COVID-19 Testing in Oregon

Introduction

Testing is a key component of Oregon’s strategy to contain the spread of COVID-19, keep Oregonians healthy, preserve hospital capacity, and safely reopen Oregon’s schools and economy. Testing for COVID-19 serves three main purposes: first, testing identifies individuals who need to isolate themselves to protect others and facilitates case investigation and contact tracing; second, testing enables health care providers to provide appropriate care to patients who are ill; third, testing allows public health and other decision-makers to understand the spread of COVID-19 and strategically deploy Oregon’s resources to fight the pandemic.

Since the beginning of the COVID-19 pandemic, the Oregon Health Authority (OHA) has worked to expand and fortify our state’s testing capacity, provide updated guidance to clinicians, and deliver testing to Oregonians who are most at-risk for COVID-19. Oregon has increased the daily testing average from hundreds of tests per day in March to more than 129,000 tests performed the week of November 15, 2020. Testing has increased over time due to increased numbers of laboratories performing COVID-19 testing, expanded testing guidelines, advances in testing technology, and coordination with community-based organizations to deliver testing.

Despite this progress, Oregon’s testing capacity remains below what public health modeling suggests Oregon requires to effectively slow the spread of COVID-19. Oregon’s testing capacity has been inconsistent due to national COVID-19 testing supply chain shortages affecting testing platforms, kits, and supplies. In October, Oregon entered a surge of COVID-19 transmission. This surge is a result of our population moving activities indoors, a setting in which the risk of COVID-19 transmission is known to be higher, and widespread pandemic fatigue resulting in noncompliance with masking, physical distancing, and limiting social gatherings. This is a surge that OHA’s COVID Response and Recovery Unit (CRRU) and many other public health experts anticipated and have been working to address through a comprehensive set of pandemic response policies, including a comprehensive testing strategy.

To slow the spread of COVID-19 statewide, Oregon must substantially increase testing capacity, testing access, and the speed of results reporting. However, testing alone cannot control the spread of COVID-19; compliance with masking, physical distancing and avoiding social gatherings is essential and no amount of testing can reverse the effects of widespread noncompliance. This document outlines Oregon’s testing strategy, testing needs, federal testing resources, and the Oregon Testing Initiative, a project to invest in a resilient Oregon-based testing infrastructure, to deliver equitable access to testing for all Oregonians, particularly communities disproportionately impacted by COVID-19.
Testing Strategy

On October 6, 2020, OHA published updated COVID-19 testing recommendations which outline the framework of Oregon’s current testing strategy. OHA recommends testing of all people with symptoms consistent with COVID-19, regardless of severity, and testing of all close contacts of cases, regardless of symptoms. In addition, OHA recommends testing people exposed to COVID-19 in a congregate setting (e.g., residential care facilities, childcare facilities, group homes, schools, agricultural workplaces, food processing plants, jails or prisons, or shelters) as well as migrant and seasonal farmworkers upon arrival in Oregon. OHA recommends testing of people without symptoms of COVID-19 and without an exposure history be limited to high-risk, vulnerable populations including communities of color, tribal communities, people who identify as having a disability and people whose first language is not English.

Long-Term Care Facility Testing Plan

On June 12, 2020, Governor Kate Brown released a Long Term Care Facility Testing Plan, designed to protect Oregon’s most medically vulnerable population. This plan required all Oregon long-term care facility (LTCF) staff and residents to be screened once by September 30, 2020 and all LTCF staff to be screened at least monthly thereafter. The Oregon Department of Human Services (DHS) and OHA have completed initial baseline COVID-19 testing of all staff and consenting residents in 683 LTCFs, achieving the first of the two objectives set by Governor Brown’s plan. As of November 1, 2020, all long-term care facilities are required to perform routine COVID-19 testing for all staff and health care workers involved in resident care and support. Frequency of testing is mandated by the Centers for Medicare & Medicaid Services (CMS) and is tied to county COVID-19 percent positivity. As also mandated by CMS, LTCFs with a single case of COVID-19 are required to test the entire facility within 3 days and must repeat testing every 7 days until facilities reach 14 days without new cases.

