

# A Single-Center Continuous Quality Improvement Program Identifies 660 Hepatitis C Infected Persons in One Year

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## Introduction

Rates of hepatitis C virus (HCV) infection have been increasing among young adults in the United States since 2012 (CDC, 2021). Concurrently, rates of opioid addiction and drug injection use have increased, especially among young adults in Appalachia (Zibbell et al, 2015; Zibbell et al., 2018). Prior to 2020, screening for HCV had been targeted to those with high-risk behavior or older adults who are part of the Baby Boomer birth cohort (born 1945-1965) (CDC, 2020). Uptake of risk-based and age-based screening was poor across the United States (Goel et al., 2017). In Kentucky, health officials recognized the shift in HCV infection prevalence to younger adults, especially those of childbearing potential (Cloud et al., 2019).

**The purpose of this single-center continuous quality improvement program was to increase screening and diagnosis of HCV infection among young adults and provide linkage-to-care (LTC) and follow-up services.**

## Methods

Following IRB approval of this quality improvement project, investigators developed a REDCap database registry designed to ease testing and LTC care navigation. A computer-based algorithm displayed a questionnaire in the triage area of an emergency department (ED). The screening algorithm was triggered based on the questionnaire responses.

Patients were eligible for screening if:

- Blood was drawn as part of routine ED care
- Did not opt-out
- HCV testing not performed in previous 90 days

HCV exposed individuals were counseled on risk behavior, harm reduction, and viral clearance to mitigate potential for re-infection; HCV infected people were informed on transmission risk and LTC planning. Navigators conducted follow-up calls and chart reviews to determine if LTC was completed, and if not, reached out to patients with additional support. LTC navigators continuously reviewed and discussed best practice approaches to increase testing and LTC rates.

## Results

The ED Triage Questionnaire was evaluated monthly and revised twice over the 12 month period. Each refinement increased HCV antibody and HCV RNA testing rates.

**Table 1**  
Continuous Quality Review of the Questionnaire Lead to Changes Over Time

Version 1	Effective July 2020-April 2021
	<ul style="list-style-type: none"> <li>• Ages 18-45 years</li> <li>• HCV Risk Present</li> </ul>
Version 2	Effective May 2021
	<ul style="list-style-type: none"> <li>• Ages 18 years +</li> <li>• HCV Risk Present</li> </ul>
Version 3	Effective June 2021
	<ul style="list-style-type: none"> <li>• Ages 18 years +</li> <li>• Universal Testing</li> </ul>

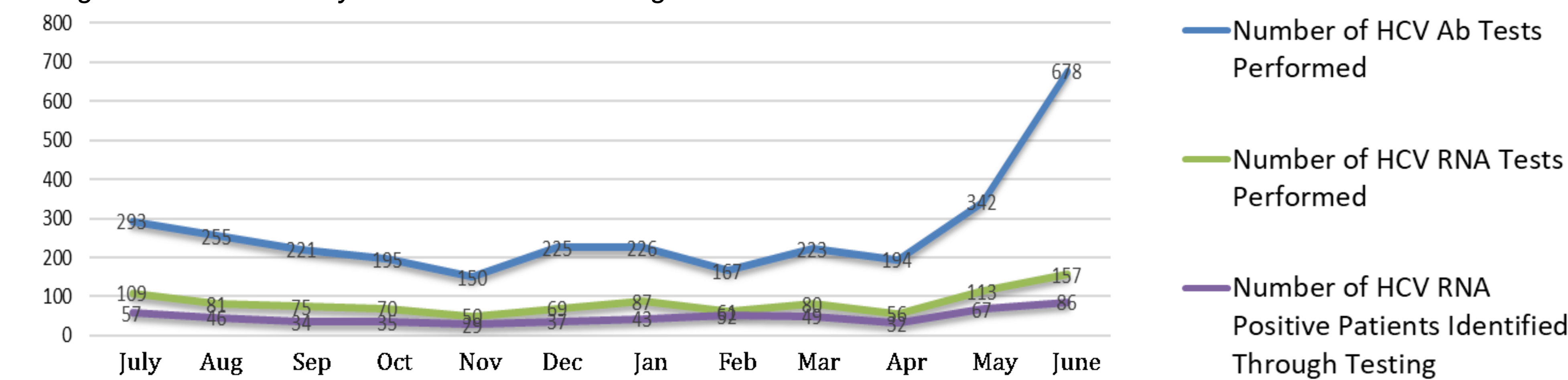
### Demographics of patients with HCV RNA:

