

# ELC ENHANCING DETECTION: WYOMING TESTING PLAN

## 2020 Overarching Jurisdictional SARS-CoV-2 Testing Strategy

Jurisdiction:	Wyoming
Population Size:	575,000

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

The State of Wyoming faces unique challenges in terms of testing capacity for SARS-CoV-2. There is only one laboratory, the Wyoming Public Health Laboratory (WPHL), which has the capacity, infrastructure, and expertise in performing complex (non-rapid) SARS-CoV-2 testing. The month leading up to this testing plan update, the WPHL alone has tested 13,274 unique patients (2.3% of state population). As such, the Wyoming Department of Health's (WDH) approach to testing in excess of 2% of the state's population monthly through a combination of approaches, including:

- Expansion of testing capacity at the WPHL through procurement of high-throughput instrumentation, automation, and hiring of laboratory personnel
- Expansion of testing capacity through the implementation of a multiplexed SARS CoV-2 test, when available, that increases testing throughput
- Expansion of rapid testing capacity at laboratories across the state of Wyoming through advocating for and allocation of federally-allocated testing supplies
- Distribution of specimen collection supplies (swabs and viral transport media) and shipping supplies to ensure Wyoming healthcare and non-traditional facilities can continue to collect and ship specimens for SARS-CoV-2 testing
- Improvement of specimen transport mechanisms to WPHL from across the state
- Contracting with private laboratories and reference laboratories to provide testing services for certain populations or surveillance activities

SARS-CoV-2 testing at WPHL is accomplished through several methods. Since early March, we have been performing the CDC 2019-Novel Coronavirus Real-Time R-PCR Diagnostic Panel. By August, we plan to have validated and be performing the majority of testing on the CDC Influenza SARS-CoV-2 (Flu SC2) Multiplex Assay. We also have validated the Aptima SARS-CoV-2 assay and plan to use this platform for surge capacity. Plans are in place for the validation of the TaqPath COVID-19 Combo Kit and this assay will also be used if there are reagent shortages for the primary assays or for surge capacity.

Additionally, since April 2020, WPHL has been partnering with the Civil Support Team (CST, part of the National Guard in Wyoming) to increase rapid testing capacity. The CST agreed to place their Cepheid Xpert Xpress instruments within the WPHL facilities and CST members perform the Xpert Xpress SARS-CoV-2 test on priority specimens. This partnership has allowed the Wyoming National Guard to serve the entire state population while allowing WPHL to expedite testing for specific patients in need of rapid results.

WPHL is also pursuing other ways to further expand testing capacity to meet surge testing needs. We are evaluating the possibility of pooling samples on the CDC 2019-nCoV singleplex assay for low-burden

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counties. Additionally, WDH either has established or is in negotiations for contracts with reference laboratories to provide additional testing capacity for surge or for to offset the routine testing demand.

WPHL currently has completed approximately 50% of the SARS-CoV-2 tests for the residents of Wyoming. WPHL provides testing services primarily for symptomatic patients, surveillance in outbreak settings, and for some groups of uninsured, asymptomatic individuals. Some healthcare providers have elected to send specimens from these populations to private reference laboratories; however WPHL has continued to support their testing by providing specimen collection supplies. Most testing for asymptomatic individuals is performed at private testing laboratories.

WPHL is regularly communicating with clinical laboratories across Wyoming to determine their testing capabilities, testing supply needs, and testing challenges. Frequent email and phone conversations between WPHL and Wyoming hospital laboratories helps WPHL maintain a granular view of the state-wide testing ecosystem. Laboratories completed a survey listing their testing capacity for molecular and serological tests. The results of this survey indicated that of 37 medical facility laboratories across the state, only 19 have the instrumentation to perform COVID-19 testing in house. Those that do only have capability utilize rapid platforms. Each clinical laboratory determines the populations that they test according to the needs of their facility and community. They utilize both WPHL and private reference laboratories. Private reference laboratories are utilized by many other healthcare providers (doctor's offices, acute care clinics, etc.) across the state for testing of both symptomatic and asymptomatic individuals.

