ALBERTA
PRECISION
LABORATORIES

Leaders in
Laboratory Medicine

2020-21 Annual Report

Delivering the Transformative Power of Laboratory Medicine to Improve Health for all Albertans.

Contents

Message from Chief Operating Officer & Chief Medical Laboratory Officer

Alberta Precision Laboratories' (APL) third year as a province-wide public laboratory system highlighted the critical role lab services play across the healthcare spectrum. As the COVID-19 pandemic gained momentum throughout 2020, APL was thrust into the spotlight as never before. It is truly inspiring to see how our people have risen to the occasion by navigating a year of constantly changing demands and unexpected challenges with an unwavering commitment to protecting the health of Albertans while demonstrating our shared values of Kindness, Inclusion, Innovation, Agility and Accuracy. First and foremost, we would like to express our deepest thanks and gratitude to the more than 5,500 APL staff who have been on the front line of the COVID-19 response since day one. We know it has not been easy – both personally and professionally - but your enthusiastic determination continues to see Albertans through the pandemic and we are grateful for the dedication you have shown during these extraordinary times.

The list of accomplishments we achieved throughout 2020-21 is impressive, and reinforces the value of an integrated and co-ordinated provincial lab program. From developing one of the country's leading COVID-19 testing programs; to providing regular lab service in a safe and reliable fashion; to successfully implementing the second wave of Connect Care; to launching a search for private sector partners to help deliver community lab services over the long term; we made significant progress on key business priorities during a period of unprecedented challenges and uncertainty.

5,500 +
staff

171
patient collection sites across Alberta

157
laboratory testing sites in Alberta

3.5 million +
COVID-19 tests completed

1,700
clinical trials supported by APL researchers

56.6 million
lab tests completed

95%
of most commonly ordered test results available to patients on MyHealthRecords

1
provincially integrated lab system

COVID-19 response

Even before COVID-19 arrived in Alberta, APL's lab scientists were leading the charge in lab-developed testing capability for the novel coronavirus based on past work analyzing respiratory disease outbreaks similar to COVID-19, including SARS (severe acute respiratory syndrome) and MERS (Middle East respiratory syndrome). After the first positive test was confirmed on March 5, 2020, we were able to quickly ramp up a testing program capable of handling the exponential growth in demand as Alberta led the country in offering testing to its population.

COVID-19 testing numbers grew from less than 5,000 per day at the beginning of April 2020 to a peak of more than 22,000 per day in October when testing for asymptomatic Albertans was eliminated and daily testing numbers declined to an average of 10,000. This placed enormous pressure on lab staff, our suppliers, and our healthcare partners at Alberta Health Services, DynaLIFE Medical Labs and pharmacies across the province. Our teams worked tirelessly to implement high-throughput testing platforms and find innovative solutions to equipment shortages, unstable supply chains, and staffing challenges by working collaboratively with private sector, government and academic partners to meet the public health needs of Albertans as the pandemic evolved.

The enormous demand for information, testing and patient management for a single new disease led to the development of innovative new tools that integrated patient assessment, test booking, data entry and automated results notifications into a seamless online system that improved efficiency and assisted with dramatically reducing turnaround times for patients to receive their test results. At the same time, APL's medical-scientific staff undertook significant independent validation of rapid point-of-care (POC) testing systems to determine how to incorporate rapid testing into the provincial COVID-19 testing program most effectively. The vigilance of APL's genetics experts, who began monitoring the virus's genetic code at the outset of the pandemic, also paid off as highly infectious new strains emerged in various countries towards the end of 2020. APL lab staff confirmed one of the first cases of the Variants of Concern from the United Kingdom in Canada on December 25. They then deployed APL's lab-developed tests to quickly screen Alberta's positive cases for mutations associated with all Variants of Concern.

Safe and efficient lab services

The first wave of the COVID-19 pandemic of early 2020 involved the temporary restriction in community lab service to focus on the most essential and urgent testing needs.The gradual reopening of patient service centres, hospital outpatient labs and rural healthcare centre collection sites resulted in longer than normal wait times for routine lab visits for many Albertans. Extra safety precautions required to meet public health guidelines, along with staffing challenges in some locations, impacted the number of patients that could be seen each day. Initiatives to improve patient flow, reduce the number of non-essential tests orders, and adding additional indoor waiting room space saw lab capacity return to pre-pandemic levels in most communities by early 2021. APL staff have been diligent in following health and safety protocols and utilizing appropriate personal protective equipment to prevent the spread of virus at our facilities – with only one confirmed case of COVID-19 among our staff as a result of exposure in the workplace.

Despite the challenges of the pandemic, APL made significant progress on several initiatives to improve quality, efficiency and build a solid foundation for the future delivery of patient laboratory services. Equipment upgrades that will standardize chemistry platforms across the province moved ahead at dozens of sites and

will continue throughout 2021 and 2022. The upgrades completed so far resulted in reduced reagent costs, with savings expected to grow as more installations are complete.

Meanwhile, hundreds of APL staff are involved in the AHS-wide Connect Care project, which successfully transitioned 10 APL sites in the suburban Edmonton area to the new laboratory information system that will dramatically improve the integration and accessibility of healthcare data across the province.

After almost a year of preparation, APL and AHS also moved ahead with a key initiative identified by the AHS Performance Review with the launch of a request for proposals (RFP) to find private sector partners to deliver community lab services starting in April 2022. Evaluation of the proposals are underway, with successful proponent(s) expected to be chosen in the summer of 2021, demonstrating our continued commitment to achieving the highest value for Albertans' healthcare dollars.

Improving patient care and health outcomes

APL's tagline "Leaders in Laboratory Medicine" reflects our critical role in the rapidly evolving era of precision medicine, and we continue to advance our capabilities in the screening, diagnosis, treatment, monitoring, surveillance, and outcomes of patients. New testing protocols implemented last year include universal screening of all colorectal cancer cases for Lynch syndrome, high sensitivity troponin testing for cardiac patients, and new in-house BRCA testing that expands the number of patients who can get a head start on targeted treatment for some forms of ovarian cancer.

From COVID-19 response, to general lab service, to specialized diagnostics and public health research, our laboratory professionals are making a big difference to patient care in Alberta and the teamwork demonstrated within APL and between our diverse partners and stakeholders has been remarkable. We are pleased to be on this journey together, and look forward to another rewarding and successful year in 2021-22.

Tammy Hofer,
Chief Operating Officer

Dr. Carolyn O'Hara,
Chief Medical Laboratory Officer (Interim)

Who We Are

APL is the largest provider of laboratory medicine and pathology services in the province of Alberta. We employ more than 5,500 health professionals and performed 56.6 million laboratory tests over the past year. We are accountable to AHS as a wholly owned subsidiary and, in turn, the Ministry of Health for the provision of all laboratory services including: hospital and community laboratories; mobile collections; cardiac diagnostic services; on-call services; reference laboratories; public health laboratories; patient service centres; and transportation services.

Mission

We believe in the transformative power of laboratory medicine to improve health for all Albertans.

Vision

Health informed by world-class integrated laboratory diagnostics.

Values

- Kindness
- Inclusion
- Innovation
- Agility
- Accuracy

The majority of downstream medical decisions across the continuum of care are based on diagnostic laboratory results, making laboratory medicine a keystone component of healthcare, and a service that impacts all Albertans.

Our integrated model allows APL to be more strategic in our efforts and streamline and optimize our processes, which results in a multitude of benefits, including: equitable access to high quality services for patients; timely and consistent results to patients and providers; and optimized resources for increased financial health.

Laboratory Infrastructure

AHS is organized into five geographic zones: South, Calgary, Central, Edmonton and North. APL is composed of two sectors — North and South — with the further identification of city, urban and rural locations. The complexity, scope and volume of diagnostic testing required to support Albertans continues to grow. To support this demand, APL has a long-standing partnership with DynaLIFE Medical Labs to meet evolving patient needs. DynaLIFE is the primary laboratory system partner engaged by AHS & APL to deliver laboratory services in Alberta. DynaLIFE provides community and high-volume, low-complexity laboratory services, including collections, courier services and testing to Edmonton. Together, APL and DynaLIFE support laboratory testing sites and patient collection facilities across Alberta that include primary care clinics, physician offices, diagnostic centres, and patient service centres.

