

C L N

Clinical Laboratory News

IMPROVING ACCESS

87%

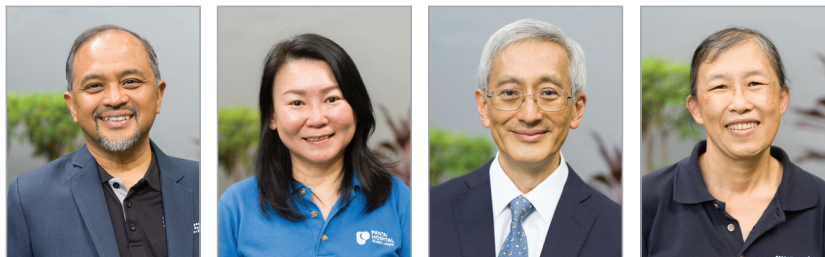
Percentage of people who tested more often for STBBIs with GetCheckedOnline

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2024 UNIVANTS Winning Initiatives demonstrate benefits of collaboration

BY KIMBERLY SCOTT



Integrated care delivery teams across the world are making a significant and measurable impact on patient outcomes by evolving to be more integrated, more patient-centric, and more ambitious with their use of data. Moreover, laboratory medicine professionals are leveraging their unique position at the intersection of technology and patient care to ensure that collaborations with clinicians, administrators, and other healthcare professionals can scale to meet population-level health problems.

Three interdisciplinary teams have been recognized by the Association for Diagnostics & Laboratory Medicine (ADLM, formerly AACC), Abbott, and other leading healthcare organizations through the UNIVANTS of Healthcare Excellence awards program as top performers in collaborating across disciplines to transform healthcare delivery. The prestigious UNIVANTS of Healthcare Excellence award program recognizes teams that UNITE across disciplines to achieve common goals, challenge

GetCheckedOnline

240

The approximate number of people who test positive for some type of STI each month through testing with GCO.

22%

Increase in STI testing through GCO compared to testing at the Provincial STI Clinic at British Columbia CDC.



52%

Percentage of people who found it hard to get tested for an STI by a healthcare provider when they needed testing.

87%

Percentage of people testing through the online service that say they test earlier and more often than they would if they were testing through a regular clinic or healthcare provider

traditional thought with AVANT-GARDE problem-solving and novel use of laboratory data, and achieve better outcomes for patients, clinicians, payers, and entire health-care systems.

The initiatives profiled below span efforts to combat barriers to screening for sexually transmitted infections, improve early identification of liver disease, and deliver treatments for people with high levels of low-density lipoprotein-cholesterol. They have all achieved measurable benefits within their healthcare systems and have been selected as the 2024 top global winners of the UNIVANTS of Healthcare Excellence awards.

BETTER ACCESS TO TESTING FOR SEXUALLY TRANSMITTED INFECTIONS

As in many other countries, in Canada sexually transmitted and blood-borne infection (STBBI) are a resurging public health concern. They can have profound health consequences, yet with treatment, most are curable or manageable. According to the Public Health Agency of Canada, between 2014 and 2018, rates of chlamydia increased by 18%, gonorrhea by 110%, and infectious syphilis by 151%.

To combat these barriers and increase access to screening for STBBI, the Provincial Health Services Authority (PHSA) in British Columbia (BC), Canada, gathered resources for a novel approach and developed a program called GetCheckedOnline (GCO).

In many British Columbia communities, testing services are either unavailable, not available at convenient times, or have long waits for appointments, explained Mark Gilbert, MD, a public health physician and applied public health chair. Closures of sexual health and STI clinics further contribute to this

service gap. GCO enables access and helps reduce patient anxiety about getting tested for STBBIs in a timely manner.

GCO, a publicly funded, web-based service, is designed to increase the uptake and frequency of testing for STBBI, reach people at higher risk of infection who face barriers to existing testing services, and reduce demands on community and public health providers.

To use the service, patients create an account and obtain a lab requisition on the GetCheckedOnline.com website. They then bring their requisition on a mobile device to a participating laboratory location (provided by LifeLabs, a private laboratory company) for specimen collection. With GCO, most LifeLabs locations offer walk-in or same day/next day appointments.