Schools

OHA is conducting a special outbreak surveillance project in Oregon’s K-12 schools in order to learn additional information about the spread of COVID-19 in this setting. Additionally, OHA is collaborating with the Oregon Department of Education (ODE) to support Oregon’s K-12 schools in ensuring low-barrier access to testing for students or staff with symptoms of COVID-19 or exposure within a school group.

Testing Vulnerable Populations

Communities of color, tribal communities, and migrant and seasonal farmworkers have been disproportionately impacted by COVID-19. The higher rate of infection among people who identify as American Indian and Alaska Native, Asian and Pacific Islander, Black and African immigrant, or Latina, Latino, and Latinx requires culturally specific strategies to minimize the spread of COVID-19 within these communities across Oregon. In order to identify and mitigate the spread of COVID-19 in these communities, Oregon’s testing guidance prioritizes testing of these individuals, regardless of whether they are experiencing symptoms of COVID-19.
Oregon’s testing guidance also prioritizes testing individuals with disabilities and individuals whose first language is not English.

OHA is working with over 175 community-based organizations to provide culturally and linguistically responsive COVID-19 testing, contact tracing, wraparound services, and support for isolation and quarantine. Many of these organizations offer services in languages other than English, and OHA is partnering with these organizations to provide free low-barrier COVID-19 community testing events. These events target vulnerable populations and seek to remove barriers to COVID-19 testing such as cost, language-access, and access to primary care or insurance.

Insurance Coverage for COVID-19 Testing

The Families First Coronavirus Response Act (FFCRA), enacted on March 18, 2020, requires all forms of public and private insurance, including self-funded plans, to cover Food and Drug Administration (FDA) authorized COVID-19 tests and costs associated with diagnostic testing without cost-sharing. The Coronavirus Aid, Relief, and Economic Security (CARES) Act, enacted on March 27, 2020 expanded these protections by requiring private plans to fully cover out-of-network tests. Subsequent federal guidance from the Department of Health & Human Services (HHS) and CMS does not require coverage of, “testing conducted to screen for general workplace health and safety…for public health surveillance…or for any other purpose not primarily intended for individualized diagnosis or treatment of COVID-19 or another health condition.”

Thus, there is a theoretical coverage gap for COVID-19 screening tests in congregate care settings and potentially for testing asymptomatic individuals who are identified as a close contact of a confirmed case of COVID-19 case depending upon the interpretation by payors.

OHA and the Department of Consumer and Business Services (DCBS) have been working together to determine how to monitor and address the COVID-19 coverage gap. While DCBS staff have received assurances from private insurers around the state that they are covering all COVID-19 testing costs, currently there are no Oregon statutory requirements for insurers that would close the theoretical gaps in federal guidance.

House Bill 3276

House Bill 3276, enacted in 2017 and sponsored by Representative Nancy Nathanson, requires health benefit plans to cover, “the cost of necessary antitoxins, serums, vaccines, immunizing agents, antibiotics, antidotes and other pharmaceutical agents, medical supplies or other prophylactic measures approved by the United States Food and Drug Administration that the [public health] director deems necessary to prevent the spread of the disease, epidemic or other condition of public health importance,” if the public health director determines there exists a, “disease outbreak, epidemic or other condition of public health importance.” This statute, found at ORS 743A.264, gives the Public Health Director the ability to assure coverage and payment for medically necessary services. While the statute does not explicitly reference ‘diagnostic testing,’ we believe that diagnostic testing falls under the umbrella of ‘other prophylactic measures approved by the United States Food and Drug Administration that the [public health] director deems necessary to prevent the spread of the disease, epidemic or other condition of public health importance’.

measures’. It should be noted that ORS 743A.264 does not apply to self-insured plans; therefore, even if this statute in invoked, not all plans will be subject to its coverage requirements.

OHA and DCBS have analyzed this bill and believe that while any provider-ordered diagnostic COVID-19 testing would clearly fall under ORS 743A.264, it is less clear that the public health director could use this authority to mandate coverage for a COVID-19 test in an asymptomatic individuals. As such, we believe additional statutory authority could be necessary to mandate coverage of all recommended COVID-19 testing and close theoretical gaps in federal and state statute.

