



# LEVERAGE THE LAB FOR A HIGHER PERFORMING HEALTH SYSTEM **EARLY DISEASE DETECTION**

## **IT'S A CHALLENGING TIME FOR HEALTH SYSTEMS AND LABORATORIES.**

Even before the pandemic, a sustained rise in chronic illnesses, increased consumer access to healthcare, and new testing methodologies were driving laboratories to be more agile in adjusting to new operational demands. Laboratories worldwide are struggling to meet staffing needs, while changes in reimbursement and shrinking budgets continue to drive health systems and laboratories to reduce costs. What this all adds up to is that health systems are being challenged to do more with less.

Through our work with laboratories and health systems around the world, Abbott has gained valuable insights about how to improve lab value – even in today’s increasingly complex healthcare environment. Looking beyond the current healthcare challenges, growth opportunities exist.

Maximizing these opportunities begins with evolving the role of the laboratory beyond traditional performance measures such as throughput, turnaround time and variable cost per test. Forward-thinking health systems are taking a holistic view of the total value a laboratory can bring to the healthcare equation.

“Forward-thinking health systems are taking a holistic view of the total value a laboratory can bring to the healthcare equation.”

## THE HEALTHCARE LANDSCAPE IS EVOLVING



Greater information access



Hospital consolidation



Reimbursement cuts squeezing budgets



Increasing patient volumes



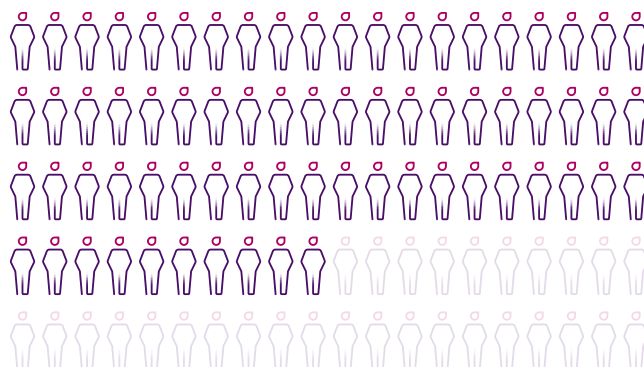
Staffing shortages



New payor models

WHEN LEVERAGED CORRECTLY, THE CLINICAL LABORATORY CAN GREATLY ASSIST HEALTHCARE SYSTEMS IN ACHIEVING **OPERATIONAL EFFICIENCY** AND **INTEGRATED CLINICAL CARE EXCELLENCE**.

In fact, **70% of hospital executives** interviewed in a survey expressed their belief that the laboratory can have a significant impact on patient satisfaction.<sup>1</sup>



# OPERATIONAL EXCELLENCE & INTEGRATED CLINICAL CARE

Your roadmap to better health system performance starts here – with our whole picture perspective on maximizing health system performance.

## CORE COMPETENCIES

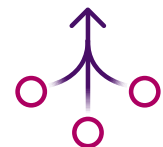
### OPERATIONAL EXCELLENCE



The performance of your people, processes and technology to successfully deliver services.

- **Customer Centricity** – How well you know and serve your customers.
- **Quality Management** – Highest performance at lowest errors.
- **Performance Management** – Doing the right things and doing things right. Efficiency and effectiveness.
- **Network Optimization** – How efficiently you are leveraging the synergies and economies of scale across the system.

### INTEGRATED CLINICAL CARE



The level of alignment and execution across your health system stakeholders to deliver improved clinical care outcomes.

- **Analytics Center** – How easy it is for you to access, share and utilize data for integrated care.
- **Execution of Integrated Care** – How effective you are at implementing an integrated approach.
- **Advice Center** – How effective you are at leveraging data and people to deliver actionable insights for decision making.
- **Population Health Management** – The level of integration across your stakeholders to provide preventative care and deliver improved population and financial outcomes.

## FOUNDATIONAL COMPETENCIES



- **Sustainability**  
How well you use systems to ensure long-term sustainability and drive shareholder value.

- **Innovation**  
Your organization's appetite to implement change (leveraging people, processes and technology) to evolve and improve your performance.

