

# Enhanced Identification and Care for Patients with Undetected HCV and/or HIV via Opt-Out ED Screening with Active Education and Linkage to Care

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Hepatitis C Virus (HCV) and Human Immunodeficiency Virus (HIV) are underdiagnosed and untreated chronic diseases with growing health concerns. Globally, an estimated 71 million people have chronic HCV<sup>1</sup> and 38 million have HIV<sup>2</sup>, representing major public health burdens. The WHO estimated that 81%<sup>1</sup> of people living with HCV do not know they are infected, and 19%<sup>1</sup> of HIV positive individuals are also unaware of their status. Thus, identifying individuals with unknown disease while successfully enabling treatment is essential for disease containment and prevention. 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. Thus, identifying individuals with HCV and HIV and successfully linking them to appropriate care is vital. Linkage to care is especially complicated in high risk and underserved populations who utilize emergency care services as their primary healthcare option.

An integrated clinical care team at the University Alabama Birmingham (UAB) Hospital sought to change this paradigm by enhancing identification and care for patients with undetected HCV and HIV. In partnership with the Emergency Department (ED), Infectious Diseases physicians, linkage coordinators, Information Technology (IT), and the clinical laboratory, the team developed and implemented an opt-out screening program within the ED coupled with disease-specific care linkage services. 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. 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 to care. 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 reduced overall healthcare costs.



PATIENT



CLINICIAN



HOSPITAL SYSTEMS/  
ADMINISTRATION



PAYOR

## KEY PARTNERS / STAKEHOLDERS



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# SITUATION ANALYSIS

# ENHANCED IDENTIFICATION AND CARE FOR PATIENTS WITH UNDETECTED HCV AND/OR HIV VIA OPT-OUT ED SCREENING WITH ACTIVE EDUCATION AND LINKAGE TO CARE

# SUCCESS FACTORS

■ Hepatitis C Virus (HCV) and Human Immunodeficiency Virus (HIV) infections are major public health problems worldwide, causing an estimated 399,000<sup>1</sup> and 690,000<sup>3</sup> deaths per year respectively

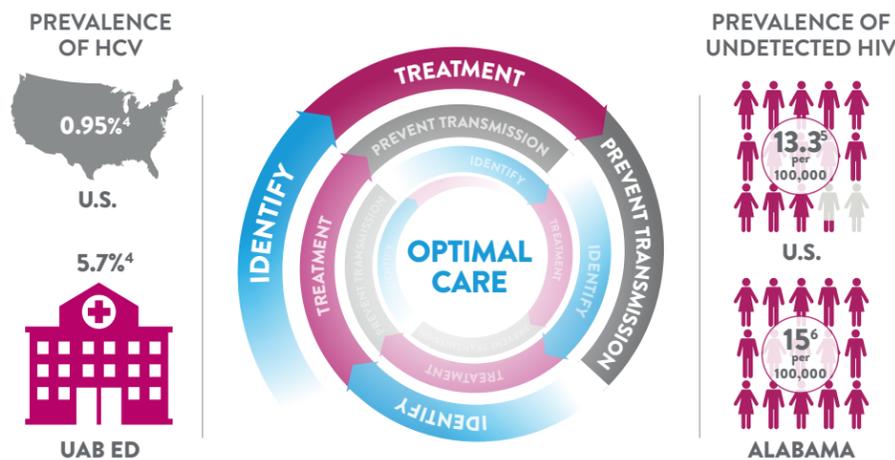
■ Despite significant therapeutic advances in the management of HCV and HIV, many patients remain untreated, either due to a lack of diagnosis or due to logistical barriers to accessing care

■ Substantial challenges exist for identification of new HCV/HIV infections in under-served communities

■ Identification of acute and chronic infections can enable treatment while reducing transmission and supporting disease prevention

