. During the month of May, a total of 650 individuals were tested for COVID-19 using the COBAS Z 480. This was part of a campaign targeted at testing persons with demonstrated risk due to the nature of their work, including staff deployed to points of entry for passenger screening, first responders, healthcare workers, critical infrastructure workers and those with recent travel history outside of the country. Currently, all patients presenting with respiratory illness at the Belau National Hospital and patients admitted for community-acquired pneumonia and SARI are tested for COVID-19 as a part of hospital-based active surveillance. All tests conducted to-date have yielded negative results. Two repatriation flights of medical referral patients and their escorts from Taiwan to Palau have been completed successfully. This effort hinges on our ability to conduct testing to ensure travelers are not infected before they are released into the community. The first repatriation flight from Guam to Palau transported 47 passengers who were held in government-mandated quarantine for a total of 28 days and tested twice before departure to Palau and three times after arrival in Palau while in quarantine. Between July and August, there will be two (2) scheduled repatriation flights carrying stranded Palau citizens and residents from the CNMI, Guam, Hawaii, Japan and the US Mainland to Palau. Each flight will carry no more than 80 passengers who will be held in quarantine for no less than 7 days in Guam and tested for COVID-19 72 hours prior to departure for Palau. Upon arrival in Palau, all passengers will be held in public health-mandated quarantine with daily active monitoring by public health staff. These persons will be tested at 7 days post arrival and again at 14 days to satisfy evaluation criteria for

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discharge from a quarantine facility based on Palau's current quarantine and isolation regulations. Testing will be conducted using the RT-PCR COBAS Z 480 due to its high-throughput capacity. In anticipation of these repatriation flights, efforts have been focused on ensuring quarantine and isolation facilities and processes are in place with adequate testing supplies and staff to manage potential COVID-19 cases and reduce potential exposure to local quarantine teams. In preparation for the possibility of introduction and the potential for local transmission, plans are to expand testing to include private clinics, MOH satellite labs, community health centers and mobile testing units for surge capacity and targeted testing for localized outbreaks, particularly in rural areas of the country, congregate settings and minority groups. The Central Community Health Center Laboratory will require physical expansion to accommodate a GeneXpert and Abbott ID Now and associated supplies and equipment to enable the lab to conduct testing. Plans are to place POC testing platforms in the other community health centers and private clinics. The Western Community Health Center (WCHC) provides services for 4 states (Ngardmau, Ngeremlengui, Ngatpang and Aimeliik) and will be closed for major renovations in the coming months. Considering the distance from each of the villages and the closest health centers and transportation barriers to accessing healthcare, mobile laboratory units have been proposed as both a short-term and long-term solution to the interruption of services. The mobile units may also be used by surveillance teams to rapidly investigate localized outbreaks. Expansion of testing will undoubtedly require the recruitment and training of additional laboratory staff to keep up with routine demands of the national hospital laboratory and additional demands for COVID-19 testing at planned testing sites. At present there are no plans to expand testing capacity to non-traditional sites such as retail sites and pharmacies, however private clinics are included in the Ministry of Health's overall testing strategy for lab staff surge capacity as well as testing services. The MOH is discussing opportunities to build up lab capacity for private clinic labs to support testing. A COVID-19 testing form is currently in use within the Ministry of Health system to ensure timely tracking and reporting of all testing conducted. The same form will be provided to private clinics to ensure consistency in reporting and ensure that the Bureau of Public Health is able to initiate immediate public health action in the event that a laboratory-confirmed case of COVID-19 is identified. Improvements to the MOH health information system infrastructure has been prioritized as an urgent need to help improve accuracy and timeliness of laboratory testing results and reporting. Plans to implement serology testing in the country include procurement of reliable FDA-approved serological tests and refinement of our serological testing protocols. Serological testing will be integrated into the blood donor screening program, communicable disease screening activities, as well as targeted community surveillance to assist in outbreak investigation. Currently, the Belau National Hospital Laboratory is the only lab with diagnostic capacity for COVID-19 and two trained and competent laboratory staff to conduct testing. One laboratory specialist from the Republic of China, Taiwan, has been assigned to assist the Belau National Hospital Laboratory for at least two months starting in mid-July 2020, but is currently undergoing mandatory quarantine. Despite having multiple platforms for testing, human resource capacity remains a barrier to being able to test 2% of the population (~354 tests) while maintaining essential hospital laboratory functions. The Palau MOH aims to achieve this minimum testing goal with consideration of the current transmission scenario in the country (no confirmed cases) and scarcity of recommended, FDA-approved test reagents and kits, as well as potential supply chain delays. Please refer to attachment for additional details and maps for reference.

