Reducing ED HCV Confirmatory Test Turnaround Time Through Point-of-Care Implementation

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BACKGROUND

- An estimated 2.4M people in the U.S. live with chronic Hepatitis C (HCV), yet only one third know their status.
- Emergency Departments (EDs) are critical settings for screening and linkage, particularly among patients disengaged from care.
- Standard lab-based HCV RNA confirmatory testing often results after discharge, contributing to loss of follow-up.
- Point-of-care (POC) HCV RNA testing may enable timely diagnosis and same-visit linkage, but implementation barriers exist.

Objective: We evaluated the impact of ED-based POC HCV RNA confirmatory testing on turnaround time and linkage outcomes.

METHODS

Intervention

- On Dec 18, 2024, we implemented the **POC HCV RNA Fingerstick test** for confirmatory testing

Workflow Challenges for Fingerstick based POC test

- Capillary collection challenging in adults
- ED workflow disruption
- Patient/nursing staff dissatisfaction
- High test failure rates due to collection issues

Optimization

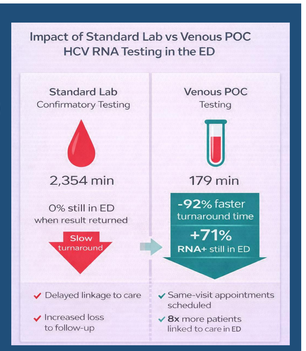
- In collaboration with the clinical laboratory team, a venous specimen protocol lab based test was developed and validated for use on the POC test platform, allowing confirmatory testing using blood already drawn for clinical care. Validation process was finalized May 12, 2025.

Study Phases

Outcomes were compared across three implementation periods:

1. Standard Lab RNA Testing (Oct 1-Dec 17, 2024)
2. POC Fingerstick Testing (Dec 18, 2024-May 11, 2025)
3. POC Venous Testing (May 12-Aug 31, 2025)

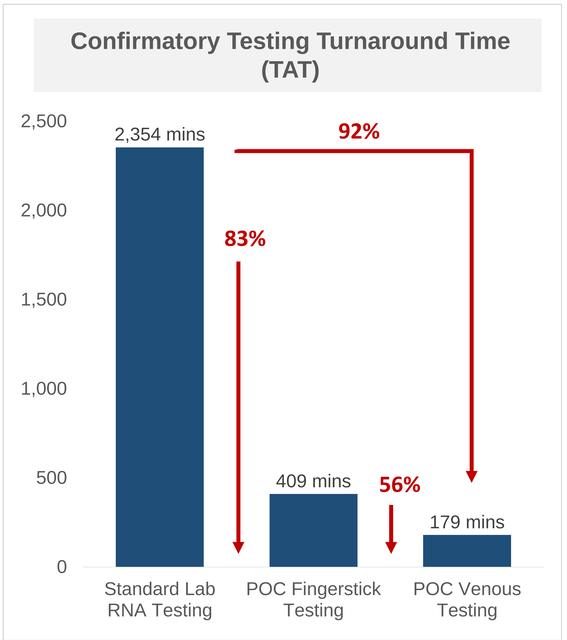
Transitioning ED-based point-of-care HCV RNA confirmatory testing from Standard Lab to venous specimens **reduced turnaround time from 2,354 to 179 minutes** and **increased same-visit linkage opportunities from 0% to 71%.**

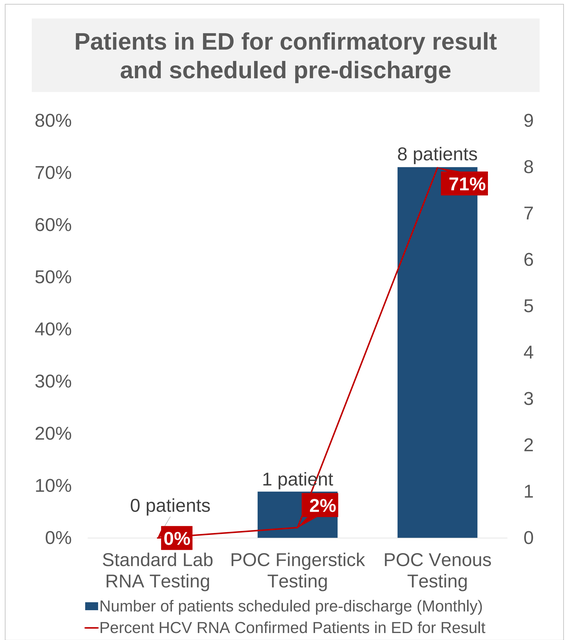


RESULTS

We hypothesized that reducing the turnaround time for HCV RNA results would increase the number of patients identified with chronic HCV infection prior to discharge from the ED. Thereby increasing the same-visit opportunity to be linked to care by the ED Linkage to Care Specialist.

Phase	Screening Volume (Monthly)	HCV Ab Reactive Patients (Monthly)	HCV RNA Confirmed Patients (Monthly)	Confirmatory TAT	Percent of HCV RNA Confirmed Patients in ED for Result	Number of Patients Scheduled Pre-Discharge (Monthly)
Standard Lab RNA Testing	2800	80	21	2,354	0% (0)	0
POC Fingerstick Testing				409	2% (3.4)	1
POC Venous Testing				179	71% (15)	8





CONCLUSIONS

- ED-based POC HCV RNA confirmatory testing substantially reduced result turnaround time.
- Transitioning from fingerstick to venous specimens already drawn for ED workup improved workflow success and increased opportunities for same-visit linkage.
- These findings support POC confirmatory testing as a scalable ED strategy to reduce loss to follow-up and accelerate entry into HCV care.

- Next Steps: Expansion across additional ED sites and integration with same-day treatment initiation.

ADDITIONAL KEY INFORMATION

- The POC HCV RNA testing was an enhancement to a robust opt-out HIV/HCV screening and linkage to care infrastructure.
- Implementation highlights the importance of specimen type and workflow integration for successful ED-based POC testing.
- Venous sampling minimized disruption and improved patient/provider acceptance.
- Model supports broader ED “Test-and-treat” HCV elimination strategies.

Acknowledgement

We sincerely thank our clinical laboratory team for their exceptional partnership, innovation, and commitment throughout implementation. Their efforts were instrumental in overcoming operational challenges and optimizing the venous specimen workflow.

PLAIN LANGUAGE SUMMARY

Implementing a rapid HCV confirmatory assay in the ED significantly shortened result turnaround times. Transitioning from a fingerstick test to using existing venous blood specimens from clinical draws increased same-visit linkage to treatment prior to hospital discharge.

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