Testing Needs and Gap Analysis

To estimate Oregon’s testing needs, OHA initially relied on modeling by Yougang Gu\(^2\). This model projected the estimated number of tests needed per day assuming testing of all symptomatic persons and all close contacts of COVID-19 cases, which aligned with Oregon’s more robust testing strategy announced on October 6, 2020. This model was retired on November 1, 2020 and relaunched on November 18, 2020.

OHA will continue to use modeling by Yougang Gu. The relaunched model projects the estimated number of reported cases per week, from which OHA extrapolates the estimated number of symptomatic cases per day and number of tests needed per day continuing under the assumptions of testing all symptomatic persons and all close contacts of COVID-19 cases.

The number of tests Oregon will need per day is not static; it will increase or decrease as case counts rise or fall, respectively. Oregon’s testing needs consist of two components: first, a relatively static amount of screening and surveillance testing\(^3\); and, second, a dynamic amount of diagnostic testing to identify COVID-19 cases and test all close contacts.

Initial Estimates

OHA has estimated that Oregon currently needs 2,000 tests per day to meet screening and surveillance testing needs. When the Oregon Testing Initiative was initially drafted in August of 2020, the Gu model predicted that Oregon would require an additional 15,000 tests per day to meet diagnostic testing needs as of September 1, 2020. Therefore, the initial draft of the Oregon Testing Initiative estimated a testing need of 17,000 tests per day\(^4\) as of September 1, 2020. In order to estimate the testing capacity gap, the estimated statewide testing capacity of 7,000 tests per day was subtracted from the estimated testing need of 17,000 tests per day. The initial draft of the Oregon Testing Initiative estimated a gap in testing capacity of approximately 10,000 tests per day as of September 1, 2020.

Updated estimates

\(^2\) [https://covid19-projections.com](https://covid19-projections.com)

\(^3\) Screening and surveillance testing includes pre-procedural screening at healthcare facilities, long-term care facility screening, migrant and seasonal farmworker screening upon arrival to Oregon, Centers for Disease Control and Prevention community surveillance, and special vulnerable populations surveillance.

\(^4\) This number consists of the 2,000 tests per day estimate from screening and surveillance testing added to the 15,000 tests per day estimate from diagnostic testing.
As of November 10, 2020, OHA predicts that Oregon requires 24,500 tests per day to meet diagnostic testing. When added to the 2,000 tests per day needed to meet screening and surveillance needs, OHA estimates that Oregon requires a total of 26,500 tests per day as of mid-November. During the week ending November 21, 2020, an estimated 18,500 COVID-19 tests per day were performed in Oregon. Thus, we estimate that Oregon’s current gap in testing capacity is approximately 8,000 tests per day.

Fall/winter Surge Estimates

Very little is known about the emerging SARS-CoV-2 virus which causes COVID-19 infection. This lack of data limits accurate modeling of COVID-19 transmission over time. However, experts predicted that case counts would rise as temperatures fall due to the predominantly droplet and limited airborne transmission dynamics of the virus. Oregon has entered a fall/winter surge. It is impossible to predict how large this surge might ultimately become and how long it might persist, but not unreasonable to anticipate a 2 to 4-fold increase in case counts sustained over several months. The ultimate size and duration of this fall/winter surge depends upon compliance with basic public health interventions such as masking and physical distancing. Our surge response includes both short- and long-term strategies to address urgent and future testing needs, outlined later in this report.

Data and Reporting Methodology

Since the beginning of the pandemic, Oregon has publicly reported the number of “people tested” under a person-based methodology as opposed to “tests performed” under a test-based methodology. This is because the OHA public health database was built to track people with infections as opposed to laboratory results. Early in the pandemic, COVID-19 testing was very different than it is today. Testing for COVID-19 occurred mostly in hospitals and cases were retested frequently. Under the person-based methodology, people who tested positive were excluded from being counted again for 90 days (the period of time in which experts occur reinfection is unlikely to occur) and people who tested negative were excluded from being counted again until they tested positive. As the pandemic has progressed, testing practices have shifted and testing criteria have expanded dramatically; more people are being tested for COVID-19, and much more often. On November 20, 2020, OHA announced that it would shift from a person-based to a test-based methodology in order to better reflect the volume of testing occurring Oregon.

This change in our data and reporting methodology does not change our estimated testing needs or gap analysis.