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Table #1a: Number of individuals planned to be tested, by month

BY MONTH:	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	TOTAL
Diagnostics*	650	150	500	500	500	500	500	1,000	4,300
Serology		50	100	100	100	100	100	100	650
TOTAL	650	200	600	600	600	600	600	1,100	

*Each jurisdiction is expected to expand testing to reach a minimum of 2% of the jurisdictional population.

Table #1b: Planned expansion of testing jurisdiction-wide

Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic through-put	Daily serologic through-put	Specific at-risk populations targeted (list all)
Ministry of Health	Hospitals or clinical facility	Belau National Hospital Laboratory	48		Travelers in mandatory quarantine and targeted screening for individuals including, but not limited to first responders, healthcare workers, critical infrastructure workers. Testing will be conducted for exposed HCWs and contacts of suspect and confirmed cases of COVID-19.
Ministry of Health	Hospitals or clinical facility	Belau National Hospital Laboratory	64		PUIs, patients presenting with ILI, SARI or community-acquired pneumonia.

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic through-put	Daily serologic through-put	Specific at-risk populations targeted (list all)
Ministry of Health	Hospitals or clinical facility	Belau National Hospital Laboratory	96		PUIs, patients presenting with ILI, SARI or community-acquired pneumonia.
Ministry of Health	Hospitals or clinical facility	Belau National Hospital Laboratory	50		Travelers in mandatory quarantine and targeted screening for individuals including, but not limited to first responders, healthcare workers, critical infrastructure workers. Testing will be conducted for exposed HCWs and contacts of suspect and confirmed cases of COVID-19.
Ministry of Health	Public health lab	Division of Environmental Health Food Laboratory	96		Healthcare workers and other first responders
Ministry of Health	Public health lab	Central Community Health Center Laboratory	64		PUIs, patients presenting with ILI, SARI or community-acquired pneumonia and laboratory and validation/confirmation of testing for outlying community health centers.
Ministry of Health	Public health lab	Central Community Health Center Laboratory	96		PUIs, patients presenting with ILI, SARI or community-acquired pneumonia.

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic through-put	Daily serologic through-put	Specific at-risk populations targeted (list all)
Ministry of Health	Public health lab	Airai Central Community Health Center	96		PUIs, patients presenting with ILI, SARI or community-acquired pneumonia.
Ministry of Health	Public health lab	Eastern Community Health Center (EHC)	96		PUIs, patients presenting with ILI, SARI or community-acquired pneumonia.
Ministry of Health	Public health lab	Northern Community Health Center (NCHC)	96		PUIs, patients presenting with ILI, SARI or community-acquired pneumonia.
Ministry of Health	Public health lab	Western Community Health Center (WCHC)	96		PUIs, patients presenting with ILI, SARI or community-acquired pneumonia.
Ministry of Health	Public health lab	Southern Community Health Center (SCHC)	96		PUIs, patients presenting with ILI, SARI or community-acquired pneumonia.
Ministry of Health	Public health lab	Angaur Community Health Center	96		PUIs, patients presenting with ILI, SARI or community-acquired pneumonia.

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Name of testing entity	Testing venue (select from drop down)	Performing Lab (if different from testing entity)	Daily diagnostic through-put	Daily serologic through-put	Specific at-risk populations targeted (list all)
Ministry of Health	Other	Mobile Test Unit	96	50	Prisons, congregate living settings, racial and ethnic minorities - especially those living in close quarters in barracks, and localized outbreak investigation or other scenario requiring rapid detection and separation of positive cases (Planned)
Family Surgical Clinic (FSC)	Commercial or private lab	FSC Lab	96		PUIs, patients presenting with ILI, SARI or community-acquired pneumonia.
Belau Medical Clinic (BMC)	Other	BMC Lab	96		PUIs, patients presenting with ILI, SARI or community-acquired pneumonia.
Pacific Family Medical Clinic (PFMC)	Commercial or private lab	PFMC Lab	96		PUIs, patients presenting with ILI, SARI or community-acquired pneumonia.

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2020 Direct Expansion of SARS-COV-2 Testing by Health Departments