Tests offered through GCO include HIV, syphilis, chlamydia, gonorrhea, and hepatitis C, with all diagnostic testing conducted by the BC Public Health Laboratory (BC PHL). The website also recommends certain tests based on patient answers to an online risk assessment.

GCO is free and protects patient confidentiality. “This gives people the opportunity to get an STI test without seeing a healthcare provider,” Gilbert said. “It allows us to reach populations with high STI rates or where it may be difficult to get testing, such as in rural areas.”

GCO is also an important resource for equity seeking populations. In a recent survey of people who live outside of Metro Vancouver who tested through GCO, 5% identified as Indigenous, 5% identified as transgender, and more than 50% had a sexual identity other than heterosexual. About 22% of patients reported never having previously tested for STBBI before when they used GCO for the first time.

Based on recent data, 3,000 people use GCO each month, and 6% test positive for some type of STBBI. Patients who are positive are instructed to call the Provincial STBBI Clinic to speak to a nurse. Treatment is managed either through the clinic or through a community treatment referral network.

GCO launched in Vancouver, BC, in 2014 and has expanded to seven additional communities across British Columbia since then. Use of GCO, and requests to expand the service, continue to increase with time, with at least one new community to be added in 2024, Gilbert said.

GCO is operated by the BC Centre for Disease Control (BCCDC) in partnership with the BC PHL, Provincial Laboratory Medicine Services (PLMS), LifeLabs, and participating Regional Health Authorities. The service follows STBBI testing guidelines and best practices used by the clinic and the BC PHL. A single ordering provider for all GCO tests ensures that GCO patients, regardless of geographic location, are connected to treatment, follow-up care, education, and partner notification through specialized STBBI clinicians at the BCCDC.

This innovative program has led to increased engagement in STBBI testing among residents of British Columbia. They found that 87% of people testing through the online service say that they test earlier and more often than they would otherwise. This corresponds to a 22% higher frequency of testing compared to patients attending the Provincial STBBI Clinic at BCCDC..

Patient surveys also demonstrate the significant gap the program addresses. In a 2022 survey of regular GCO users, many reported that they found it hard to get tested through a clinic or healthcare provider. Furthermore, 11% reported they would not have tested if GCO

had not been available the last time they needed to test for a STBBI, 32% did not have a usual place they were comfortable going to get tested by a healthcare provider, 33% did not have a family doctor or nurse practitioner, and 52% found it hard to get tested by a healthcare provider when they needed to get tested.

Increased testing among patients who report high risk behaviors suggests GCO can lead to earlier diagnosis of infection and treatment. Testing uptake and frequency also helps patients avoid transmitting infections to sexual partners. Taken together, the program can improve quality of life for the population by avoiding illness from delayed or deferred diagnoses.

GCO is also an efficient use of resources, as many clients have enough experience with testing that they do not need clinician help with routine testing, freeing up clinicians' time for patients with more complex or urgent needs.

For patients, GCO also tackles the financial barriers associated with accessing STBBI testing, Gilbert noted. This is especially relevant outside of urban areas, where travel distances and times can be lengthy and expensive. Reducing cost and improving access also supports health equity.

Overall, GCO demonstrates how an integrated team can improve healthcare at the population level, by not only targeting barriers to care but delivering that care in a truly patient-centered way.

“Designed via an extensive consultation process, using a patient-centered, equity-focused approach, GCO represents a scalable way to address barriers that people face in accessing traditional testing services,” explained Craig Ivany, chief diagnostics officer, Provincial Laboratory Medicine Services. “The development and implementation of GCO

Early diagnosis of metabolic Dysfunction-associated steatotic liver disease

533,636

Number of patients screened for liver disease using FIB-4 as of March 2024.

1.2%

Percentage of patients determined to be at high-risk for MASLD.



\$1.97 Million

Annual cost savings resulting from early diagnosis of MASLD using FIB-4 (about 9.3 million Malaysian Ringgit).

71%

Percentage of responding clinicians who said FIB-4 is their preferred method of monitoring liver disease.

illustrates the innovation that is possible when a collaborative group of health system partners work together to address public health priorities.”