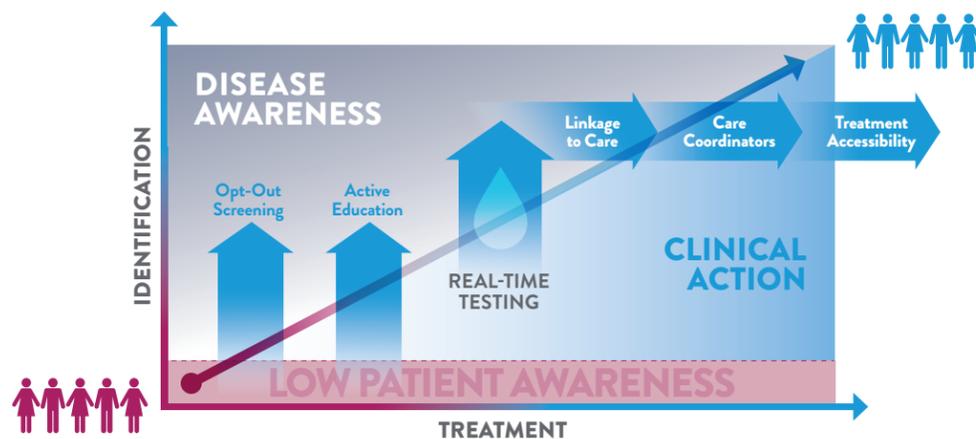
## DISCOVERY

Individuals with HCV and/or HIV can be treated to improve long-term health. Treatment, however, requires identification of disease, which can be particularly challenging since most individuals with HCV or HIV are asymptomatic. Asymptomatic high-risk patients with undetected infectious disease often present to the Emergency Department (ED) with signs and symptoms of other conditions, seeking urgent or traditional care outside routine health services. With the prevalence of undetected disease in the ED at UAB being more than five times greater than the US average, strategies to find, treat, and prevent HCV and HIV transmission are essential for optimal patient care.



## HYPOTHESIS

The more people identified with disease, the more likely those individuals can be treated. Similarly, the more patients who are linked to a first medical appointment, the higher the opportunity for curative treatment. Our team hypothesized that an ED-based opt-out screening program embraced by clinicians coupled with active education would enhance patient disease awareness while identifying new individuals with undetected disease. Further, implementation of care coordinators would more comprehensively ensure real-time clinical action through earlier disease recognition and enhanced linkage to care.



## PARTNERS

Communication across Laboratory Medicine, Physicians, Nursing, Linkage to Care Coordinators, IT (Information Technology), and Treatment Centers was daily, including monthly updates and sharing of success metrics to ensure continued program cadence while reinforcing its wide-reaching benefits. Medical students and Linkage to Care Coordinators were especially critical in driving enhanced patient participation through active staff education via personalized training and patient awareness strategies.

## EXECUTION

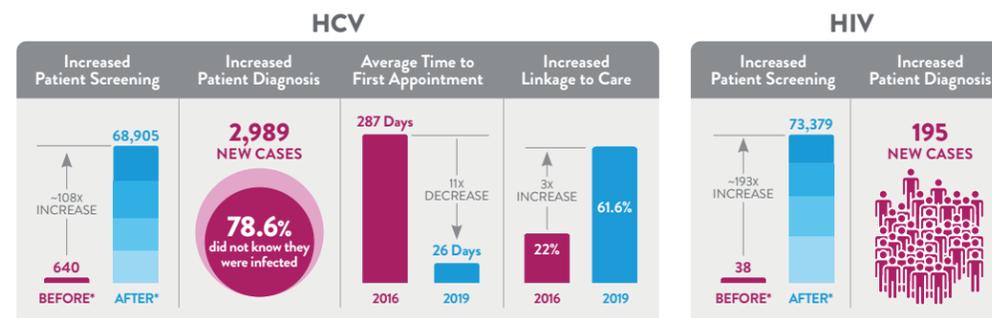
All individuals who present to the Emergency Department (ED) with unknown HCV and HIV status are pre-screened for testing eligibility via an opt-out survey. Patients who do not opt-out are eligible and are immediately tested. Electronic alerts ensure positive test results reach physicians and care coordinators as soon as possible, enhancing linkage to care (LTC). The goal of the overall process is to maximize treatment of infected patients, while minimizing care gaps whereby individuals with disease are not directly linked to care and treatment.

	YES	NO		YES	NO	
Known HCV/HIV status	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Linked to care	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Continue care, as appropriate/needed
Known HCV/HIV status	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Linked to care	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Educate and initiate care (if positive)
Known HCV/HIV status	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Eligible for Testing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test, educate, and initiate care (if positive)
Known HCV/HIV status	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Eligible for Testing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Care gap (risk for undetected disease)*

\*Every effort is made to minimize care caps including activation of automated alerts and personal re-engagement of care coordinators for patients who opt-out.

## PROOF OF VALUE

The opt-out ED screening program increased the total number of patients screened for HCV and HIV, successfully identifying new infections in patients who were previously unaware of their condition, while also enhancing associated linkage to care.



\*"Before" denotes confirmed testing from 2016 (prior to implementation of the opt-out screening program) whereas "After" denotes collective screening post-program implementation (2016-2019).

■ Highly sensitive HCV and HIV Immunoassays enable early antigen and antibody detection for rapid turnaround and communication of results

■ Implementation of opt-out screening for HCV/HIV in the ED can identify undiagnosed infections in under-served and high-risk individuals, link infected individuals to appropriate care, and help reduce downstream transmission events

■ Clinician buy-in and staff training ensures enhanced screening outcomes via active education and compelling reasons to believe

■ Care coordinators can facilitate enhanced linkage to care, improving health by ensuring patients with identified disease receive care

