

ELC ENHANCING DETECTION: RMI TESTING PLAN

2020 Overarching Jurisdictional SARS-COV-2 Testing Strategy

Jurisdiction:	RMI
Population Size:	56000

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

The population of the Republic of the Marshall Islands (RMI) is distributed among 29 Atolls with the majority (~27,000) in the Capital City on Majuro Atoll and another 10,000 in Ebeye in Kwajalein Atoll with the remainder (~8,000) spread throughout the far-flung smaller atolls. The predominant race/ethnicity is Marshallese (95%) with some other Asian/Pacific Islanders (Chinese, Kiribati, etc) and about 2% Caucasians (US, Australia, etc). Thus most of the population is considered 'at risk', especially because the prevalence of diabetes mellitus is 25%. SARS-CoV-2 testing is available in the two cities, Majuro and Ebeye. Currently there are no cases of SARS-CoV-2 detected in RMI. There are no private, academic or commercial laboratories in RMI although confirmatory testing is available by sending specimens to Guam or Hawaii Public Health Laboratories or a commercial laboratory Diagnostic Laboratory Services (DLS) in Hawaii. Both Majuro Public Health Laboratory and Ebeye CHC-Hospital Laboratory utilize SARS-CoV-2 rapid testing via the Abbott ID Now platform and slower testing with the Cepheid GeneXpert equipment. Majuro laboratory is setting up RT-PCR testing with Roche Lifecycle 480 which is expected to be ready for use in June. Ebeye Laboratory will achieve RT-PCR capability at a later date. There are additional Abbott ID Now equipment set up for rapid point-of-care testing at the Alternative Care Facilities in both Majuro and Ebeye. There are two PH clinics located in more remote sections of Majuro (Laura Village) and Ebeye (Gugeegue clinic) that will be sites for community testing. At this time there are no other non-traditional sites for testing although the portability of the Abbott ID Now equipment will allow transporting it to community sites such as the College of the Marshall Islands (CMI), school gymnasiums, churches and the main retail grocery in Ebeye in order to reach larger segments of the populations. Drive-through testing is not as feasible as the percentage of the population with personal vehicles is small and there are not many locations on these atolls with one main road that could accommodate the process. The Abbott machine will be transported to the Outer Islands Atolls via Air Marshall Islands during the scheduled visits by the health team in the coming months to perform sentinel testing in those remote locations. Although no persons have been found meeting the case definition for COVID-19, preliminary testing has been done to ensure all staff and equipment are ready for a surge should it occur. A testing algorithm using Abbott ID Now and follow-up of negatives by GeneXpert is the focus due to RMI low (zero) prevalence. This will impact the throughput achievable as most tests are expected to be negative and require both platform methods. Testing guidelines prioritize persons with fever and respiratory illness among older adults with underlying conditions of diabetes mellitus, hypertension, cardiac conditions and immunosuppression medications. Health care workers and first responders will be surveyed initially and then repeatedly if PUIs are identified. Persons identified in clinics with syndromic ILI are included and sentinel surveillance of asymptomatic persons in communities will be incorporated. Special focus testing will be done at group living environments (CMI dormitories) and occupational sites (Tuna packing factories; jails). Once a PUI is identified and confirmed, contact tracing will include asymptomatic persons within the contact sphere. Viral testing began May 8, 2020 and to date we have tested 7 patients with low-level respiratory conditions, 6 citizens repatriated from a COVID-free country and 21 low-risk health care workers. Serological testing