2. Describe your public health department's direct impact on testing expansion in your jurisdiction.

The Ministry of Health is exploring potential enhancements to community health center laboratories to increase testing capacity especially in remote areas of the country. There are no commercial laboratories in Palau, however three private clinics maintain small laboratories that could potentially be included in the MOH testing strategy. Discussions are underway to establish a partnership with the private clinics for surge staffing and testing support. There is a severe shortage of skilled laboratory technicians in the Pacific region. Palau is no exception and plans for expansion have taken into consideration short-term and long-term solutions to ensure that increased community transmission and testing do not overwhelm the health system and interrupt routine testing services. Plans are to recruit and hire experienced laboratorians to support the additional testing workload and train local staff. A Laboratory Assistant Training Program is being developed to train a cohort of technicians to bolster the pool of available laboratorians. This program will be based on a model program, the Health Assistant Training Program, which successfully trained and transitioned more than 15 interns to permanent positions within the public health workforce. The Palau Ministry of Health will seek support from the CDC Foundation for the recruitment of a skilled laboratorian to run the lab assistant training program. There are two additional laboratorians currently being recruited through the Bureau of Public Service System. Travel restrictions and quarantine requirements are barriers to the swift hiring of identified qualified lab personnel. Lab assistants will be trained using a standard curriculum to be developed with assistance from partners to prepare the cohort for further training for certification. Participants will also provide critical administrative support, including EMR registration and data entry, for our main lab to allow certified laboratorians to focus on testing services. Without any lab courier services in the country, they will serve as in-house couriers for the transport of specimens collected outside of the Belau National Hospital. Successful participants in the Lab Assistant Training Program will be prioritized for further training through a lab workforce development initiative of the Pacific Islands Health Officers Association (PIHOA). The proposed Laboratory Technician Certification Program is slated to commence in summer of 2021. ELC supplemental funds will support staff hired through the CDC foundation beyond the specified timeline allowed through the surge staffing program (March 2021). The current testing strategy prioritizes testing of anyone who meets the case definition of COVID-19 or presents with respiratory illness and requires hospitalization. This reflects the current transmission scenario in the country of no laboratory confirmed cases. Healthcare workers, first responders, hospitality industry workers and critical infrastructure workers who are at increased risk of contact with the first case of COVID-19 will be prioritized for routine testing. The current testing protocol also prioritizes individuals who are above the age of 55, pregnant, disabled, suffer from a chronic disease or who are otherwise immunocompromised. While there is currently no shortage of test kits available, as we move forward it will be important to forecast and procure additional testing supplies to meet increased testing demand and to suppress and mitigate localized outbreaks of COVID-19 in the country. Palau is set to host a high-level global conference, Our Oceans 2020, in early December of this year. This will likely require the Ministry of Health to participate in mass gathering surveillance and ensure access to testing for guests as well as local participants. Plans to implement serology testing will be further elucidated in the coming months, however serological assays will be reserved for public health use in responding to localized outbreaks

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and gathering critical data to guide public health action. One laboratorian on loan from the R.O.C. Taiwan is currently on-island. There are plans to recruit two additional laboratorians by September, both to support the current workload of our laboratory and to coordinate the Laboratory Assistant Training Program as mentors to trainees. By October, the plan is to have recruited 15 interns for the Laboratory Assistant Training Program. At least ten successful trainees will be enrolled in the PIHOA-run Lab Technician Certification Program. An additional 2 laboratorians will be hired by November, in anticipation of increased testing when commercial travel resumes and Palau hosts a global conference. A total of 14 diagnostic platforms will be distributed amongst community health centers, private clinics and the planned mobile testing units. The Belau National Hospital Laboratory will transition to using the ABI 7500 by October.

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Table #2: Planned expansion of testing driven by public health departments

BY MONTH:	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	TOTAL
Number of additional* staff to meet planned testing levels	0	0	1	0	2	15	2	0	20
FOR DIAGNOSTIC TESTING									
How many additional* testing equipment/ devices are needed to meet planned testing levels? (provide an estimated number, and include platform details in narrative above)	0	0	0	6	5	4	0	0	15

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BY MONTH:	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	TOTAL
Volume of additional swabs needed to meet planned testing levels ⁺⁺	0	0	0	0	700	0	1,500	0	2,200
Volume of additional media (VTM, MTM, saline, etc.) needed to meet planned testing levels ⁺⁺	0	0	0	0	700	0	1,500	0	2,200

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BY MONTH:	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	TOTAL
Volume of additional reagents needed to meet planned testing levels, by testing unit and platform (i.e. 100K/day - Hologic panther; 100k/day - Thermofisher)	0	0	500/month - Cobas	0	500/month - ABI 7500	0	1000/month - ABI 7500	0	0
FOR SEROLOGIC TESTING									
Number of additional* equipment and devices to meet planned testing levels	0	0	0	0	2	4	4	0	10

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BY MONTH:	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	TOTAL
Volume of additional reagents needed to meet planned testing levels, by testing unit and platform (i.e. 100K/day - Hologic panther; 100k/day - Thermofisher)	0	0	0	0	50/day - platform/as say TBD	0	50/day - platform/as say TBD	0	0

* Report new monthly additions only, not cumulative levels

++ For May and June, only include needs beyond the supplies provided by FEMA. Report new monthly additions only, not cumulative levels.