North and South Sectors

APL is structured into North and South Sectors. The North and South Medical Directors, along with their operational administrative dyad partners, are responsible for the clinical diagnostic testing in their respective sectors. This responsibility includes oversight and support for satellite laboratories.
The laboratory system is designed to offer on-site laboratory testing to ensure urgent acute care needs are met. Smaller rural hospitals refer non-urgent and more complex testing to their regional hospitals or the referral laboratories located in Calgary or Edmonton.

Academic Partners

APL has, and continues to develop, a number of key partnerships to support our operations. These include strong connections with Alberta's academic research institutions, including the University of Alberta and the University of Calgary, technical institutions including SAIT and NAIT, funding agencies, foundations, pharmaceuticals, diagnostics companies including global vendors and small- to medium sized local enterprises, and community partners. Through strong strategic partnerships, APL will be able to continue to leverage the support across Alberta to enable effective delivery of service and execution of our business plan.

Governance

As a subsidiary of AHS, APL reports to the AHS President and CEO via a sole board chair, who is represented by AHS's Vice President of Cancer Care Alberta & Clinical Support Services. APL's governance structure ensures integrated laboratory services are embedded into clinical decisions and operations to improve quality and appropriateness of care. APL executives work closely with AHS executives to ensure all Albertans have access to high-quality laboratory services across the province.

Refer to Appendix A for more information about APL's Corporate Governance, Operational Governance, and Operational Committee structure

APL Executive Leadership Team (ELT)

ELT is a standing committee composed of the senior executive leadership of APL. The purpose of this committee is to set the broad vision, strategic direction and priorities for the organization, in collaboration with the board chair, AHS executives and the APL Senior Leadership Council.

Membership

Chief Operating Officer

Chief Medical Laboratory Officer

North Sector Medical Director

South Sector Medical Director

Executive Director of Business Advisory Services

Director, HR Business Partnerships and Human Resources

Director, Communications and Engagement

Senior Leadership Council (SLC)

SLC is a standing committee composed of the South Sector Medical Advisory Committee, North Sector Medical Advisory Committee, APL Planning and representatives from shared services disciplines. The purpose of this committee is to guide APL leadership in collaborative decision making and shared accountability within the context of the entire organization, ensuring the best use of APL's resources.

Discipline Councils

Discipline Councils were created to support the prioritization, coordination, standardization and optimization of clinical diagnostic testing across the province. These councils are led by experts in their discipline areas and comprise medical, scientific, operational, and administrative stakeholders to ensure the appropriate ad hoc engagement of both internal and external stakeholders.

Steering Committees

Operational, medical, research, and administrative steering committees and working groups have been developed to support the planning and implementation of priority initiatives in the organization, including timelines and milestones, budget, and an accountability structure.

Shared Services

AHS and APL have worked collaboratively to identify key support services that could be provided by AHS, with APL benefiting from AHS' systems, processes and economies of scale. A Shared Services Agreement (SSA) between APL and AHS is in place that sets out the scope of services, accountabilities, service delivery expectations and key parameters for each of the service areas that AHS will provide to APL. The AHS/APL Contract Management Committee (CMC) oversees and optimizes the provision of shared services by AHS to APL.

Transition of all corporate services for APL to a centralized service delivery model that leverages the scope of services already in place at AHS occurred in Q1 of 2020-21. There are currently 16 shared service areas, including Human Resources, Information Technology, Contracting Procurement and Supply Management (CPSM) and Capital Management. In 2020-21, the CMC completed the implementation of all existing shared service area policies with the exception of Human Resources & Data and Analytics. These are expected to occur in 2021-22. Delivery of the services provided to APL under the SSA is monitored through collaboration between APL ELT and AHS medical and administrative leads.

Our People

APL employs more than 5,500 health professionals, support staff, as well as medical and scientific and staff and contractors. Our employees hold clinical and technical expertise in laboratory medicine and pathology and are sought out by health industry partners and academic collaborators for translational research initiatives and in the development of novel diagnostics.

From COVID-19 response, to general lab service, to specialized diagnostics and public health research, our highly trained laboratory professionals play a critical role in the quality of patient care across the healthcare spectrum in Alberta. They continue to demonstrate an unwavering commitment to protecting the health of Albertans while living our shared values of Kindness, Inclusion, Innovation, Agility and Accuracy.

What We Do

At APL, we lead healthcare innovation in laboratory medicine by continually seeking improvements in preventing, detecting and diagnosing, treating, and managing diseases or medical conditions. Management of laboratory services across the province puts APL in a unique position to optimize service delivery across the province. This includes making decisions on how that service is best delivered while ensuring high quality, meeting the needs and expectations of patients. We research, develop, test and implement new personalized treatments and interventions and interface directly with patients by providing patient specimen collection, logistics, testing and diagnostic services.

Collection and Logistics

APL and DynaLIFE offer collection sites covering the province to ensure Albertans have access to laboratory testing. Specimens are collected and transported back to a laboratory for testing and analysis. Logistics are responsible for the efficient transfer of specimens, reports and supplies for APL. An internally operated courier system helps facilitate accurate test results by maintaining high quality standards in specimen integrity during transport.

Testing

Biochemistry

The majority of diagnostic tests performed at APL are within the discipline of biochemistry. This division includes our high-volume laboratory, where we have analyzers able to process many patient samples at once. Biochemistry provides extensive support to clinicians who use the results provided to make treatment decisions. These services include clinical chemistry, endocrinology, and therapeutic drug monitoring that involves frequent monitoring for optimization of drug dosing for individual patients. Clinical toxicology testing is also provided to identify and measure drugs or other chemicals in order to guide patient care. Toxicology testing has become increasingly important with the rising cases of opioid abuse and overdoses.

Anatomic Pathology

The discipline of anatomic pathology provides extensive services under a number of subspecialty pathology groups, including autopsy, bone and soft tissue, bone marrow, breast, cytopathology, dermatopathology, endocrine, gastrointestinal, genitourinary, gynecologic, head and neck, neuropathology, ophthalmic, pediatric, thoracic, and transplant, renal and cardiac. Approximately 200 pathologists are contracted/employed by APL to provide expertise and consultation in these areas. Any patient material removed from the body during surgery or a day procedure — such as a tissue biopsy or cancerous tumour — will be analyzed by this area. This testing area processes all the tissue or fluid samples from biopsies to autopsies, and all cancer diagnosis requires a pathology report.

Molecular Pathology

The discipline of hematopathology provides services in hematology — the study of disease conditions that affect blood and related organs. Samples analyzed can be from blood or other blood components such as bone marrow, lymph nodes, spleen, thymus and other lymphoid tissues. This area supports the diagnosis of anemia, blood cancers, and inflammatory conditions.

Genetics and Genomics

Genetics and Genomics is a provincial program operating at locations in Calgary and Edmonton. It provides testing for diseases that are caused by changes in the genetic makeup of patients and completes highly specialized testing for a significant number of hereditary genetic conditions, including the provincial Newborn Metabolic Screening Program. This testing is often seen as the future of laboratory medicine and involves examining the DNA of patients.

Human Leukocyte Antigen (HLA) Testing & Immunogenetics Laboratory

Alberta has the largest Canadian solid organ and bone marrow transplant program outside Toronto. Testing for the match ability between donor and recipient as well as post-transplant monitoring for rejection is a critical component of the Alberta transplant program. Together with our sub-specialized transplantation pathologists, the HLA Testing & Immunogenetics Laboratories in Edmonton and Calgary are crucial to the Alberta transplant program.