EARLY DIAGNOSIS OF METABOLIC DYSFUNCTION-ASSOCIATED STEATOTIC LIVER DISEASE

Metabolic dysfunction-associated steatotic liver disease (MASLD) is a silent epidemic that can lead to metabolic dysfunction-associated steatohepatitis (MASH), cirrhosis, hepatocellular carcinoma (HCC), and end-stage liver disease (ESLD). Research has shown that early identification of liver disease can minimize morbidity and mortality, but such early identification often can be difficult.

To combat liver disease among Malaysians, Premier Integrated Labs in Malaysia implemented an early screening program, powered by an automated clinical scoring system called Fibrosis-4 (FIB-4). The scoring system grades liver fibrosis to identify high-risk patients early to enable early intervention and lifestyle modifications. In contrast to other non-invasive options, such as FibroScan, which can be cost prohibitive and/or have limited access, FIB-4 relies on blood tests already performed routinely in primary care. The formula uses age, alanine aminotransferase, aspartate aminotransferase, and platelet count. A FIB-4 score less than 1.3 indicates low risk, a score of 1.3 – 2.67 indicates medium risk, and a score of greater than 2.67, high risk. In addition, studies have found that FIB-4 has a sensitivity of 82.6% and a specificity of 54.5%. In fact, based on the strength of the evidence, the American Gastroenterological Association developed a clinical care pathway for screening, diagnosing, and treating MASLD in primary care that includes FIB-4.

Premier Integrated Labs in Malaysia began using FIB-4 to screen for liver disease in July 2022 and has since screened 533,636 patients as of March 2024. Of these, 9,072 (1.2%) patients were determined to be at high-risk of MASLD, while 68,305 (12.8%) patients were classified as moderate risk and 456,259 (85.5%) were classified as low risk. Patients at low risk do not require further referral.

“We incorporate the FIB-4 calculation into our test profile that contain the liver enzymes and platelets automatically,” said Hareeff Muhammed, CEO of Premier Integrated Labs. “With the FIB-4 results being automatically incorporated into the health screening profile report, it assists the doctors to prioritize risk stratification of patients who might need further investigation.”

Patients identified as high- or moderate-risk for MASLD are triaged for additional interventions and/or investigations, as needed. Through this process, patients have reported enhanced experiences, reduced hospital stay, and decreased workday absenteeism.

“This screening initiative assists in early detection of patients with steatotic liver disease and identifies liver fibrosis early,” Hareeff explained. “Early detection is crucial because liver fibrosis is a silent disease that often progresses without symptoms until later stages. Catching fibrosis early allows interventions that can slow or even reverse scarring of the liver. In broader scope, this initiative helps identify a wider pool of people with early fibrosis who might not have sought medical attention. Early intervention can help improve patient outcomes and avoid the need for more expensive treatments that are required for advanced liver disease.”

Through FIB-4-guided early follow-up and intervention, patient outcomes have improved significantly, including improved wellness. Premier Integrated Labs also reported that FIB-4 has enhanced clinical decision-making, reaching 74% utilization across family physicians. This improvement in utilization ultimately lowers overall healthcare costs by reducing the need for additional investigations, such as elastography through FibroScan, which is not only expensive ([550 Malaysian Ringgits per scan (about \$117)], but is only available in three hospitals across the entire country. In contrast, FIB-4 guided early intervention uses easily available tests, enabling an annual costs savings at 9.3 million Malaysian Ringgit (\$1.97 million USD) associated with screening costs alone.

Physicians also indicated high levels of confidence in using FIB-4 to inform their clinical decision-making related to liver disease management. In a survey of family physicians, 64% of responding clinicians reported that they found FIB-4 to be accurate in ruling out advanced fibrosis and 71% indicated that FIB-4 was their preferred method for monitoring liver disease.

“The significance of FIB-4 in identifying high-risk patients lies in its potential to enable early intervention, provide precision in patient management, optimize resource allocation, improve quality of life and contribute to cost savings in the healthcare system,” Hareeff emphasized.

In addition, implementing FIB-4 in routine testing in Malaysia enhances the department’s reputation—critical for enabling future collaborations that address important population health initiatives. With documented improvement on patient care, better patient engagement, administrative efficiency, and

cost-effectiveness, FIB-4 demonstrates how successful an integrated strategy can be.