For the hospital laboratories that lack SARS-CoV-2 testing capability, WDH has evaluated several options for expanding access to SARS-CoV-2 testing capability. Discussions with federal partners suggest that purchasing and procuring some of the possible instrumentation for rapid molecular SARS-CoV-2 tests in a timely fashion is unlikely. Thus, WPHL is focusing on expanding testing capacity to these facilities by ensuring that they have sufficient access to specimen collection supplies. Additionally, WDH is in the final stages of establishing a contract with a state-wide courier to expedite transport of specimens to WPHL for testing; these courier services will make delivery of specimens to WPHL more efficient and less reliant on private entities (e.g., UPS and FedEx). For those rapid tests where access to instrumentation and test reagents is more possible, WPHL intends to either purchase or provide other support and assistance for facilities to purchase themselves instrumentation and/or reagents.

The WDH is also pursuing new pathways to expand capacity to non-traditional laboratory sites for the testing of asymptomatic patients. WDH is evaluating the option of purchasing of a mobile laboratory and hiring staff to deploy for mass testing or mass specimen collection in communities across the state. It may also include assisting county public health offices in standing up testing "clinics" for the community where specimens could be collected for testing.

WPHL also plans to bring in a SARS-CoV-2 serological assay. SARS-CoV-2 serological testing would only be used for public health surveillance purposes. When resources are available, serology testing would be used to support CDC's COVID-19 Serology Surveillance Strategy which is aimed at gaining a better estimate of the incidence of COVID-19, understanding risk factors associated with infection, and at guiding control measures. Healthcare providers would have the capability to order serological testing should they find it helpful for clinical management.

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WDH maintains frequent communication with county public health providers and officials, administrators and nurses at LTCFs, the Wyoming Hospital Association and its hospital administrator members, the Wyoming Medical Society and its physician members, hospital laboratory directors, and healthcare providers at clinics and hospitals across the state. These communications have helped and will continue to clarify testing capacity, establish testing plans for specific populations, and monitor access to specimen collection supplies.

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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*	12,000	18,000	24,500	39,500	30,625	38,250	40,000	40,000	242,875
Serology				1,000	2,500	4,000	4,500	5,000	17,000
<b>TOTAL</b>	12,000	18,000	24,500	40,500	33,125	42,250	44,500	45,000	

\*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)
Castle Rock Hospital District	Hospitals or clinical facility		32		Symptomatic, elderly, disabled, healthcare workers, mine workers
Sublette County Rural Health	Hospitals or clinical facility		32		Symptomatic, elderly, disabled, healthcare workers
Wyoming State Hospital	Hospitals or clinical facility		32		congregate living setting
National Jewish Health	Commercial or private lab		**		Long term care facilities

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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)
					**We don't know the full throughput but have secured at least 8,500 tests in our contract
Curative, Inc	Commercial or private lab		**		Prisons, Community-based testing **We don't know the full throughput but have secured at least 50,000 tests in our contract
Vault/Rugters	Commercial or private lab		**		Community-based testing **We don't know the full throughput but plan to secure >10,000 tests
National Jewish Health	Commercial or private lab		~500**	**	Long term care facilities  **We don't know the full throughput but have secured at least 8,500 tests in our contract
Curative, Inc	Commercial or private lab		~1,000**	**	Community-based testing **We don't know the full throughput but have secured at least 50,000 tests in our contract
Valut/Rutgers					

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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.**

WPHL is the only clinical laboratory in Wyoming with the expertise and CLIA certificate to perform complex (non-rapid) SARS-CoV-2 testing. As such, we are pursuing expansion of testing capacity in several ways. First, WPHL has purchased and is in the process of validating automation systems (Qiagen QIASymphony for extractions and Eppendorf epMotion liquid handler for PCR setup) and additional PCR instrumentation (ABI 7500 Fast Dx instruments) to increase testing capacity for the CDC 2019-Novel Coronavirus (2019-nCoV) Real-Time RT-PCR Diagnostic Panel. By August, we plan to have validated and be performing the majority of testing on the CDC Influenza SARS-CoV-2 (Flu SC2) Multiplex Assay, which should more than triple the daily test throughput. Validation of the Aptima SARS-CoV-2 assay is complete and plans are in place for the validation of the TaqPath COVID-19 Combo Kit. These two assays can be used in case of reagent shortages or if there is need of surge capacity. Additionally, WDH either has established or is in negotiations for contracts with reference laboratories to provide additional testing capacity for surge or for to offset the routine testing demand.

In terms of staffing, WPHL has hired additionally specimen accessioning and testing personnel and will continue to hire additional temporary staff as needed. WPHL has also hired individuals who coordinate testing logistics and workflow, and an individual to handle supply chain and inventory needs.