Microbiology

The discipline of microbiology includes bacteriology, mycology, rapid virology, molecular diagnostics and parasitology.

Microbiology provides diagnoses on many infectious diseases by testing a variety of sample types including tissues, blood, stool, and respiratory samples. This speciality also conducts downstream testing including antibiotic resistance, serotyping, and genetic and genomic testing.

Point-of-Care Testing (POCT)

Diagnostic testing does not only reside within the testing facilities of APL. POCT devices provide quick feedback to allow providers to make decisions on the spot and provide healthcare providers and patients with a timely and convenient option of performing laboratory tests at the bedside and physicians' offices, as well as more novel care environments such as paramedic programs, mobile COVID-19 testing facilities, and Alberta Stroke Ambulance. Very few laboratory medicine providers in Canada, if any, can claim to manage and support POCT in such a diverse array of care environments.

Public Health Laboratory

APL's Public Health Laboratory (ProvLab) has been in existence for over 100 years and currently operates out of two sites in Alberta: the Foothills Medical Centre in Calgary, and the University of Alberta Hospital in Edmonton.

ProvLab played a pivotal role in the development and implementation of COVID testing in Alberta over the last year contending with never ending supply management issues, ongoing validations of new reagents and supplies, and leading COVID initiatives for serosurveys, rapid testing, variant testing and viral genomics.

Transfusion Medicine

Transfusion medicine provides all blood components and products distributed by Canadian Blood Services. They are involved with providing critical blood-transfusion products and testing services for patients requiring blood transfusions to support trauma, transplant, surgery, congenital disorder and oncology patients. They provide expert clinical support for bleeding and clotting disorders, ensure appropriate use of this scarce resource and play a vital role during catastrophes with mass casualties. APL's Cellular Therapy Laboratory is involved in transplant medicine and making tailored treatments using patients' own blood to treat and fight diseases such as cancer and other immune system disorders.

Reporting Results

Test results are reported to clinicians either electronically to the clinical information system or physician electronic medical record system, fax or paper report. Results are also uploaded to Alberta Netcare, an electronic system accessible to health professionals to retrieve patient health information. Patients can now directly access the results of more than 90 per cent of the most common laboratory tests via online government platforms that include Alberta Netcare and Alberta Health's My Health Records information portal for patients.

Ensuring Quality and Safety

APL is committed to providing high-quality laboratory services to the patients and clients served by Alberta Health Services. We use the QMS model as described by the Clinical and Laboratory Standards Institute to maintain a quality management system that meets accreditation, legislation, and regulatory requirements for the sustainment and continual improvement of laboratory services. This integrated model coordinates activities that direct, control and guide the organization with regards to quality throughout the entire path of workflow, including pre-examination, examination and post examination.

APL promotes the development of a safety culture where patients, staff and physicians feel safe in reporting and discussing safety concerns. Quality assurance activities include evaluating patient safety concerns as well as investigating and reviewing reported adverse events with the goal of continual improvement of the quality of healthcare or services provided. We are dedicated to providing a safe, healthy, and secure work environment and to manage laboratory operations and processes in a manner that protects the health and safety of all staff.

The health and safety of our workers is fundamental to the provision of safe and quality laboratory services and APL has a comprehensive suite of documents and tools to promote, educate and maintain staff safety within the workplace. All employees of Laboratory Services are responsible for ensuring the health and safety of co-workers, patients, visitors, and themselves through understanding their roles and responsibilities and adherence to all pertinent legislation, standards, safe work practices, and industry Regulators and the public alike rely on the competence of laboratories to deliver the results upon which many important health care discussions are made. Accreditation provides assurance that organizations adhere to an internationally recognized set of standards, enhancing public confidence that lab tests are accurate and reliable.

Facilities in Alberta associated with reporting results for patient management must be accredited by the College of Physicians and Surgeons of Alberta (CPSA). In addition, specific APL laboratories may be accredited by the following organizations:

- American Association of Blood Banks (AABB)
- American Society of Histocompatibility & Immunogenetics (ASHI)
- Canadian Association of Accreditation (CAA)
- Canadian Association of Laboratory Accreditation (CALA)
- Canadian College of Medical Genetics (CCMG)
- College of American Pathologists (CAP)
- College of Physicians & Surgeons of Alberta (CPSA)
- Foundation for the Accreditation of Cellular Therapy (FACT)

Research and Development

Research and development is a foundational underpinning to all laboratory services by supporting vital research directions used to improve healthcare delivery to those patients that need it most. Research initiatives take place in all major tertiary care centres in Alberta and we maintain strong relationships locally and internationally to continue to advance our research agenda. Key collaborators include: the Canadian Institutes of Health Research (CIHR), Canadian Blood Services, United States National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC) Canadian Foundation for Innovation (CFI), and Alberta's health foundations. APL possesses unique, invaluable laboratory samples and datasets that are used to study the patterns, presentation, progression and treatment outcomes of disease. APL is also a critical partner for local small- and medium-sized diagnostic companies, including those spun out from the University of Alberta and the University of Calgary. APL plays an increasing role in developing a diagnostic biotech industry in Alberta, thus contributing to economic diversification in Alberta.

Clinical trials, research in basic laboratory sciences, and epidemiological studies are used to identify, refine and explore laboratory diagnostic scientific questions and support the translation of today's research into tomorrow's treatments. Last year APL participated in more than 1.700 active clinical scientific research protocols. We are a key partner in the development of future research initiatives in

cancer care, and are a central critical component in the new Cancer Care Centre in Calgary. Not only do laboratory services touch all cancer-care diagnostic decisions, APL provides services, in collaboration with the cancer centres and pediatric hospitals, for cancer clinical trials that involve providing the latest care and targeted cancer treatments for Albertans.

We are a key player in local, national and international research related to, but not limited to, non-communicable diseases such as hypertension, diabetes and vascular diseases such as stroke; the pathological progression of crippling conditions such as Alzheimer's, irritable bowel and chronic kidney disease; organ transplantation; identification of organisms at a genetic level that informs treatment for critically ill patients; mapping the appearance and prevalence of disease-causing pathogens in the community; and identification of genetic markers playing a role in rare diseases in adults and children.

Germ Hunters discover rare disease in rural Alberta

A rare pulmonary disease that is linked to bats has made Alberta home, according to new research led by provincial lab scientists.

Infectious disease experts at Alberta Precision Laboratories (APL) and the University of Alberta confirmed that histoplasmosis – a fungal infection transmitted through bat and bird droppings – is now found in Alberta. Their study published in the journal Lancet Microbe in February 2021 extends the known range of the disease much further northwest from its traditional home in the central United States and parts of southern Ontario and Quebec.

The researchers used epidemiologic data and genetic analysis to determine that 15 of the 45 confirmed cases of histoplasmosis in Alberta between 2011 and 2018 were locally-acquired. The cases were primarily found in rural areas in central Alberta including Sundre, Stettler and county, Stony Plain and Spruce Grove. Previously, the geographic range of the fungus was not thought to expand further northwest than Minnesota, some 2,000 kilometres away.

> "We were surprised at how many cases were locally acquired, as histoplasmosis has always been considered a travel-related infection"

Dr. Tanis Dingle,
APL's lead clinical microbiologist for fungal diseases and an assistant professor in the U of A's Faculty of Medicine & Dentistry.

How Do We Know We Are Succeeding?

APL's Business Plan helps ensure we are doing the right things at the right time as we continue to build and improve on our provincial laboratory system. APL continues to work with AHS, our partners, and research collaborators to identify, design, and validate transformational opportunities for laboratory medicine, regardless of the uncertainty.