“As FIB-4 is non-invasive, it can be easily integrated into existing healthcare systems without the need for extensive infrastructure or specialized expertise,” Hareeff noted. “This inherent simplicity allows its applicability to diverse population sizes and healthcare settings.”

Laboratory know-how is essential for the precision and reliability of FIB-4 results, underscoring its essential role in the diagnostic process, Hareeff noted. Moreover, the intensive collaboration and coordination with hospital administration, hepatologists, endocrinologists, and primary care physicians dramatically amplified the effect on patient care. This initiative illustrates how integrated teams multiply the expertise of their disciplines to effect significant care improvements at the population level.

IMPROVED MANAGEMENT OF PATIENTS WITH HIGH LDL-C

Cardiovascular disease (CVD) has been a leading cause of mortality of Americans since 1950. With an aging population, increasing obesity, and other population trends, researchers from the American Heart Association now predict that as many as 60% of American adults will have some form of CVD by 2050. More than ever, healthcare organizations need to find ways to ensure access to effective testing and treatment.

A program implemented by Kaiser Permanente Southern California (KPSC) to improve management of patients with high LDL cholesterol (LDL-C) has led to significant health improvements, marked by decreases in LDL-C levels at or above 190 mg/dL, thereby reducing their risk for severe cardiovascular events. The High LDL-C

Improved management of patients with high LDL-C

4.8 million

Number of KPSC members whose electronic health records were screened through the Statin Start SureNet program.

21%

Percentage of patients who lowered their LDL-C after implementation of Statin Start SureNet compared to before.



36%

Increase in patients who received high-intensity statin orders.

41%

Increase in patients who completed a follow-up cholesterol lab test under SureNet

Statin Start SureNet program builds on an initiative started by Kaiser Permanent in 2009 – SureNet – that uses electronic surveillance to identify patients with gaps in care.

KPSC researchers found that high-intensity statins were underutilized among KP members with LDL-C levels at or above 190 mg/dL, even though these statins have proven effective in reducing LDL-C and cardiovascular disease risk. In April 2019, KPSC, an integrated healthcare delivery system with more than 4.8 million members, implemented the High LDL-C Statin Start SureNet program. The initiative scans electronic health records using specialized algorithms to find adults with recent LDL-C lab results at or above 190 mg/dL who have not had any statin orders filled in the past 2 – 6 months.

The program automatically generates high-intensity statin orders and lipid panel testing for primary care provider approval and alerts them of the pending orders. Once the providers approve an order, KPSC sends a letter to the patients notifying them that they need to pick up their statin medication and complete a lab follow-up.

“The good thing about having this program is that it creates a safety net to reduce patient care gaps, to get people who might have slipped through the cracks and improve their overall care experience,” said Matthew Mefford, PhD, a research scientist in KPSC’s Department of Research & Evaluation.

Researchers with the KPSC’s Department of Research & Evaluation, in collaboration with leadership from the SureNet program and leaders from laboratory medicine, pharmacy, and cholesterol/CVD risk management, studied whether the SureNet program improved statin initiation and lab completions. They also administered

qualitative surveys to gauge provider and patient experiences of the program. The SureNet program improved the receipt of high-intensity statin orders by 36%, with patients 32% more likely to fill their statins, 41% more likely to complete a follow-up cholesterol lab test, and 21% more likely to lower their LDL-C after implementation compared with before implementation.

In addition, there was a 23% absolute improvement in the number of patients receiving guideline-appropriate care for their very high cholesterol, mitigating potential future burden to the health system based on the two-to-five-fold higher risk of CVD in patients with elevated LDL-C.

Patients reported it was useful having electronic outreach about medications and lab testing and suggested increasing the frequency of reminders to improve effectiveness. Clinicians also found the program beneficial and reported that it did not substantially increase their workload, Mefford noted.

The automation of pending lab and pharmacy orders made it easier for clinicians because the design of the program required minimal time and effort from them, Mefford explained. An added benefit is clinicians feel they have a backup system for an important, and sometimes overlooked clinical condition, thus helping to protect them from potential errors of omission.