Additionally, WPHL intends to evaluate and select a serological assay (IgM and IgG) to for SARS-CoV-2 surveillance testing; this will involve pursuing assays that can be automated.

WPHL is frequently communicating with local Wyoming hospital laboratories and has a good handle on the testing platforms with SARS-CoV-2 capability. We continue to distribute federally-allocated tests to laboratories (Abbott ID NOW tests), advocate for increases in Cepheid GeneXpert Xpert Xpress SARS-CoV-2 test for those sites with the relevant instrumentation, and monitor access to reagents and supplies for labs with other testing platforms (e.g., BD MAX). WDH is also assisting laboratories, when possible, in securing instrumentation to online testing capacity.

Currently and in the coming months, as staff are hired, supplies are procured, and contracts are established, WDH and WPHL are expanding testing opportunities based on a tiered approach:

- Tier 1: Tribal communities, long term care facilities, and other settings with a higher risk for poor outcomes (group settings who serve disabled populations, large family settings, etc.)
- Tier 2: Communal living locations (prisons, homeless shelters, transitional housing)
- Tier 3: Vulnerable populations based on occupational risk (e.g., healthcare workers)
- Tier 4: Vulnerable based on socioeconomic factors (e.g., migrant health clinics and federally-qualified health centers)
- Tier 5: Lower-risk communal living environments (e.g., university and community college dorms)

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The WDH will continue to investigate all reported cases and actively work to identify potential clusters and outbreaks. Expanded testing among individuals identified to be part of any cluster or outbreak, especially in the above tier groups, will continue to be prioritized to prevent further transmission. Epidemiologic data will be analyzed to identify any groups with an increased risk of infection, transmission, and death. As the pandemic evolves, and further data are analyzed, the WDH will reprioritize testing strategies to best serve Wyoming residents.

The WDH will continue to identify and work towards efficient data collection and analysis. Electronic lab reporting will be expanded to include laboratories conducting SARS-CoV-2 testing that do not traditionally report to public health authorities. Efficient data transmission will lead to a need to evaluate data management for efficiently and timely data analysis to inform public health decisions. As more individuals are tested, there will be a need to manage large data sets, and expanding data analysis and epidemiology staff will be necessary.

As described above, the WDH will prioritize resource utilization and testing based on a tiered approach to protect the most vulnerable residents and mitigate large outbreaks to the extent possible. In addition to tiered, ongoing testing and surveillance, the continual analysis of epidemiologic data from individual case follow-up will allow the WDH to monitor mitigations strategies and make immediate adjustments. This may include county-specific or community-specific resource and testing supply allocation and site-specific adjustments to expanded testing and unique prevention and mitigation measures. Based on data, the WDH may expand testing frequency or perform more targeted testing and surveillance within the tier groups (for example increasing the frequency of testing staff at a LTCF). As testing capacity increases, the WDH may utilize existing ILINet providers to collect additional SARS-CoV-2 samples and additional COVID-19 illness data.

WDH has already established and enacted plans for expanding testing capacity at nursing homes, assisted living facilities, and other long-term care facilities (LTCF). WDH established a contract with a private reference laboratory to support the routine surveillance testing of residents and staff at all nursing homes and assisted living facilities. WPHL provides specimen collection supplies and shipping supplies to these facilities. Plans are underway for establishing routine testing for inmates and staff at the prisons, and WPHL will be providing the specimen collection and shipping supplies, as well as performing the testing at these facilities. Plans for routine surveillance testing of inmates and staff at jails are underway; likely testing of this population will be managed by contracts with entities that provide the specimen collection and transport materials and provide the testing services. Plans for surveillance testing at the state psychiatric hospital and the Life Resource Center (houses adults with intellectual disabilities) are in development and will also likely rely on contracted specimen collection and testing services.

WPHL and our WDH Epidemiology partners made particular efforts to increase access to SARS-CoV-2 tests for our tribal communities and the surrounding county. As cases began to spread throughout this community, laboratories were only sending all specimens from symptomatic higher risk patients to WPHL but sent specimens from asymptomatic and low-risk, symptomatic patients to a commercial laboratory, per WDH guidance. The commercial laboratory was taking up to 7 days for results. As the need for more rapid results became evident and WPHL had implemented new instrumentation that increased daily throughput, WPHL agreed to accept all specimens from these affected communities. WPHL also initiated a special courier service to expedite transport to specimens to WPHL. The Northern

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Arapaho and Eastern Shoshone Tribes have implemented an extensive testing program. They offer drive-through testing for anyone who wants a test, and are testing all contacts of cases identified through contact tracing. The Tribes have adopted a test-based release from isolation strategy do to the number of high risk individuals in the community. Additionally, they are doing routine screening of healthcare workers essential workers.