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is still in the planning stage. An order for CoronaCheck rapid IgM/IgG test kits has been placed and awaiting delivery for Majuro. Ebeye has SGTi-flex COVID-19 rapid IgM/IgG (made by Sugentech) pending delivery from South Korea vendor and will be expecting next week. These will mostly be used for testing among persons that had traveled outside of RMI before the total ban on incoming passengers began on March 8, 2020 as otherwise exposure to SARS-CoV-2 in RMI has not occurred. Testing is now being ramped up to achieve the coverage of at least 1% the population during June (450 tests). Further increases will occur as the new laboratory serology staff are hired to focus on this testing. With the two major laboratories at full capacity it is expected that they can complete 70 to 90 full test profiles per day. Coordination of testing plans is carried out through communication between Majuro, Ebeye and Outer Island staff in virtual meetings 2 times per week. New laboratory administrative staff will provide monitoring test kit and reagent inventory. Assistance with procurement is provided by our partners including: Pacific Island Health Officers Association (PIHOA) which has received funding to support all of the US Associated Pacific Islands (USAPI); The Secretariat of the Pacific Community (SPC); WHO; Republic of China (Taiwan); CDC. Currently RMI is limited by only having 4000 test kits and there is a delay in supply of the Cepheid cartridges for the GeneXpert. This will help achieve the goal of testing for 2% or more of the population for July through December and into 2021.

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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*	60	400	800	1,000	1,000	1,000	1,000	1,000	6,260
Serology	0	50	100	100	100	100	100	200	750
TOTAL	60	450	900	1,100	1,100	1,100	1,100	1,200	

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 throughput	Daily serologic throughput	Platforms or devices used (list all)	Specific at-risk populations targeted (list all)
Majuro Public Health Lab	Public health lab		30	10		Racial/ethnic minorities, Elderly, underlying comorbidities (DM, HTN), prisons, healthcare workers, congregate living settings (dormitories)

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Ebeye CHC Clinic Lab	Federally Qualified Health Center		20	10		Racial/ethnic minorities, Elderly, underlying comorbidities (DM, HTN), prisons, healthcare workers, congregate living settings (dormitories)
Arrak Alternative Care site	Hospitals or clinical facility	Arrak and Majuro PH Lab	10	5		Racial/ethnic minorities, Elderly, underlying comorbidities (DM, HTN), congregate living settings (quarantine)
College of Marshall Islands	Community-based	Majuro PH Lab	10	10		Racial/ethnic minorities, underlying comorbidities (DM, HTN), congregate living settings (dormitories)
Churches - Majuro	Community-based	Majuro PH Lab	10	20		Racial/ethnic minorities, Elderly, underlying comorbidities (DM, HTN)
Churches - Ebeye	Community-based	Ebeye Clinic Lab	10	20		Racial/ethnic minorities, Elderly, underlying comorbidities (DM, HTN)
Laura PH Clinic - Majuro	Community-based	Laura and Majuro	10	10		Racial/ethnic minorities, Elderly, underlying comorbidities (DM, HTN)

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Outer Islands Health Centers: specific locations TBD	Hospitals or clinical facility	Majuro PH Lab	40	20		Racial/ethnic minorities, Elderly, underlying comorbidities (DM, HTN)
Tuna Packing Factories	Other	Majuro PH Lab	10	5		high risk of occupational contacts, racial and ethnic minorities
Jail - Majuro	Other	Majuro PH Lab	5	5		congregate living facility, racial and ethnic minorities
Jail - Ebeye	Other	Ebeye Clinic Lab	5	5		congregate living facility, racial and ethnic minorities

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Gugegue PH Clinic - Ebeye	Community-based	Gugegue and Ebeye Clinic Lab	10	5		Racial/ethnic minorities, Elderly, underlying comorbidities (DM, HTN)
Triple J General Store, Deli & grocery - Ebeye	Other	Ebeye Clinic Lab	10	5		Racial/ethnic minorities, Elderly, underlying comorbidities (DM, HTN)

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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.