## ENHANCING LABORATORY PERFORMANCE AND VALUE

# FOUR KEY FOCUS AREAS

Today there is more pressure on laboratories than ever before. Delivering on-time, accurate results to physicians is no longer enough to remain viable. Laboratories must not only contribute to positive patient outcomes at the lowest possible cost, but they must also deliver value above and beyond the laboratory's traditional scope of work. Through the exploration of four focus areas:

**Patient Care Pathways, Early Disease Detection, Human Resources & Staffing and Cost Savings,** a strategic roadmap can be developed to achieve operational excellence and heighten the level of clinical care across your health system.



Patient Care Pathways



Early Disease Detection



Human Resources & Staffing



Cost Savings

# EARLY DISEASE DETECTION

Combining proven solutions with multi-disciplinary partnerships and programs to enable efficient identification of undiagnosed patients.



## MARKET DATA/TRENDS

Across the globe, healthcare systems continue to struggle with financial sustainability:



Approximately 40% of people who are living with HCV **do not know they are infected**,<sup>2</sup> and 19% of HIV positive individuals are also **unaware of their status**.<sup>3</sup>



In the United States, 1.2 million people are living with HIV. Of these, **14% are unaware of their condition**<sup>4</sup> and therefore at a much higher risk of transmitting the disease to others.



Nearly 75% of people living with HIV who report a history of injection drug use are **co-infected with HCV**.<sup>4</sup>

## Why This Matters

- Identifying individuals with unknown disease while successfully enabling treatment is essential for disease containment and prevention.

Per the FDA, treatments today for HCV have cure rates between

**90%-100%** in just 12 weeks' time<sup>5</sup>

Data published by the CDC shows that 59.8% of those receiving HIV medical care can achieve viral suppression for those

**≥ 13 years**<sup>6</sup>

- Lack of disease awareness and access to appropriate care can significantly impact timely treatment and ultimately lead to **disease spread, high morbidity and even mortality**.
- Early identification of disease conditions coupled with active education can **enhance patient disease awareness** while **identifying new individuals with undetected disease**.

## CASE STUDY OUTCOMES

As demonstrated in a case study from the University of Alabama,

**opt-out programs can support the identification of undiagnosed patients.**<sup>7</sup>



Patients are surveyed in ED with the option not to be tested. For those that do not decline, an HCV and HIV test are performed.

Hepatitis C Virus (HCV) and Human Immunodeficiency Virus (HIV) are underdiagnosed and untreated chronic diseases in that population. Globally, **an estimated 71 million people have chronic HCV**<sup>8</sup> and **38 million have HIV**,<sup>9</sup> **representing major public health burdens**. Lack of disease awareness and access to appropriate care can significantly impact timely treatment and ultimately lead to disease spread, high morbidity and even mortality.



An integrated clinical care team at the University of Alabama at Birmingham (UAB) Hospital sought to change this paradigm by enhancing identification and care for patients with undetected HCV and HIV. The team developed and implemented an **opt-out screening program** within the ED, coupled with **disease-specific care linkage services**.

## CASE STUDY OUTCOMES



Active education and physician-level endorsement led to an increased uptake in population screening, resulting in the identification of **2,349 HCV RNA+ individuals and 195 individuals with newly diagnosed HIV infections**.<sup>7</sup>

Dedicated care coordinators facilitated enhanced patient engagement and ensured sustained linkage to care with routine consultation and subsequent confirmation as appropriate. In addition, **99 known HCV positive individuals previously identified by HCV antibody testing were re-engaged for care**.<sup>7</sup>



Implementation of the care coordination and improved access to HCV providers led to a **91%** reduction in the average days between testing and initial medical appointments enabling rapid treatment and reducing overall healthcare costs.<sup>7</sup>

## Success Factor: Avoid Biotin Interference For Immunoassays

Biotin sales in the United States climbed to \$547 million in 2020, a 15% increase over prior year.<sup>10</sup> This supports a continued trend in the prevalence of biotin as a vitamin supplement. Many assay manufacturers use biotin-streptavidin methods which can be impacted by free-biotin and biotin metabolites. A recent Mayo study found that 7.4% of those admitted to the ED had biotin concentrations at or above 10 ng/ml, which is the lowest threshold for causing biotin interference for analyzers used in the study.<sup>11</sup> Per AACC guidelines, laboratories may use various methods to verify suspected interference, including dilution, removal of excess biotin via streptavidin-coated beads, biotin quantification via chromatography and have patients abstain prior to a redraw and subsequent retest. The ideal practice per the guideline is to process a specimen on an assay that does not use biotin in its format.<sup>12</sup>

## UAB Success Factors:

- Utilization of highly sensitive HCV & HIV immunoassays enabled early antigen and antibody detection.
- Implementation of opt-out screening for HCV/HIV in the ED identified undiagnosed infections.
- Connected diagnosed individuals to appropriate care and helped reduce future transmission events.
- Care coordinators facilitated enhanced linkage to care, improving health by ensuring patients with identified disease receive care.