The Business Plan identifies four strategic goals have been identified to guide and align our decision making (*Refer to key performance indicator table in to Appendix B*, along with meaningful mechanisms for measuring and monitoring our achievements and performance. Performance measures are used to track our efficiency and effectiveness, confirm we are meeting our contractual requirements, and ultimately help us to better understand our contributions to the health system and Albertans. Guided by our strategic goals and objectives that focus on our people, our patients, improving our financial health and our influence in the health system, we can expect to see an even stronger, more integrated and more sustainable laboratory system emerge. While the potential for significant change still exists for laboratory services in Alberta, we know that Albertans continue to expect the very best from their healthcare system. We believe in the transformative power of laboratory medicine to improve health for all Albertans and we believe in our teams' ability to deliver.)

NOTABLE ACCOMPLISHMENTS

COVID-19 Testing Program

Alberta's testing program for COVID-19 is a critical part of the province's pandemic response, helping to determine who has COVID-19 in order to track the virus and prevent its transmission. APL was well prepared to begin large-scale testing, as provincial lab teams had developed in-house polymerase chain reaction (PCR) testing capabilities at the beginning of 2020. After the first positive test was confirmed on March 5, 2020, we were able to quickly ramp up a testing program capable of handling the exponential growth in demand as Alberta led the country in offering testing to its population.

COVID-19 testing numbers grew from less than 5,000 per day at the beginning of April to a peak of more than 22,000 per day in October, placing enormous pressure on lab staff, our suppliers, and our healthcare partners at Alberta Health Services, DynaLIFE Medical Labs and pharmacies across the province. Our teams worked tirelessly to implement high-throughput testing platforms and find innovative solutions to equipment shortages, unstable supply chains, and staffing challenges by working collaboratively with private sector, government and academic partners to meet the public health needs of Albertans as the pandemic evolved. This rapid expansion of testing included the creation of a new



testing lab at Calgary's South Health Campus to meet the demand for COVID-19 testing. It also involved hiring more than 300 additional lab staff for full-time temporary positions to handle the influx of COVID-19 tests requiring analysis.

The enormous demand for information, testing and patient management for a single new disease led to the development of innovative new tools that integrated patient assessment, test booking, data entry and automated results notifications into a seamless online system that improved efficiency and assisted with dramatically reducing turnaround times for patients to receive their test results. Partnerships with private sectors have proven to be integral, with APL collaborating with DynaLIFE to develop fee-for-service testing for travelers and with the provincial and federal governments on Canada's first border crossing testing for incoming travelers.

In June 2020, Alberta Health and AHS announced a $10 million investment in serology testing to monitor the provincial population's exposure to the SARS Co-V2 virus by testing for antibodies in patient blood samples. Four studies are currently underway, with two studies in the Edmonton and Calgary area that will measure COVID-19 antibodies in pediatric populations until 2022. One study involves regularly testing select Albertans over the age of 45, while the largest study is analyzing thousands of patient blood samples from routine lab work from across the province. Results from the province-wide study

Homegrown nanotechnology enhances Alberta's lab testing for COVID-19

Alberta's provincial laboratory system is using made-in-Alberta technology for COVID-19 testing – creating jobs and providing a more secure supply of essential lab reagents needed to detect the disease in patients.

Edmonton-based Applied Quantum Materials Inc. (AQM) began providing APL with nucleic acid extraction kits that for use in the province-wide COVID-19 testing program. APL researchers helped develop the kits are used to extract the genetic material from SARS CoV-2 – the virus that causes COVID-19 – a key step in identifying whether someone is infected.

The kits use AQM's proprietary MagDx™ technology, including magnetic silicon-based nanoparticles that were developed as part of Canada's 'Call to Action' to fight COVID-19. The supply agreement was AQM's first domestic supply contract, which strengthens Alberta's medical supply chain by making it less vulnerable to shortages from international lab suppliers.

> "Although securing Canada's supply chain for this reagent was the ultimate goal, it is great to see that we have stimulated and diversified the Alberta economy at the same time."

Dr. Stacey Hume,
Associate Professor of Medical Genetics at the University of Alberta, and a member of APL's molecular genetics team.

less than five per cent of the Alberta population had acquired antibodies to the virus one year into the pandemic, reinforcing the importance of mass immunization to overcome the disease

In addition to serology testing, a partnership between six of Alberta's health foundations - Calgary Health Foundation, University Hospital Foundation, Alberta Cancer Foundation, Stollery Children's Hospital Foundation, Alberta Children's Hospital Foundation and the Royal Alexandra Hospital Foundation - was established to create a biorepository in Edmonton and Calgary to preserve human COVID-19 samples in the province. The biorepository allows for the long-term preservation of positive COVID-19 samples, giving Alberta's world-class medical-scientific researchers local access to the biological material they need to further study the virus.

APL was integral in safely collecting, cataloguing and storing samples for the biorepository between May 2020 and March 2021. More than 17,000 specimens in Calgary and 24,000 specimens in Edmonton labs were collected, aliquoted and stored with a combined total of more than 50,000 unique sample types stored. In addition, more than 142,000 nasopharyngeal and throat samples positive for COVID-19 have been collected by the Public Health labs.

At the same time, APL's medical-scientific staff undertook significant independent validation of rapid point-of-care (POC) testing systems to determine how to incorporate rapid testing into the provincial COVID-19 testing program most effectively. The systems were deployed across the province at COVID-19 assessment centres, hospital labs, homeless shelters, and in mobile testing units that are visiting congregate living facilities, schools and worksites where outbreaks are suspected. Thousands of rapid tests are also being used to screen staff in all long-term care and supportive living facilities.

The vigilance of APL's genetics experts, who began monitoring the virus's genetic code at the outset of the pandemic, also paid off as highly infectious new strains emerged in various countries towards

On the hunt for COVID-19 mutants

A team of lab scientists and technologists from APL are on the hunt for mutations in the RNA of COVID-19 — looking for alterations in the genetic code.

APL has been actively monitoring the genetic code of SARS-CoV-2, the virus that causes COVID-19, in Alberta since the beginning of the pandemic to understand how it is evolving in our population and to detect the arrival of variant strains from outside the province.

Once the first case of the UK variant was identified on Dec. 25, 2020, work began to develop a in-house tests that could more quickly and easily identify the specific mutations found in that variant and the other 'variants of concern.'

Alberta began screening all positive cases of COVID-19 for the variants of concern in early 2021, and continues to sequence the entire genetic code of hundreds of samples every week.

> "Tracking these variants could be key to whether Alberta's pandemic shows signs of slowing or potentially turning into a third wave."
>
> Sandy Shokopoles,
> APL Lab Scientist.

the end of 2020. APL lab staff confirmed one of the first cases of the Variants of Concern from the United Kingdom in Canada on December 25. They then developed APL's own lab-based tests that are now used to quickly screen all of Alberta's positive cases for mutations associated with all Variants of Concern.

By the end of March 2021, we completed more than 3.5 million tests on 1.9 million people. The success of Alberta's COVID-19 testing program has served as a model for other jurisdictions around the world, and many of the tools put in place are now providing a valuable platform for managing the public immunization program.

AHS Review Initiatives

A comprehensive review of AHS was conducted in 2019 by independent contractor Ernst and Young (EY), which provided recommendations and identified cost savings opportunities to improve the quality and long-term sustainability of the overall health system. Three specific recommendations were made regarding the delivery of laboratory services: 1) explore the closure of underutilized sites; 2) continue to explore the outsourcing of lab services; and 3) improve adherence to test appropriateness. On October 13, 2020, Alberta's government directed AHS to proceed with only a portion of the actions identified in the plan, as the health care system continues to focus on response to the COVID-19 pandemic.

The implementation plan released at that time included proceeding with outsourcing of community lab services. After almost a year of preparation, APL and AHS launched a request for proposals (RFP) in December to find private sector partners to deliver community lab services beginning in April 2022. The RFP closed on Feb. 11, 2021 and evaluation of the proposals is underway, led by a third-party sourcing facilitator. The successful proponents(s) are expected to be chosen in the summer of 2021.