In terms of community-based testing, WDH is currently working with Wyoming county health departments to assist each county with their plans for expanding testing in their communities. WDH will leverage existing and new contracts with reference laboratories to assist counties with community testing events, testing by employers, testing of healthcare workers or other at-risk populations. WDH will also work with non-traditional healthcare partners (e.g, pharmacies) to assist with expansion of testing capability to interested facilities. Also, WDH is partnering with the University of Wyoming and Wyoming community colleges to develop plans for testing faculty, staff, and students. As noted in our testing plan, there is a planned increase of 15,000 test in August. This is notably due to the testing event at the University of Wyoming before student return back to the county for classes.

WDH and WPHL continue to communicate with laboratories and healthcare facilities to determine barriers to efficient testing. Specimen transport issues and the need for a state-wide courier have already been identified as continuing barriers for other clinics. Specimen collection supplies, including viral transport media (VTM), were in very short supply very early in the pandemic; WPHL began and will continue to expand the manufacturing of VTM, pairing it with purchased swabs, and distributing it across Wyoming. To further eliminate the dependency on swabs and VTM for testing, we are looking at tests that can be performed on alternate specimen types (e.g., saliva). Some laboratories are reporting issues with the validation of testing systems, and WPHL is working to overcome issues with access to validation supplies. WDH is also pursuing electronic ordering capabilities (APHL-iConnect LWP) to streamline specimen accessioning and shorten testing turn-around-times. Further, WPHL is evaluating and addressing our internal barriers, such as the need for 24-hour testing capacity, increased capacity for custodial and building maintenance support, office space, and additional licenses for laboratory information systems.

WDH already has some streamlined processes for the procurement of goods and contracts. Contracts for services during the pandemic are prioritized and have been moving through the process in a matter of days, not weeks. The Wyoming Department of Health (WDH) has secured a blanket bid waiver with the State of Wyoming up to \$5 million. This enables our agency to procure goods and services while bypassing the typical state-required reviews. Our agency is also preparing the paperwork to extend this to a total of \$55 million in anticipation of these monies. This will facilitate the expedited procurement of equipment, reagents, and supplies needed in this response. We continue to look for gains in efficiencies with our vendors for procurement.

The WDH had been able to open up 30 temporary positions for immediate hiring. We are able to bring emergency staff into these positions in a matter our hours, once they are identified. For permanent positions, the WPHL has been given contract positions so that we may get individuals hired after a formal search. We continue to work with our agency and administration to advocate for a more expedited process for bringing in new employees for this response.



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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	4	1	5	7	2	1	1	1	22
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	4	2	1	0	0	0	0	7

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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 <sup>++</sup>	8,000	11,000	30,000	30,000	36,000	36,000	36,000	36,000	223,000
Volume of additional media (VTM, MTM, saline, etc.) needed to meet planned testing levels <sup>++</sup>	8,000	11,000	30,000	30,000	36,000	36,000	36,000	36,000	223,000

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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)	250/day Hologic Paternion; 250/day CDC assay	300/day Hologic; 300/day CDC assay; 64/day Cepheid	100/day Hologic; 800/CDC Assay; 400/day Cepheid	100/day Hologic; 1500/day CDC Assay; 400/day Cepheid	100/day Hologic; 1500/day CDC Assay; 400/day Cepheid	100/day Hologic; 2000/day CDC Assay; 700/day Cepheid	100/day Hologic; 2000/day CDC Assay; 800/day Cepheid	100/day Hologic; 2000/day CDC Assay; 900/day Cepheid	
FOR SEROLOGIC TESTING									
Number of additional* equipment and devices to meet planned testing levels	0	2	0	2	0	0	0	0	4

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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	200/day for TBD seroloigc assay	250/day for TBD seroloigc assay	300/day for TBD seroloigc assay	400/day for TBD seroloigc assay	500/day for TBD seroloigc assay	500/day for TBD seroloigc assay	500/day for TBD seroloigc assay	

\* 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.