Federal Resources

Epidemiology and Laboratory Capacity Enhancing Detection Supplemental Funding

In May of 2020, OHA received $87 million from the Centers for Disease Control and Prevention (CDC) Epidemiology and Laboratory Capacity (ELC) Enhancing Detection supplement to support COVID-19 response activities. The funding mandated an immediate increase in COVID-

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19 testing in Oregon to a minimum of 2% of the population per month\(^6\) and the creation of a statewide testing plan to address the testing needs of Oregon’s vulnerable populations. Testing plans were reviewed by experts from both the CDC and HHS and Oregon’s plan was noted by the CDC as one of the strongest state plans received.

Broadly, the testing plan submitted to the CDC and HHS assumes that patients with health care access (i.e. insurance) will be tested through existing access points in our health care system, while patients without access (i.e. without insurance), estimated at 7.2% of Oregonians\(^7\), will have COVID-19 testing subsidized by ELC Enhancing Detection supplemental funding. In order to effectively increase testing access across Oregon, OHA will leverage the Regional Health Care Coalition (RHCC) structure to create a regional testing framework tasked with coordination of testing at the local level. This regional testing framework will include seven Regional Testing Partners, in each of the seven Healthcare Preparedness Program (HPP) regions. Some of these partners have been designated as regional hospitals that contribute to the COVID-19 Emergency Transfer Management System, while others currently serve as Oregon’s Infection Control Assessment and Response Centers of Excellence. Regional Testing Partners will collaborate with local public health authorities, hospitals and health care systems, emergency medical services (EMS), and other regional stakeholders to define and address the testing needs of the communities they serve.

**Point-of-Care Antigen Testing**

On July 14, 2020, CMS announced an initiative to distribute Quidel Sofia or BD Veritor point-of-care (POC) antigen COVID-19 testing devices and tests to all nursing facilities in the United States, including in over 100 Oregon facilities. On September 2, 2020, HHS announced that it would distribute Abbott BinaxNOW POC antigen tests, which do not require a testing device, to select long-term care facilities (LTCFs). This capacity was primarily meant to satisfy CMS mandated LTCFs testing requirements.

On September 28, 2020 the White House announced a plan to distribute 150 million Abbott BinaxNOW POC antigen tests nationwide. Oregon expects to receive up to 60,000 to 80,000 tests per week through December of 2020. As of the week of November 23, 2020, Oregon has received 403,720 BinaxNOW tests. The BinaxNOW tests require a trained professional to administer and a testing location with Clinical Laboratory Improvement Amendments (CLIA) certification or a CLIA waiver to perform. As of the week of November 23, 2020 OHA has deployed over 170,000 of these tests to counties, tribes, rural hospitals, university and school-based health centers, federally-qualified health centers (FQHCs), and other outpatient and mobile locations that satisfy these requirements and that are currently performing COVID-19 testing. Over time, OHA will continue to work with new testing and community partners to meet the requirements necessary to perform these tests, including congregate care settings, Department of Corrections facilities, and other community sites throughout Oregon.

We expect Oregon to receive a total of 1,270,000 BinaxNOW tests, and the availability of these tests in 2021 is unknown. OHA will use these tests as a tool to increase test capacity in the short-term, to respond to the current surge in COVID-19 cases, while continuing to build long-term Oregon-based testing capacity for future needs.

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\(^6\) Estimated at 84,728 people per month according to the 2019 Annual Oregon Population Report.

\(^7\) Source: https://data.census.gov/cedsci/table?d=ACS%205-Year%20Estimates%20Data%20Profiles&table=DP03&tid=ACSDP5Y2018.DP03&g=0400000US41
Thermo Fisher Testing Reagents

Between May and June of 2020, the Federal Government provided a weekly distribution of Thermo Fisher COVID-19 Workflow Kits nationwide. Fifteen of these kits, equivalent to 144,000 tests, were distributed by the Oregon State Public Health Laboratory (OSPHL) to Oregon clinical laboratories to support COVID-19 testing.

Other Testing Supplies

Oregon receives a monthly allotment of specimen collection kits from the Federal Government to assist with testing. These kits include swabs, specimen tubes and transport media, and biohazard bags. Oregon expects to receive 300,000 kits each month through December of 2020. This represents an increase from 150,000 kits per month previously. The Federal Government does not plan to continue distribution of these supplies in 2021.