In line with APL's commitment to continuous improvement, APL has identified 17 initiatives to promote appropriate use of laboratory testing, which are essential to the AHS Review recommendations involving clinical appropriateness. These 17 initiatives are at various stages of planning and implementation. In 2020-21, a number of initiatives were also undertaken to promote appropriate testing by working with physicians to avoid ordering unnecessary tests as one method of reducing patient volumes at community collection sites during the pandemic.

Connect Care – Wave 2

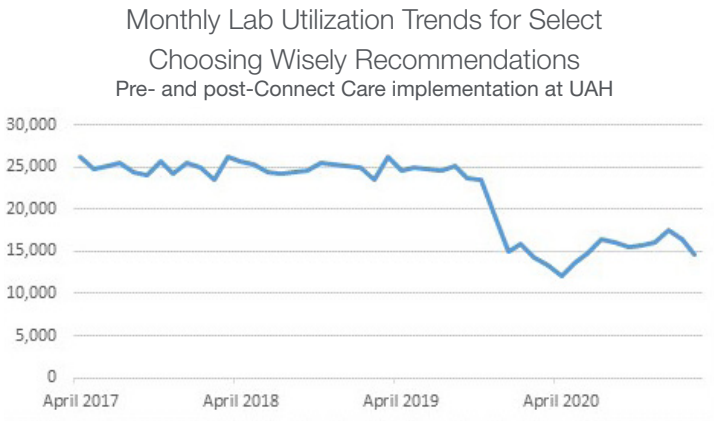
Connect Care is a collaborative effort between the Ministry of Health and AHS staff, clinicians and patients to improve patient experiences and the quality and safety of patient care by creating common clinical standards and processes to manage and share information across the healthcare continuum.

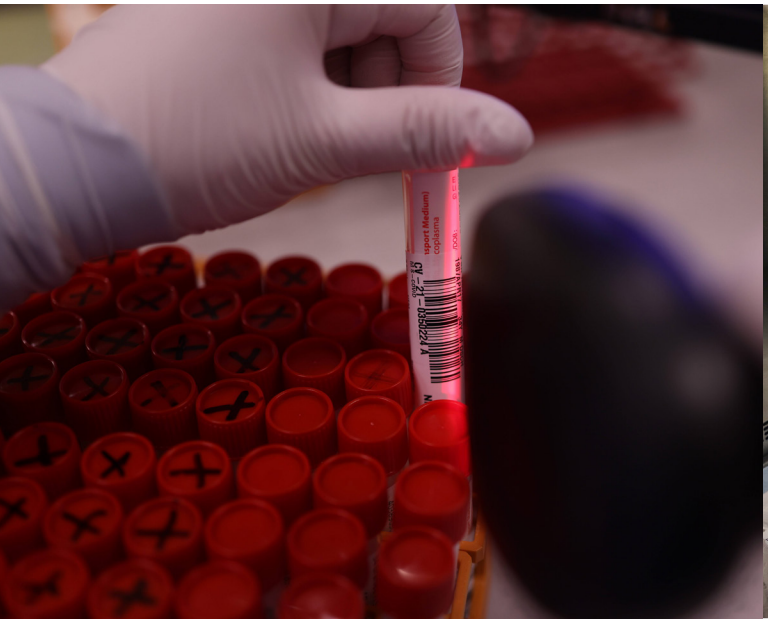
Hundreds of APL staff have been involved in building and testing a single enterprise-wide Laboratory Information System (LIS) based on the Epic Beaker and Wellsky platforms - a foundational step toward integrated laboratory services in the province that will allow laboratory test results to be available to providers faster and be accessible to all Albertans. The transition to the new LIS involves upgrading the legacy Millennium data system with a new system. A significant upgrade to the Millennium system in the Calgary region took place in December, 2020 with minimal impact on lab operations or turnaround times for patient results, thanks to significant work done to prepare for a downtime on the computer system.

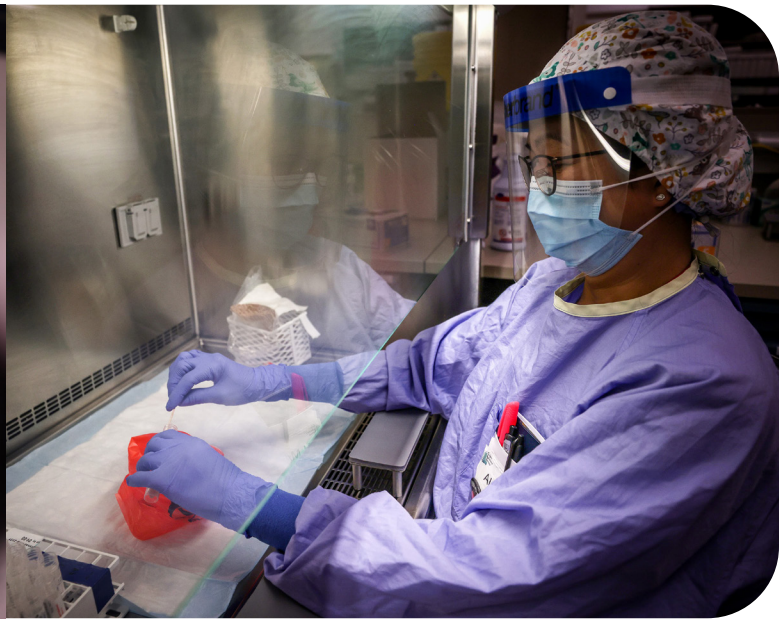
Wave 2 of Connect Care successfully transitioned 10 APL sites in the suburban Edmonton area to the new LIS in November 2020. Wave 3 successfully launched in April 2021, bringing 15 APL sites and three DynaLIFE sites in the western half of the North Zone onto the new system. Wave 3 included Connect Care's largest cohort of rural-based prescribers so far. For the first time, these healthcare providers now have

access to all AHS, partner and affiliate medical records, and all information needed to support care, and patients are able to access their health information through Connect Care's patient portal, MyAHS Connect.

Connect Care implementation is showing tangible benefits related to reducing unnecessary or inappropriate lab test orders. The University of Alberta Hospital (UAH) laboratory included recommendations from Choosing Wisely Canada regarding appropriate lab utilization when it moved to Connect Care in Wave 1 in late 2019. A decrease of approximately 20,000 tests per month was recorded at this site in 2020 following this change, saving an estimated $5,000 per month. Annual savings of $2.2 million are projected through the full implementation of Connect Care in all lab sites.







GOAL 1: Improve Health Outcomes and Patient Experience

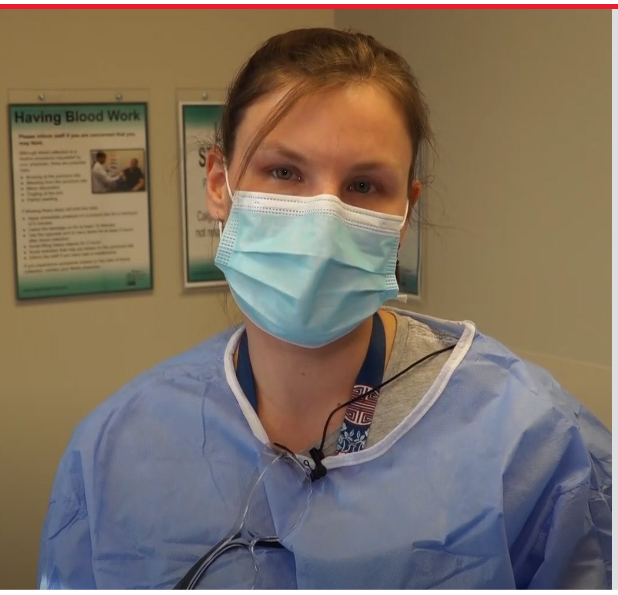
Relaunch of community lab service

The gradual reopening of patient service centres, hospital outpatient labs and rural healthcare centre collection sites resulted in longer than normal wait times for routine lab visits for many Albertans, as extra safety precautions required to meet public health guidelines, along with staffing challenges in some locations, impacted the number of patients that could be seen each day. In addition, several outpatient hospital labs in urban centres have been closed to general community patients in order to reduce outside traffic into acute care facilities during the pandemic.