Mexico is disproportionately affected by liver disease, which among many causes includes HCV.<sup>13</sup> Public awareness of HCV is low. Together with the high cost of testing and low availability of treatments, HCV contributes to high disease-related morbidity and mortality.

Biomédica de Referencia and FundHepa deployed annual HCV awareness campaigns in association with World Hepatitis Day.<sup>14</sup> Print and online advertising alerted the public to free HCV screening. To maximize participation and enable hassle-free testing, screening was made available directly through the laboratory, as well as workplace collection centers.

Sample processing and analysis was performed at Biomédica de Referencia. In HCV antibody reactive samples, viral load was detected using real-time PCR.<sup>14</sup> All screened patients were alerted of their HCV status and provided associated educational materials, with viremic patients directly referred to appropriate medical care.<sup>14</sup>

## CASE STUDY OUTCOMES



Over **70,000 individuals** in Mexico were made aware of the complications and risks of HCV.<sup>14</sup>



367 people with detectable anti-HCV antibodies (0.5%) were identified by the program. Among those, 221 were confirmed to have active HCV infections (0.3%).

**Identification of individuals with active HCV infections enabled rapid treatment and helped reduce further transmission.**<sup>14</sup>



Program success has led to **29 additional companies** and **6 clinical labs across Mexico** joining the initiative with a collective goal of improving public health in Mexico.<sup>14</sup>

## Biomédica de Referencia/FundHepa Success Factors

- Strategic use of HCV antibody immunoassays, in combination with reflex testing by PCR for viral load, enabled rapid identification of HCV status.
- Population screening can identify unknown HCV infections in the general population, which includes individuals who otherwise would not have been screened.
- Media campaigns, such as those deployed in conjunction with World Hepatitis Day, can increase disease awareness and play a major role in encouraging people to get tested.
- Cross-disciplinary involvement and strategic partners (such as FundHepa) can amplify education initiatives, follow-up and treatment.





## KEY TAKEAWAYS

- 1** Undiagnosed disease puts additional burden on the healthcare system and more importantly – **people's health.**
- 2** **Opt-out programs and awareness campaigns** have been leveraged to identify undiagnosed patients.
- 3** Through early disease identification and treatment, opt-out programs can help increase primary care appointments and reduce visits to emergency departments, resulting in **lower overall healthcare costs.**
- 4** To effectively facilitate public awareness and drive participation, **early disease detection initiatives** require cross-disciplinary coordination across the laboratory and beyond.



## START HERE

### Key Questions for Your Healthcare Partner

- How would a dedicated team assist in proactively identifying potential health issues amongst our patient population?
- What best practices should we consider for developing our own blueprint or methodology for developing an opt-out ED program?
- How do we maximize clinician and staff buy-in to ensure optimal results?
- How do we measure the success of our opt-out ED screening program?

# FORMULATING YOUR TRANSFORMATION PLAN

## Pulling It All Together



A multi-faceted approach is needed to address increasingly complex healthcare pressures.



Taking measures that address both operational excellence and integrated clinical care to enable health systems is the key to achieving an effective multi-faceted approach.



All efforts must be strategically designed in order to position health systems to improve the level of integrated clinical care to patients at lower costs.

## This Is Where It Begins

Transformative change can start with one great conversation. To initiate that conversation, here are three overarching questions to explore internally and with your lab diagnostic partner:

- How do I develop a three-year lab strategy that ties into corporate metrics, such as patient satisfaction and lower readmission rates?
- What is the best way to facilitate collaboration with physicians on test results and complex cases to help deliver clinical insights for better outcomes?
- How do I aggregate data from the lab to generate insights and proactively share those insights across functions?

## About Core Diagnostics at Abbott

At Abbott, we're committed to helping you connect the performance of your laboratory to the performance of your healthcare institution. We align people, processes and technology to create personalized solutions tailored to your unique challenges. Our resourceful advocates can help you achieve measurably better healthcare performance through harmonized systems and intelligent insights.

Connect with us at [corelaboratory.abbott](https://corelaboratory.abbott) and on LinkedIn at [Abbott | Diagnostics](#)

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