RMI Ministry of Health and Human Services has two main laboratories located in the two populated islands, Majuro and Ebeye. Both Majuro Public Health Laboratory and Ebeye CHC-Hospital Laboratory utilize SARS-CoV-2 rapid testing via the Abbott ID Now platform and slower testing with the Cepheid GeneXpert equipment. On April 2020, Majuro Laboratory extended/renovated its laboratory to accommodate the RT-PCR testing. Republic of China-Taiwan donated 2 PCR test equipment where in 1 will be assigned to Ebeye Laboratory. Purchase of Biosafety Cabinets are in the process. 1 cabinet will be received in June for Majuro Laboratory. By June 2020, Majuro Laboratory will be capable to run RT-PCR testing. For Ebeye Laboratory, we are working on the extension of the current laboratory to be able to conduct RT-PCR testing. It will not be ready in June 2020. Ebeye PCR confirmatory test will be sent to Majuro to run the test. Training for Laboratory Staff for PCR testing will be scheduled as soon as Majuro Laboratory is ready.

Laura Health Clinic's Laboratory renovation is in the planning stage. 30% of the Majuro population is being served by this clinic. To expand testing capacity, we will renovate the Laura Health Clinic's Laboratory to be able to conduct SARS-CoV-2. The Arrak Quarantine site where is Persons Under Active Surveillance will be housed is near the Laura Health Clinic. ELC will purchase additional Abbott ID Now and test kits for Laurant Health Center.

There is an ongoing Rapid Assessment in the Outer Islands Health Centers. Rapid Assessment result will be used to develop plan to address the surveillance, testing, response, and treatment. There are 59 health centers all over the Outer Islands. The plan will address on how we can conduct SARS-CoV-2 testing. Preliminary activities while waiting for the results and final plan are to purchase Abbott-ID Now and test kits, Influenza test kits to rule out confirmation, flow chart of surveillance and reporting. The Ministry of Health and Human Services are upgrading the current radio (UHF/HF) in the health centers. National Telecommunication Authority is testing and building up the internet connection. MOHHS requested for all the health centers to be included in this project.

Our main goal is to be able to enhance the capacity of MOHHS health facilities to conduct the SARS-CoV-2 testing. Using the ELC CARES and ELC – Enhancing detections, we will renovate the current laboratory facilities, purchase test equipment and test kits, hire/contract staffs that will manned the activities, and purchase supplies and other needed items to be able to enhance our detection and reporting.

Based on our surveillance and testing algorithms, we will prioritize the at risk population like elderly, disabled, immune-compromised individuals and those living on congregate settings like the prison, school dorms

Using ELC CARES, we will hire/contract Serologists. Laboratory Managers and Epidemiologist are working with USAPI Laboratory Group and APHL on the guidelines on the Serology Testing. RMI is working on its plan to expand this service. Aside from hiring the Serologists, we will purchase needed supplies or other things needed for this service.

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RMI's borders are still close until June 5. There is big possibility that it will be extended for another month. RMI National Disaster Committee wants to ensure that all areas including the community are ready for the prevention, treatment, containment, and mitigation. With the RMI borders close, the hiring and bringing in specialists from outside is a big challenge. RMI is working on a contract with Pacific Islands Health Officers Association (PIHOA) to assist us in hiring the specialists that we need. For ELC, PIHOA will assist us in hiring Molecular Technologists and Epidemiologists. For the current Abott ID Now and Gene-Xpert supplies that we received, CDC and PIHOA assisted us in procurement and shipment. For the next orders, we will seek assistance again with CDC and at the same time, we will work with our known vendors to purchase needed supplies. Additional Biosafety cabinets are needed to be purchased. RMI MOHHS will hire administration staffs to be able to work on the documentation, hiring, purchases, inventory, and tracking of purchases and needs for this project.

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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	2							2
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	2							2
Volume of additional swabs needed to meet planned testing levels ⁺⁺	60	400							460
Volume of additional media (VTM, MTM, saline, etc.) needed to meet planned testing levels ⁺⁺	0	400							400
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								
FOR SEROLOGIC TESTING									
Number of additional* equipment and devices to meet planned testing levels	0	1							1

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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	400							

* 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.