Initiatives to improve patient flow through increased use of patient appointments, collaborating with physicians to reduce the number of non-essential tests orders, and adding additional indoor waiting room space saw lab capacity return to close to pre-pandemic levels in most communities by early 2021.

Expanding patient access to test results

Albertans are now able to view more lab test results in the Government of Alberta's online My Health Records, the single access point for Albertans' personal health information. Effective February 1, 2021, about 95 per cent of the most commonly ordered (by volume) lab test results became available directly to patients as soon as they are released by the lab. This expansion was made to provide Albertans with more access to their health information, and as an additional safety net for patient care within the system. APL staff worked collaboratively with Alberta Health and AHS to develop and launch the enhanced reporting process. All remaining lab tests, including more complex results in microbiology, pathology and genetics are expected to be available to patients by September 2021.



Providing safe lab service during COVID-19

APL has implemented significant changes in order to meet Public Health guidelines while providing high-quality laboratory services for all Albertans as we respond to the COVID-19 pandemic. In a 'COVID-19 Straight Talks' video produced by AHS, APL medical lab assistant, Maria Van Der Hoek shares an encouraging message about the resilience we've all demonstrated through COVID-19, and explains what patients can expect on their next visit to the lab.

> "COVID-19 has affected every aspect of society and our lives. We will get through this. They did it in 1918 and we'll do it again in 2021."
>
> Maria Van Der Hoek,
> Alberta Precision Laboratories medical lab assistant.

Lynch Syndrome screening

A standardized approach for universal screening of all colorectal cancer cases for Lynch Syndrome was implemented across Alberta, improving identification of patients at high risk for Lynch Syndrome.

BRCA 1/2 testing

New testing protocols were implemented that expand BRCA 1/2 gene testing to identify patients with newly diagnosed tumours who are eligible for Olaparib maintenance therapy, which is funded by the Alberta government. This expanded testing will increase the number of patients who can get a head start on targeted treatment for some forms of ovarian cancer.

Transfusion Service Identification Number (TSIN) system

The introduction of a new provincial Transfusion Service Identification Number (TSIN) system began across the province in a staggered approach over the past year. Coinciding with Connect Care implementation, the TSIN system creates a standardized way to track patients as they move throughout the healthcare system and eliminates the need for testing to be repeated when a patient moves between AHS zones. North Zone (Grande Prairie Area) went live with the provincial TSIN system in June 2020, and Calgary and South Zone sites went live beginning on January 25, 2021. Implementation in the AHS Central Zone is being re-evaluated to align with the updated Connect Care timeline.

Provincial Molecular Pathology Program

An integrated provincial molecular pathology program was launched in 2020 and registered as an accredited program with the College of Physicians and Surgeons of Alberta. The program includes a clear organizational and governance structure, with a framework for decision making that puts patients first and aligns with APL's mission, vision and values. A three-year strategy for the new program aligns with AHS Cancer Care priorities and features integrated service planning and building a culture of learning, continuous improvement, psychological safety, gratitude and celebration.

Biochemical Genetics/Newborn Metabolic Screening

APL's Newborn Metabolic Screening (NMS) program is about healthcare providers working

together with parents and guardians to screen newborns for treatable conditions. Newborn screening in the first three quarters led to diagnosing 41 infants with treatable conditions. Sixteen of these cases were blood sickle cell disease, and hematologists have said that newborn screening has transformed the care of these patients. In addition, two other babies' lives were likely saved after screening positive for the very rare conditions, isovaleric acidemia, and VLCAD.

Improvements to our newborn screening processes over the last year reduced unnecessary repeat testing by 1,800 samples, decreasing instrument operational wear and consumable costs by an estimated $27,000.

The biochemical genetics lab also improved its organic acids testing and consolidated provincial biotinidase testing. For first trimester maternal screening we have implemented results uploading to Netcare and nasal bone measurements to risk assessment.

New Blood Gas Analyzer Provincial Implementation

AHS/APL replaced the entire provincial fleet of benchtop blood gas analyzers in 2020. This fleet consists of 48 Radiometer ABL analyzers (4 in the laboratory, 44 at the point of care) and 53 IL GEM analyzers (15 in the laboratory, 38 at the point of care) that operate in 7 cities and across all five AHS Zones. The project required analytical validation and configuration of each new analyzer, decommissioning of each old analyzer, development of education resources and procedures for both analyzer types, training of hundreds of clinical operators, and building/testing of connectivity into the provincial POCT middleware and Epic. The project was truly multidisciplinary in nature, as it required close collaboration between APL Chemistry, APL POCT, AHS Respiratory Therapy, AHS IT, AHS CPSM, and DynaLIFE. All areas of the province are now successfully using the new fleet.

General Laboratory Requisition

Work advanced in 2020-21 to further implement a standard provincial requisition for general lab work, replacing the multiple requisitions that had existing previously. The new requisition covers the most commonly ordered lab tests from community physicians, offers an additional selection for gender, and aligns provider information with the Connect Care system to ensure lab results are routed to the appropriate destinations following Connect Care implementation. In March 2021, a new online lab requisition generator was launched on the APL website, allowing healthcare providers to create a PDF version of the general requisition, pre-populated with Connect Care identification numbers and other required provider information.

GOAL 2: Improve the Experience and Saftey of Our People

Personal Protective Equipment for COVID-19

Personal Protective Equipment (PPE) is critical to the health and safety of all healthcare workers, as well as the patients to whom we provide service. The proper and appropriate use of all PPE is essential to ensuring that we have and adequate supply of PPE for all providers who need it. The APL Safety Team has worked tirelessly throughout the COVID-19 pandemic in collaboration with AHS Workplace Health and Safety to ensure that all staff requiring PPE have the necessary supplies, especially properly fitting N95 respirators and eye protection. The province experienced unexpected changes in the supply of N95 respirator models due to worldwide demand, requiring both AHS and APL to quickly re-fit staff to alternate models. A total of 2,824 APL staff were fit-tested for N95 full-face and half-face respirators during 2020-21. To date, APL has documented only one confirmed occupational exposure to COVID-19, speaking to the ongoing dedication of APL staff and safety teams to adhere with all PPE, hand hygiene and safety requirements throughout the course of the pandemic.

Health and Safety Manual

In 2020, the APL Safety Team began leading the development of an APL Health and Safety Manual as a key component of APL's Health and Safety Management System that is to be adhered to by all staff. A plan has been developed to transition health and safety documents from former organizations to APL versions where there is legislative or accreditation requirements to have an APL policy/program, and to leverage the programs, policies and processes within AHS Workplace Health and Safety wherever possible. APL ELT approved the APL Health and Safety Policy, and documents linking APL staff to the established AHS Policies and Programs include: Dangerous Work Refusal and Working Alone; Reducing Exposures to Biological Hazards; Formaldehyde and Xylene Exposure; Respectful Workplaces and Prevention of Harassment and Violence; and Transport of Dangerous Goods – General Information (Guideline). These documents link to the comprehensive list of resources available within AHS as a part of the Shared Services Agreement. A comprehensive process for ensuring stakeholder review and consultation has been established to ensure that the legislative requirements have been met.

Other highlights achieved by the APL Safety Team in 2020-21 include:

- Established an APL Transportation of Dangerous Goods program and training module in collaboration with AHS
- Completed 27 local risk assessments
- Established Joint Worksite Health and Safety Committee (JWHSC) for the Diagnostic & Scientific Centre and APL patient service centres, as required by legislation for non-AHS sites
- Transition of majority of laboratory areas to the provincially standardized 3E Safety Data Sheet (SDS) system for management of all chemical SDSs

APL policy development

In recognition of the importance of having APL policies that are consistent and standardized, that are based on best practices, and that support APL's Mission, Vision and Values, a Policy Development and Review Committee (PDRC) was established in 2020-21. The committee was tasked with reviewing and approving new corporate, clinical and medical policies as a Subcommittee of APL ELT. In addition to conducting the review, the committee will also be a key component of ensuring that future APL policies are consolidated to one consistent APL document wherever possible; ensuring that policies are in accordance with APL Corporate Bylaws, legislation and/or AHS policy or accreditation requirements and standards, and that the policies reflect the current organizational priorities.