Oregon has received 33 Abbott ID Now rapid test machines from the Federal Government and has distributed those machines throughout the state to serve underserved and vulnerable populations.

Surge Testing Capacity

HHS is supporting surge testing capacity in Oregon through December of 2020. Surge testing efforts will temporarily increase Oregon’s testing capacity to address the fall/winter surge. Leveraging this surge testing capacity, OHA is standing up low-barrier community testing events in 13 counties throughout Oregon. These low-barrier drive-through or walk-up sites do not require identification, payment, insurance or a physician order. HHS has allotted 10,000 PCR tests to Oregon for surge testing. While appointments are not required, OHA recommends individuals go to [http://www.doineedacovid19test.com](http://www.doineedacovid19test.com) to schedule an appointment.

Oregon Testing Initiative

Current Infrastructure

Currently, laboratory testing for COVID-19 in Oregon is performed by the Oregon State Public Health Laboratory (OSPHL) and academic, hospital-based and commercial laboratories. Point-of-care antigen testing locations include outpatient clinics, urgent care and emergency departments, residential and behavioral health settings, and long-term care facilities.

Laboratories throughout the state have intermittently reported myriad supply chain and staffing shortages. These constraints have led to unpredictable testing capacity and prolonged testing turnaround times. This testing market failure requires government intervention; it is the duty of the state to correct essential markets when they fail.

The Oregon State Public Health Laboratory

The Oregon State Publican Health Laboratory (OSPHL) provides technical support for laboratories performing COVID-19 testing, including quality management, regulatory
compliance, and biosafety. To verify the quality of COVID-19 testing, Oregon laboratories performing high-throughput SARS-CoV-2 testing validate the performance of their testing using a blind specimen panel supplied by the OSPHL free of charge.

Updates about changes to regulatory requirements that impact clinical laboratories are shared with a network of clinical laboratories statewide. This is an important part of OSPHL’s work because of rapidly changing federal (e.g., HHS, CMS, FDA) and state (e.g., OHA, OR-OSHA) regulations. In addition, laboratories may request assistance with implementing biosafety requirements, including the performance of biological risk assessments and mitigation strategies to ensure that SARS-CoV-2 testing is being performed safely.

To support robust laboratory testing in Oregon, OSPHL executed a group purchasing order to secure enough Thermo Fisher test kits to test 400,000 COVID-19 specimens in Oregon laboratories. To date, laboratories at OHSU, Willamette Valley Toxicology, McKenzie Willamette, and the University of Oregon have received these supplies. OSPHL is in the process of distributing additional supplies to qualified laboratories in Oregon to further expand and maintain testing capacity.

OSPHL’s current COVID-19 testing capacity is 600 specimens per day.

Academic Partners

The Oregon Testing Initiative (OTI) will build testing capacity through partnerships with three public academic institutions in Oregon: the Oregon Veterinary Diagnostic Laboratory (OVDL) at Oregon State University (OSU), the Genomics and Cell Characterization Core Facility (GC3F) at the University of Oregon (UO), and Oregon Health & Science University (OHSU). OSU and UO will offer increased testing capacity through diverse testing platforms, building redundancy into Oregon’s testing supply chains such that future supply chain shortages will have less impact on overall capacity, while OHSU will support mobile testing capacity.

This additional testing through OSU and UO will be easily accessible through a user-friendly software platform and will allow information collection in multiple languages, connect patients to testing locations and events, facilitate test results directly to the patient and facilitate test reporting directly to public health for contact tracing and case investigation.

On September 25, 2020, the Emergency Board considered and approved a request from OHA that allocated $6.5 million to the UO to purchase equipment and build lab space to expand test capacity, $400,000 to OSU for equipment purchases, and $500,000 to OHA to purchase software to monitor and deliver new testing capacity.