# SPOTLIGHT ON STAKEHOLDER SUCCESS

 <p><b>PATIENT</b></p>	<p><b>INCREASED WELLNESS</b></p> <ul style="list-style-type: none"> <li>• 61% increase in the number of patients with newly identified HCV infections were linked to HCV treatment and care (22% to 62%)</li> <li>• 97% of acutely infected HIV and 77% of chronically infected HIV individuals were linked to care</li> <li>• 20% of known positive HCV out of care individuals were re-engaged and linked to care (2017-2018)</li> </ul>
	<p><b>IMPROVED EXPERIENCE</b></p> <p>“When patients are told that they have an infectious disease, they can become immediately overwhelmed. Having a dedicated staff of coordinators to interface with our patients and navigate next steps, linking them to the correct providers and getting answers for them and their families is key. The process not only ensures appropriate care but improves the patient experience overall.”</p> <p>— Joel Rodgers, <i>HIV/HCV Testing and Linkage Program Manager, Department of Emergency Medicine</i></p>
	<p><b>INCREASED AWARENESS</b></p> <p>108-fold and 193-fold improvement in the total number of patients screened for HCV and HIV respectively, with active education and consult on HCV and HIV prevention and treatment.</p>
 <p><b>CLINICIAN</b></p>	<p><b>INCREASED SATISFACTION</b></p> <p>“Linking patients to definitive care and treatment for otherwise potentially fatal transmissible diseases marks a significant achievement in social medicine. We are proud to be doing our part to drive population wellness.”</p> <p>— Lauren Walter, MD, <i>HIV/HCV Testing and Linkage Program Co-Director, Department of Emergency Medicine</i></p>
 <p><b>HOSPITAL SYSTEMS/ ADMINISTRATION</b></p>	<p><b>RESOURCE OPTIMIZATION</b></p> <p>“An unanticipated but valued consequence of better linking our patient population to follow up care has led to a subsequent reduction in ‘frequent fliers’ or super-utilizers within the ED. Thus, patients are establishing ongoing relationships with their primary care provider to manage their illness instead of leveraging ED resources for the same purpose.”</p> <p>— Elizabeth Turnipseed, MD, MPH, <i>Associate Professor of Medicine, UAB Division of Internal Medicine; Vice Chair for Clinical Affairs, UAB Department of Medicine</i></p>
	<p><b>ENHANCED ADMINISTRATION SATISFACTION</b></p> <p>“Our successful HIV/HCV screening program is a fundamental component of our strategy to eliminate these epidemics in Alabama and the US. Providing comprehensive medical care brings a profound sense of purpose, social responsibility, and reward for those of us in health system administrations.”</p> <p>— Sonya Heath, MD, <i>HIV/HCV Testing and Linkage Program Co-Director, Division of Infectious Diseases</i></p>
 <p><b>PAYOR</b></p>	<p><b>REDUCED COSTS</b></p> <p>76% reduction in healthcare costs when primary care appointments are utilized in lieu of emergency departments (\$106<sup>7</sup> vs. \$1,389<sup>8</sup> USD respectively per visit).</p>
	<p><b>MITIGATED RISK</b></p> <p>HCV treatment cures 97-98% of HCV infected individuals at UAB and at 1917 Clinic, at least 85% of patients have well-controlled HIV infection.</p>

1. <https://www.who.int/news-room/fact-sheets/detail/hepatitis-c>. Accessed July 18, 2020.

2. <https://www.who.int/news-room/fact-sheets/detail/hiv-aids>. Accessed July 18, 2020.

3. [https://www.unaids.org/en/resources/fact-sheet#:~:targetText=L.7%20million%20%5B1.4%20million%2%80%2932.3,the%20epidemic%20\(end%202018\)](https://www.unaids.org/en/resources/fact-sheet#:~:targetText=L.7%20million%20%5B1.4%20million%2%80%2932.3,the%20epidemic%20(end%202018).). Accessed July 18, 2020.

4. Galbraith JW, et al. High Prevalence of Hepatitis C Infection Among Adult Patients at Four Urban Emergency Departments – Birmingham, Oakland, Baltimore, and Boston, 2015–2017. *MMWR Morb Mortal Wkly Rep.* 2020 May 15;69(19):569–574.

5. [https://www.hiv.gov/hiv-basics/overview/data-and-trends/statistics#:~:text=Estimated%20New%20HIV%20Infections%20\(HIV%20Incidence\)&text=According%20to%20the%20latest%20estimates,the%20United%20States%20in%202018](https://www.hiv.gov/hiv-basics/overview/data-and-trends/statistics#:~:text=Estimated%20New%20HIV%20Infections%20(HIV%20Incidence)&text=According%20to%20the%20latest%20estimates,the%20United%20States%20in%202018). Accessed August 12, 2020.

6. Alabama Diagnosis-Based HIV Continuum, 2019 Preliminary Data. Alabama Public Health, 2020, [www.alabamapublichealth.gov/hiv/](http://www.alabamapublichealth.gov/hiv/).

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8. <https://www.debt.org/medical/emergency-room-urgent-care-costs/#:~:text=The%20average%20cost%20for%20a,over%20a%2010%20year%20period>. Accessed July 18, 2020.