- Mean age: 35.3 (SD= 7.94, n=655)
- Male: 427 (65.2%), Female: 226 (34.5%), Transgender: 2 (0.3%)
- White: 577 (88.5%), Black or African American: 69 (10.6%)
- Reported history of intravenous drug use: 485 (74%)

### HCV Exposure v. Infection Rates

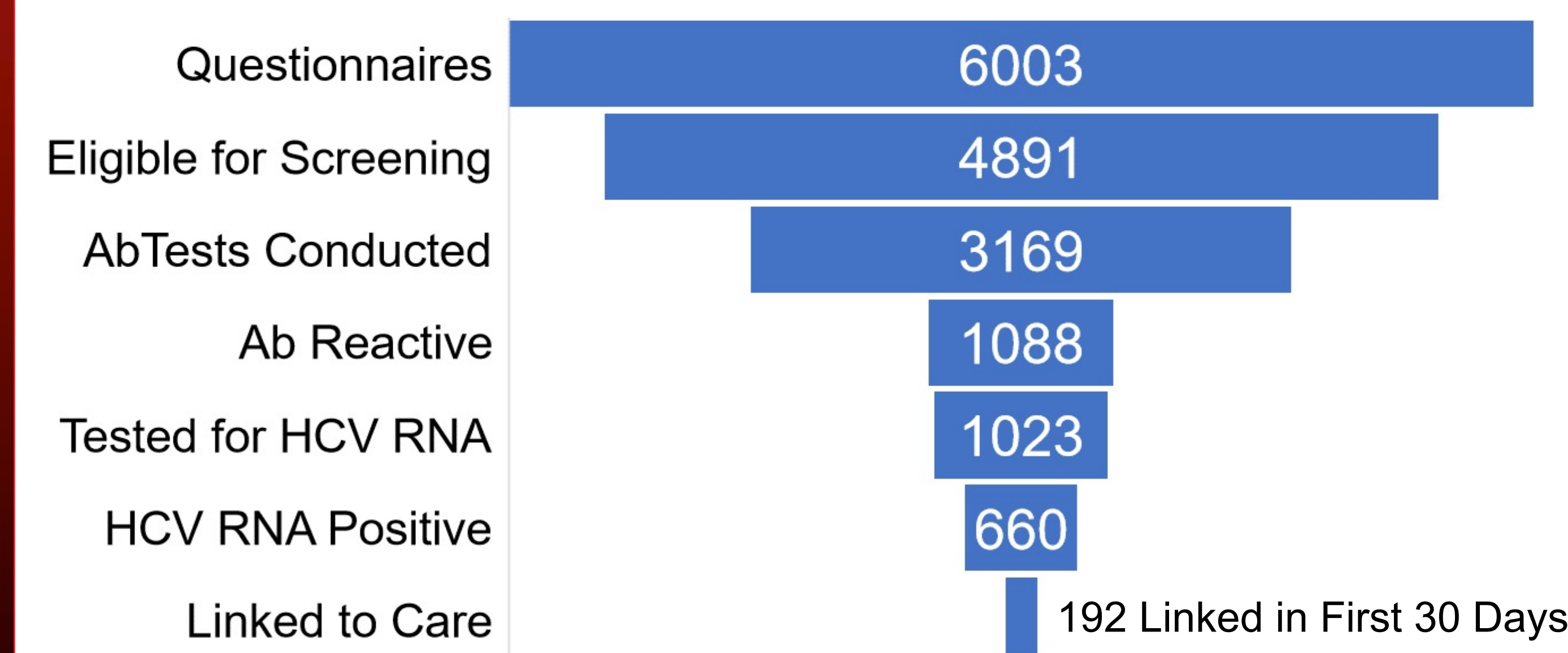
- HCV Ab Prevalence: 34.3% (1088 of 3169)
- HCV RNA Prevalence: 64.5% (660 of 1023)