On November 9, 2020, the Emergency Board approved an OHA request to reallocate $1.2 million of the $7.4 million to purchase mobile testing capacity at OHA and in collaboration with community partners, including Oregon Health & Science University (OHSU). OHA plans to integrate mobile testing units into the regional framework, with at least one unit available in each of Oregon’s seven regions. This mobile testing capacity will be used to increase testing access for Oregon’s rural populations as well as vulnerable populations for whom transportation represents a significant barrier to testing access. Mobile testing capacity will further support the screening of migrant and seasonal farmworkers upon arrival in Oregon, a key component of Oregon’s testing strategy. Finally, mobile units will be available to investigate outbreaks or
perform testing in congregate living facilities such as shelters, intellectual or developmental disability facilities, and long-term care facilities.

Status of Investments

University of Oregon Revised Budget Details

The University of Oregon has provided a new budget that is detailed in Appendix B. Based on revisions and discussions with UO, the amount requested has been reduced to $4.4 million. The revision reflects feedback from OHA to ensure that the laboratory testing capacity being built matches Oregon’s testing needs. In addition, UO received guidance regarding sample storage that reduces the cost of refrigeration, thus lowering the initially requested capital construction costs.

Oregon State University Budget Details

Oregon State University has also submitted a budget for equipment costs that is detailed in Appendix A.

On November 9, 2020, the Emergency Board authorized an additional $181,000 for salary support at OSU to do additional COVID-19 testing that has not been broadly covered insurance reimbursement to date.

OHA is currently looking at options for the additional federal and other funds that remain available based on these revisions and will report back to the Emergency Board in the coming weeks.

In addition, OHA is including contractual language in both OSU and UO’s agreement that will assure prioritization of testing specimens sent to these labs through the regional frameworks.

Reimbursement by Coronavirus Relief Funds and the Federal Emergency Management Agency

OHA sent in the proposed set of expenditures from both OSU and UO to the Federal Emergency Management Agency (FEMA) for a pre-determination on reimbursement. FEMA provided written concurrence that the proposed expenditures are eligible for FEMA reimbursement. In addition, OHA received clarification that Coronavirus Relief Funds (CRF) can also be used, assuming the equipment purchased using CRF funds are put into use by December 30, 2020.

Supply Chain

University of Oregon

In order to minimize supply chain disruptions, UO is diversifying its COVID-19 testing platforms. The SalivaDirect and SwabSeq processes use fewer reagents than the traditional nasal qPCR test and should reduce UO’s dependency on reagents. Additionally, UO is drawing on existing relationships with vendors for research supplies, which can provide testing supplies as well, and working to forecast volume to ensure adequate access to supplies and consumables.
To further reduce supply risks, UO is validating testing protocols that allow for use of interchangeable reagents.

Oregon State University

In order to minimize supply chain disruptions, OVDL, through a partnership with Willamette Valley Toxicology Laboratory (WVTL), relies on non-proprietary testing supplies, which could be used across multiple testing platforms. Additionally, OVDL sources plastic consumables from alternate suppliers, which allows the laboratory to switch extraction and regents as needed.

Currently, OVDL and WVTL have an inventory of COVID-19 testing supplies to process approximately 20,000 samples (~100,000 pooled samples). OVDL and WVTL have a purchase agreement with Thermo Fisher for a weekly delivery of supplies and reagents for 6000 tests, and an agreement with OSPHL to provide weekly supplies for 20,000 test kits.

Milestones

University of Oregon

UO has issued purchase orders for most of the capital equipment and many of the supplies specified under the contract. All but two Hamilton robots will be delivered by December 31, 2020. Final Hamilton robots are estimated to be delivered by end of February of 2021.

On October 7, 2020, the SwabSeq protocol was granted Emergency Use Authorization (EUA) by the FDA. UO will work to secure a right of reference to use that protocol. UO is also working to secure a right of reference for a modified version of the Saliva Direct protocol to increase throughput.

As of November 25, 2020, UO has the capacity to process 800 – 1,200 daily specimens. For the weeks of November 9th and November 16th, UO process 6,854 specimens, of which 4,251 were UO students living in residence halls, 2,195 were off-campus students and UO employees, and 535 were Lane County residents.

UO expects to increase that amount to 4,800 daily specimens by mid-December. Upon receipt of the final Hamilton robots, UO expects to process over 10,000 daily specimens.

Oregon State University

OSU expects delivery of a Biomek i5 automated liquid handling workstation to assist with sample pooling by Dec 15 and will finalize purchase orders for a biosafety enclosure for the Biomek from Biobubble and two real-time qPCR instruments from ThermoFisher (~$100,000) when delivery date of the Biomek is confirmed.