“It’s easy to keep the program going because it’s passive surveillance,” Mefford said. “It works in tandem with physicians, so it’s not overburdening them with messages and prompts.” Mefford added that he believes the program is translatable and scalable to many health systems.

The clinical laboratory plays a key part in KPSC’s High LDL-C Statin Start SureNet program, according to Michael Kanter, professor and chair

of Clinical Science at the Kaiser Permanent Bernard J. Tyson School of Medicine. “The program leverages the clinical laboratory in an integrated healthcare delivery system to improve the diagnosis and treatment of hypercholesterolemia while using minimal resources,” he commented, adding that the rate of underdiagnosis of lipid disorders went from 5% before start of the program to 0% after implementation.

Mefford underscored the fact that improving guideline-appropriate cholesterol treatment mitigates the risk of developing new or recurrent cardiovascular diseases. This in turn reduces preventable hospitalizations, minimizing future costs to patients and potential burden to the healthcare system. Adults with LDL-C levels at or above 190 mg/dL have a two and half times higher risk for acute cardiovascular disease events compared with adults with LDL-C level less than 130 mg/dL.


“Overall, lowering LDL-C is important for improving patients’ cardiometabolic health and lowering the risk of new or recurrent cardiovascular disease events,” Mefford said. “This reduces the strain on patients, care providers, and hospitals by reducing the likelihood a patient will end up hospitalized for CVD.”

Like the other winning initiatives, KPSC successfully showed that strategic integration of data analytics and laboratory medicine, and close partnership with pharmacy, specialist physicians, and others, elevates a health system’s capacity to measurably improve care.

TRANSFORMING CARE FROM WITHIN

Each of these initiatives demonstrates how leaders can rise within cross-disciplinary teams to improve patient care and outcomes. Laboratory medicine professionals are increasingly leading and

collaborating to implement initiatives that diagnose health conditions earlier, enabling timely treatment, reduced mortality and morbidity, and building a more equitable and effective healthcare system. As evidenced by the UNIVANTS 2024 winners, interdisciplinary teams have led by example with integrated, patient-focused teamwork that can solve problems and benefit entire populations.

To learn more about the UNIVANTS of Healthcare Excellence award program, go to UnivantsHCE.com. 

UNIVANTS 2024 TEAMS RECOGNIZED IN THIS ISSUE

In a time where healthcare is ever-evolving, integrated teams are at the forefront. The UNIVANTS of Healthcare Excellence award program illuminates the exceptional teams that are transforming the landscape of medical practice. The 2024 winners have highlighted the power of extraordinary innovation. Moreover, they have demonstrated that collaboration combined with patient-centered strategies can enable measurably better results.

**BC Centre
for Disease
Control
Vancouver,
British
Columbia,
Canada**

Devon Haag,
Meghan
McLennan,
Garth
Graham,
Mark Gilbert,
Susie van
der Valk

**Premier
Integrated
Labs
Kuala
Lumpur,
Malaysia**

Yoke Lee
Low, Hareeff
Muhammed,
Leslie
Charles, Lai
Chin Loy,
Mun Yee,
Evonne Kong

**Kaiser
Permanente
Southern
California
Pasadena,
California,
United States**

Matthew
Mefford,
Michael
Kanter,
Ronald Scott,
Kristi
Reynolds,
Tracy Imley

Premier Integrated Labs Sdn Bhd

Early detection of metabolic-
dysfunction associated steatotic
liver disease using FIB-4

British Columbia Centre for Disease Control

GetCheckedOnline: Better access
to testing for sexually-transmitted
and blood-borne infections

Kaiser Permanente Southern California

Improved management of patients with
high LDL-C through electronic
health record-directed algorithms for
guideline-concordant high-intensity
statin prescribing



CONGRATULATIONS TO THE 2024 WINNERS

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Jewish Hospital, and St. Louis Children's Hospital
Esculab
University Hospital of Wales

RECOGNITION OF ACHIEVEMENT

Klinikum Lüneburg
The University of Kansas Health System
Southwest Transplant Alliance
Institute for Cardiovascular Prevention and Rehabilitation
Emergency Clinical County Hospital Targu Mures
Huashan Hospital Fudan University



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