**Figure 1**  
Changes in HCV Antibody and HCV RNA Testing Over Time



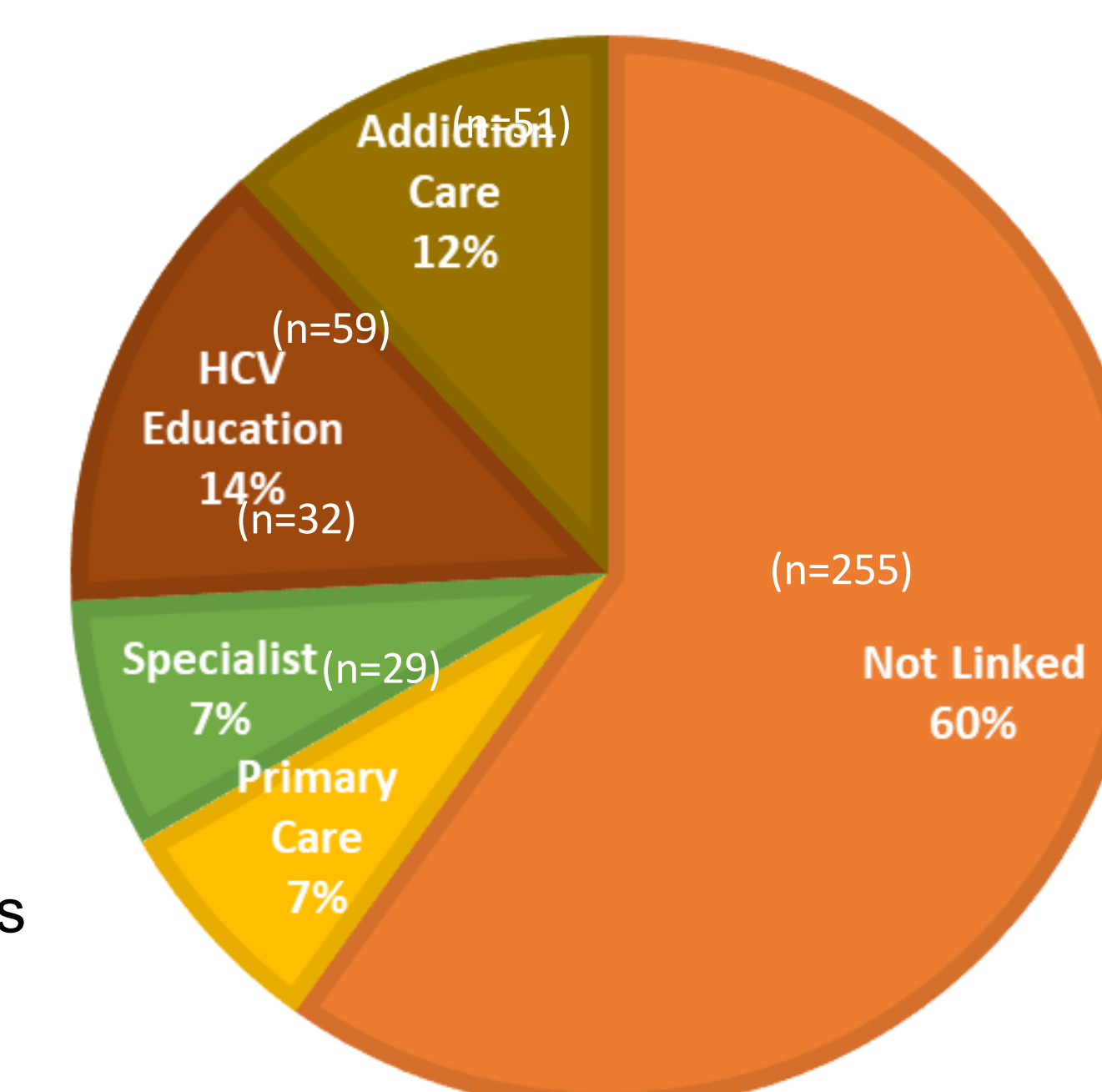
Note. Ab= antibody.

**Figure 2**  
HCV Screening and Diagnosis Program Reach July 1, 2020-June 30, 2021



Note. Ab= antibody.

**Figure 3**  
Care Navigation Outcomes Beyond the First 30 Days (n=426)



## CONCLUSIONS

- Continuous review of the program and updating of testing algorithms resulted in best practice identification that facilitated excellent HCV testing and LTC rates in an otherwise difficult to connect population.
- HCV exposure and infection rates are very high in this single-center setting.
- LTC navigation ensures young adults impacted by the HCV epidemic receive education and connect to meaningful services, including harm reduction, HCV treatment, addiction care, and mental health.

## References

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## Acknowledgements

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