Since its inauguration in January 2021, the PDRC has already successfully reviewed and approved several APL policies including the Respiratory Code of Practice and Occupational Health documents that included updating the Formaldehyde and Xylene monitoring requirements and policy suite to align with AHS workplace health and safety; a respectful workplaces and prevention of harassment and violence policy; and an updated Transport of Dangerous Goods program.

Province-Wide Pathology Rounds

Medical rounds are a cornerstone of patient care and medical education in training and are critical for exposing generations of trainees to clinical decision making, coordination of care and patient communication. With the pandemic interrupting physicians' ability to conduct these important facets of teaching in person, a virtual solution has developed for province-wide pathology rounds. The first session was held in January 2021 and consisted of four presenters from four different sites for 330 anatomic pathologists, residents, fellows, pathology assistants and pathology assistant trainees invited from across Alberta. The sessions are archived on APL's intranet for additional teaching and learning opportunities.

Transitioning to e-People

By the end of 2020, 95 per cent of APL staff had successfully transitioned to the e-People payroll and human resources management system, bringing greater consistency and functionality for staff and leaders to manage their employment information and approvals. Remaining staff will be transitioned to the system throughout 2021.

GOAL 3: Improve Financial Health and Value for Money

Staff and Discretionary Spending Management

In 2020-21, APL implemented an enhanced vacancy management process to ensure staff vacancies are reviewed by executive leaders to determine if a position should be filled, repurposed or redeployed to other priority areas, or eliminated. Through these processes, APL has been able to effect staffing changes through attrition that minimize job loss, bumping and displacement, while ensuring staffing levels are optimized and positions are utilized appropriately. APL management also endeavored to reduce vacation liabilities of staff by encouraging the use of accrued vacation to the fullest extent possible by March 31, 2021.

In addition, APL sought to reduce organizational discretionary spending in the areas of general supplies, education and workshop expenditures, minor equipment and other sundry expenditures. Restrictions related to COVID-19 partially offset many of these costs, however there was considerable effort across the organization to reduce our discretionary spending for the long-term.

Process Excellence Strategy

During the past year, the APL Provincial Project Management Office's Process Excellence team has developed a strategy to support APL. The vision is to be a centre of excellence leading and supporting continuous improvement in all areas of the organization. This will be realized by developing a strong culture of process excellence through education, expanding capacity and implementing effective structure and process.

Appropriate lab testing

Working with AHS iHOT and Sustainability Program Office, APL has sought to identify, monitor and implement clinical appropriateness items relevant to lab. In the past year, the team has set up solid infrastructure and communication mechanisms, identifying 17 items as being essential to AHS Review recommendations involving clinical appropriateness. Eight have moved from planning and are in various stages of implementation. Two initiatives are in the planning stage. Seven initiatives that are in the early conceptualization stage. Given our current context, prioritizing these items are ongoing. While not fully implemented, financial savings already being realized. One example is the inclusion of Choosing Wisely Canada recommendations into Connect Care is estimated to be achieving approximately $5,000 per month in cost savings at University of Alberta Hospital. Total savings of $2.2 million per year are projected through full Connect Care implementation.

Discontinuation of Microbiology and Endocrinology Testing at Rural Covenant Health Sites

After significant planning and discussion over the last year, APL made the decision to permanently discontinue on-site microbiology testing at Covenant Health hospitals in Banff, Camrose and Vegreville, and endocrinology immunoassay testing in the hospitals in Camrose and Bonnyville. Testing from these sites will be referred to centralized lab facilities in Calgary and Edmonton, consistent with other rural healthcare sites across the province.

The referral of microbiology testing to centralized labs began last spring as part of the provincial response to COVID-19. It has proven to yield several benefits, including enhanced quality and consistency of lab testing, as well as quicker results for clinically important tests, as patient specimens are analyzed using the latest diagnostic equipment and techniques available in urban centres. We expect this to be the case with the referral of endocrinology testing as well, and we are confident that patient care and turnaround times for all test results will continue to meet all provincial standards and targets for health care facilities of similar size and locations.

Chemistry equipment upgrades

Equipment upgrades that will standardize chemistry platforms across the province moved ahead at dozens of APL sites and will continue throughout 2021 and 2022. Four different sets of testing equipment and instrumentation are being installed, bringing greater consistency and efficiency to lab testing work on standardized platforms. The upgrade and standardization of chemistry equipment is yielding greater efficiency and cost savings, with savings expected to grow as more installations are complete.

Limiting Thrombophilia Testing

In late 2019 key stakeholders determined that testing for inherited thrombophilia has limited utility outside of specific clinical circumstances that are best evaluated by thrombophilia experts, and such testing should be significantly limited in Alberta. Beginning in April 1, 2020, test orders for Factor V Leiden, activated protein C resistance, prothrombin gene mutation, protein C level, and protein S level were limited to an authorized list of ordering providers in the province of Alberta for patients over 18 months of age Since the development and distribution of the list, which limits the inappropriate ordering by non-experts, prior to (or in parallel with) sending patient for consult with thrombosis specialists, there has been an approximately 80 per cent reduction in inappropriate testing for inherited thrombophilia.

GOAL 4: Improve the Influence of Laboratory Medicine in the Health System

Accreditation

Many accreditation inspections were delayed or conducted virtually in 2020-21 due to the pandemic. Despite these challenges, APL continued to show a strong commitment to quality standards. Eighteen APL North Zone sites were assessed by CPSA assessed in October 2020, while 12 sites originally scheduled to be assessed in 2020 will be assessed in June 2021. The University of Alberta Hospital's Transfusion Medicine Laboratory underwent virtual AABB inspection in December 2020, and post-assessment processes are underway.

Out of 127 APL laboratory sites, 119 have full CPSA accreditation, while the remaining eight sites having provisional accreditation. University of Alberta Hospital and Calgary Diagnostic & Scientific Centre Histocompatibility Labs received ASHI accreditation following inspections conducted in 2020.

Communications and Engagement Strategy

Adding the Director of Communications and Engagement to APL's executive leadership team ensures APL's reputation and relationships with stakeholders is integrated into business strategy and planning. A communications and advocacy strategy has been developed to frequently and consistently promote APL's story and engage key audiences including government and elected officials, staff, public and patient advocacy groups, medical associations, mainstream and social media. The launch of an APL-specific external website serves as a single entry point for patients and external clients exploring research and development, as well as referral and third-party testing partnerships with APL.

Research and Innovation Strategy

Further advancing its research and innovation strategy, APL has harmonized its processes for entering research and innovation partnerships and accessing safely biorepositories and health data as part of such partnerships. Over the last year, numerous partnerships have been advanced by APL, contributing to health research and innovation, and economic diversification in Alberta. This strategy will be further pursued and expanded at the provincial and national levels by partnering with private lab services providers, academic institutions, as well as local and global commercial entities in the area of laboratory diagnostics.