As of November 25, 2020, WVT/OVDL has tested over 100k specimens and is currently testing and reporting approximately 10,000 weekly specimens from long-term care facilities, regional hospital systems, OHA-sponsored testing events, and TRACE-OSU testing. Of those 10,000 weekly specimens, approximately 1,500 – 2,000 are OSU students.
Software

OHA has identified Microsoft as the vendor to develop the software package. Microsoft is currently reviewing the statement of work. OHA is on track for software development through December 30, 2020 and is preparing to go live with the software in January of 2021. Additional funding will be required in 2021 to continue to support and expand the software’s use. This includes adding elements that will be critical in streamlining the ordering and testing management between various sites.

Mobile Units

OHA is currently finalizing the contract with OHSU to transfer funding for mobile van purchases. OHSU has been able to locate and is in final stages of purchasing three vehicles and has a team ready to go to outfit and deploy these vehicles.

OHA is working closely with DAS fleet and parking services to purchase the remaining seven vehicles. Currently, inventory is very tight for cargo vans due to uptick in demand from delivery services. In addition, OHA is putting out a request for applications to non-profit and CBOs in Oregon to determine which organizations are best fit to manage the three vans designated for that purpose.

At this point, no expenditures have been made as OHA is finalizing contracts now.

Insurance and Other Reimbursement

UO has sought proposals from several local partners who could bill insurance. Additionally, UO is looking at options to outsource medical billing to a medical billing service provider. UO is currently evaluating these options to determine which will be best suited to their operations and are on track to have a plan in place in early December. Once a partner is identified UO will develop a billing and strategy and finalize pricing that will minimize risk and maximize their ability to recover from insurance and ensure accessibility to testing.

OSU, through their partnership with the WVT Laboratory can currently bill insurance, including Medicare and Medicaid.
### Appendix

#### Testing Process

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Resources</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Specimen is collected by a medical provider</td>
<td>test collection kit, medical provider, PPE, provider support staff</td>
<td>&lt;5 minutes/patient</td>
</tr>
<tr>
<td>2.</td>
<td>Collector packages specimen to ship to testing laboratory</td>
<td>specialized transportation packaging, ice packs, specimen transport bags, drivers</td>
<td>varies by specimen volume and courier/shipper</td>
</tr>
<tr>
<td>3.</td>
<td>Courier or shipper (e.g., FedEx, USPS) transports specimens to the laboratory</td>
<td>courier or shipper transportation, tracking systems</td>
<td>varies on distance and courier/shipper, usually within 24 hours</td>
</tr>
<tr>
<td>5.</td>
<td>Specimen is received and patient information is verified</td>
<td>laboratory staff, PPE, computer systems, specialized software</td>
<td>varies by laboratory, typically 20 seconds to 5 minutes</td>
</tr>
<tr>
<td>6.</td>
<td>Specimen is processed as needed for the test being performed</td>
<td>extraction reagents, trained laboratory staff, PPE, specialized equipment and software</td>
<td>varies by laboratory, typically within a few hours</td>
</tr>
<tr>
<td>7.</td>
<td>Testing process</td>
<td>testing reagents, testing instrument, trained laboratory staff, PPE, specialized software</td>
<td>varies by laboratory, typically within 3 days</td>
</tr>
<tr>
<td>8.</td>
<td>Results are verified and reports created</td>
<td>trained laboratory staff, specialized software</td>
<td>varies by laboratory, minutes to hours</td>
</tr>
<tr>
<td>9.</td>
<td>Result reports are sent to the submitting facility or laboratory and public health</td>
<td>trained laboratory staff, specialized software, reporting systems</td>
<td>a few minutes</td>
</tr>
<tr>
<td>10.</td>
<td>Submitting facility or laboratory contacts the provider</td>
<td>computer or phone systems</td>
<td>varies by facility or laboratory</td>
</tr>
<tr>
<td>11.</td>
<td>Provider shares the results with the patient and reports to the public health authority</td>
<td>computer or phone systems, reporting systems</td>
<td>a few minutes to several hours</td>
</tr>
</tbody>
</table>

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8 **Note:** Not applicable to facilities with on-site laboratories.