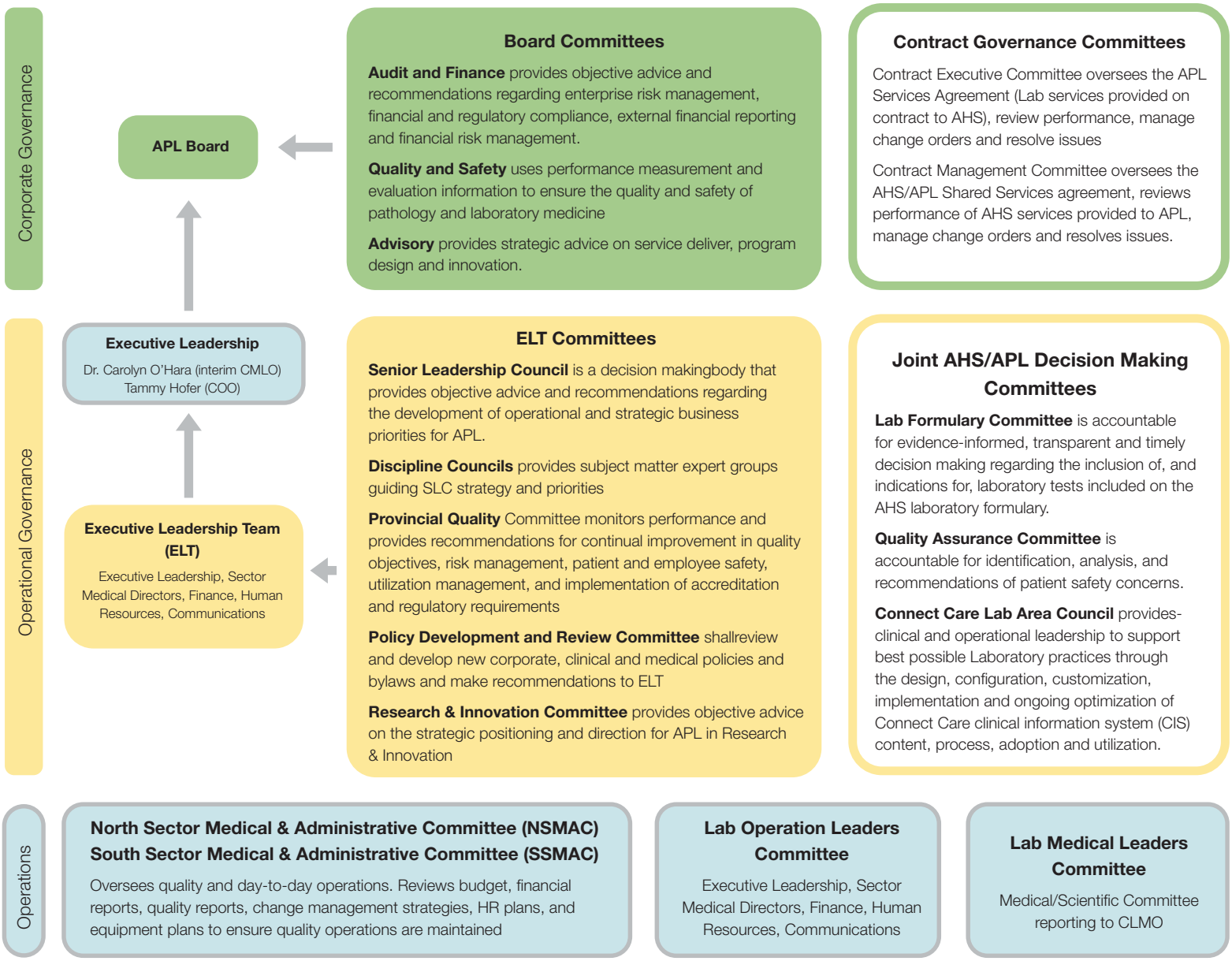
Each year, APL seeks to supplement its research and operational activities by applying for and participating in research grant competitions. Among other things, securing research grants provides resources for extra project work to improve patient care and safety, and brings prestige for the recipients and APL as an organization. In 2020-21, APL researchers in Calgary and Edmonton (in partnership with Alberta universities) secured more than $9 million in funding from federal grant competitions for COVID-19-related research.

APL's Microbiology department also received grants from Genome Canada, the University of Calgary and the Canadian Institutes of Health Research for an $11 million project to automate the identification of pathogens and suggest treatment guidelines as part of its ongoing work in precision infection management and population health.

Next Steps

Moving into Q1 2021, much of our focus will be on the potential transition of community lab services to private-sector provider(s) by the end of Q4 2022, ensuring that patient safety and service quality are maintained and enhanced while minimizing potential impact on staff. APL's Business Plan houses 27 priority initiatives and 16 strategic objectives under our four Strategic Goals. APL continues to work with AHS to identify, design, and validate transformational opportunities for laboratory medicine. These opportunities, in addition to continued, Connect Care implementation and our COVID-19 response, will drive decision making and the strategic management of the Business Plan. While instability and potential for significant change still exist for laboratory services in Alberta, APL knows that Albertans continue to expect the very best from their health care system, and our people are ready to deliver.

Appendix A: APL's Corporate Governance, Operational Governance, and Operational Committee structure



Appendix B: Key Performance Indicators

APL continues to collaborate with key system stakeholders, including Albertans, Alberta Health Services and other organizations to make progress on joint measures to monitor care and service delivery to all Albertans. These metrics will be adjusted as necessary to reflect this.

In 2020-21, APL achieved performance targets on all metrics for which targets exist, with the exception of turnaround times for Anatomical Pathology level IV surgical tests. All sites are achieving targets with the exception of those in the Calgary zone, where pandemic-related challenges recruiting medical and technical staff are affecting overall Anatomical Pathology level IV turnaround times. Site-level process improvement initiatives and recruitment for medical and technical vacancies are underway to address this.

Metric	Measure	Target	2020-21 FY	Actual vs. Target
Goal 1: Improve Health Outcomes and Patient Experience				
Blood Culture Contamination Rate	% of contaminated blood vials vs. the total number of blood culture collections.	<3%	1.4%	✓
Critical Value Reporting*. Time to communicate critical results to a physician that require clinical action.	% within 15 minutes	90%	98%	✓
Patient Wait Times (PWT) for patients having specimens collected at outpatient or community sites.	Time from patient arrival to initiation of phlebotomy for 80% of patients.	30 minutes	25 minutes	✓
	Time from patient arrival to initiation of phlebotomy for 90% of patients.	60 minutes	37 minutes	✓
Turnaround Time (TAT): Anatomical Pathology level IV surgicals.	Time from receipt in laboratory to report being issued for 90% of level IV surgical pathology samples.	4 working days	11.9 working days	✗
Turnaround Times (TAT) Intra- operative Consult Results.	% within 20 minutes for single block intra-operative consult results/ diagnoses reported to the clinician.	90%	93%	✓
Turnaround Time (TAT) for urgent general chemistry and hematology tests for emergency department or urgent care patients.	Time from sample collection to result available for 90% of samples.	90 minutes	78 minutes	✓
Turnaround Time (TAT) for urgent general chemistry and hematology tests for admitted patients.	Time from sample collection to result available for 90% of samples.	120 minutes	95 minutes	✓
Turnaround Time (TAT) for urgent general chemistry and hematology tests for outpatient/community patients.	Time from sample collection to result available for 90% of samples.	240 / 480 minutes	137 minutes	✓
Turnaround Time (TAT) for non-urgent general chemistry and hematology tests for outpatient/community patients.	Time from sample collection to result available for 90% of samples.	720 / 1,440 minutes	396 minutes	✓
Goal 2: Improve the Experience and Safety of Our People				
Disabling Injury Count	Total # of claims for disabling injury.	n/a	117	
Hand Hygiene Compliance	% compliance of hand hygiene during the course of patient care	90%	95%	✓
Proficiency Testing	% of acceptable external proficiency testing results	95%	99%	✓
Sick Rate	Average # of paid sick days per FTE in a year.	n/a	11.7	
Vacancy Rate	Total number of unique vacant positions relative to the unique active positions expressed as a per centage	n/a	9.58%	
Voluntary termination	Count of employees who have voluntarily terminated as a % of the headcount.	n/a	4.1%	
Goal 3: Improve Financial Health and Value for Money				
Administrative cost	% of administrative costs as part of total expenses.	3.3%	1.03%	✓
Goal 4: Improve the Influence of Laboratory Medicine in Health System				
Clinical trials	Count of clinical trials lab has participated in.	n/a	1,784	

* Only collected in Calgary