

Challenges and barriers to completing the HCV clinical care cascade

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Perinatal HCV care cascade



- All persons, including those with opioid use disorder, should be screened for HCV in pregnancy.
 - HCV antibody with reflex to RNA
- There are currently no FDA-approved medications for the treatment of chronic HCV in pregnancy.
- Thus, individuals with chronic HCV are referred to treatment in the postpartum period.
- **Inherent discordance between diagnosis and treatment.**

How well has this approach been working?

- We utilized a multi-state Medicaid data research network (MODRN) to evaluate the perinatal HCV cascade of care among pregnant persons with OUD.
 - Diagnosis  treatment
- Medicaid Outcomes Distributed Research Network (MODRN)
 - Medicaid administrative healthcare data: 6 states (DE, KY, NC, PA, WV)
- Females with an ICD-10-CM diagnosis of OUD, live or stillbirth delivery ≥ 24 weeks between Oct 2016 - Oct 2019 were included.

How well has this approach been working?

- Included participants had to be enrolled in Medicaid for at least 6 months during pregnancy
 - Allow enough time to observe HCV screening
- All women were followed through 60 days after delivery
 - Mandated Medicaid enrollment under federal law
- A subgroup of women remained continuously enrolled in Medicaid for 6 months after delivery.
 - MODRN includes ACA era Medicaid expansion states except for NC
 - BUT, analysis was pre-Medicaid postpartum coverage expansions
- Final analytic sample
 - 23,780 patients \longrightarrow 19,697 (83%) were continuously enrolled in Medicaid and followed for up to 6 months after delivery

HCV testing and evaluation in pregnancy

- HCV testing – binary +/-
 - Any antibody and RNA testing laboratory procedure code between estimated date of conception (EDC) and data of delivery
- HCV diagnosis – binary +/-
 - Any ICD-10 diagnosis code for chronic or acute HCV infection between EDC and data of delivery
- Administrative data lacks laboratory results
 - Dates for HCV testing and diagnosis were compared to understand which patients had a pre-existing diagnosis.

Postpartum follow-up

- Postpartum follow-up visit for HCV – binary +/-
 - Visit in an outpatient setting with a provider whose subspecialty was hepatology, infectious disease, or gastroenterology.
 - Visit with a primary care provider (including ob/gyn) in which HCV was the primary diagnosis code recorded for the visit.
- Postpartum HCV treatment
 - Any outpatient prescription fills in the 60-day or 6-month follow-up period for medications that could be used to treat HCV.
 - Included all FDA-approved DAAs
- Analyses were adjusted for demographic and clinical characteristics associated with OUD or HCV infection
 - Urban vs. rural, mental health conditions, co-occurring substance use disorders, MOUD utilization, other infectious complications, liver dz

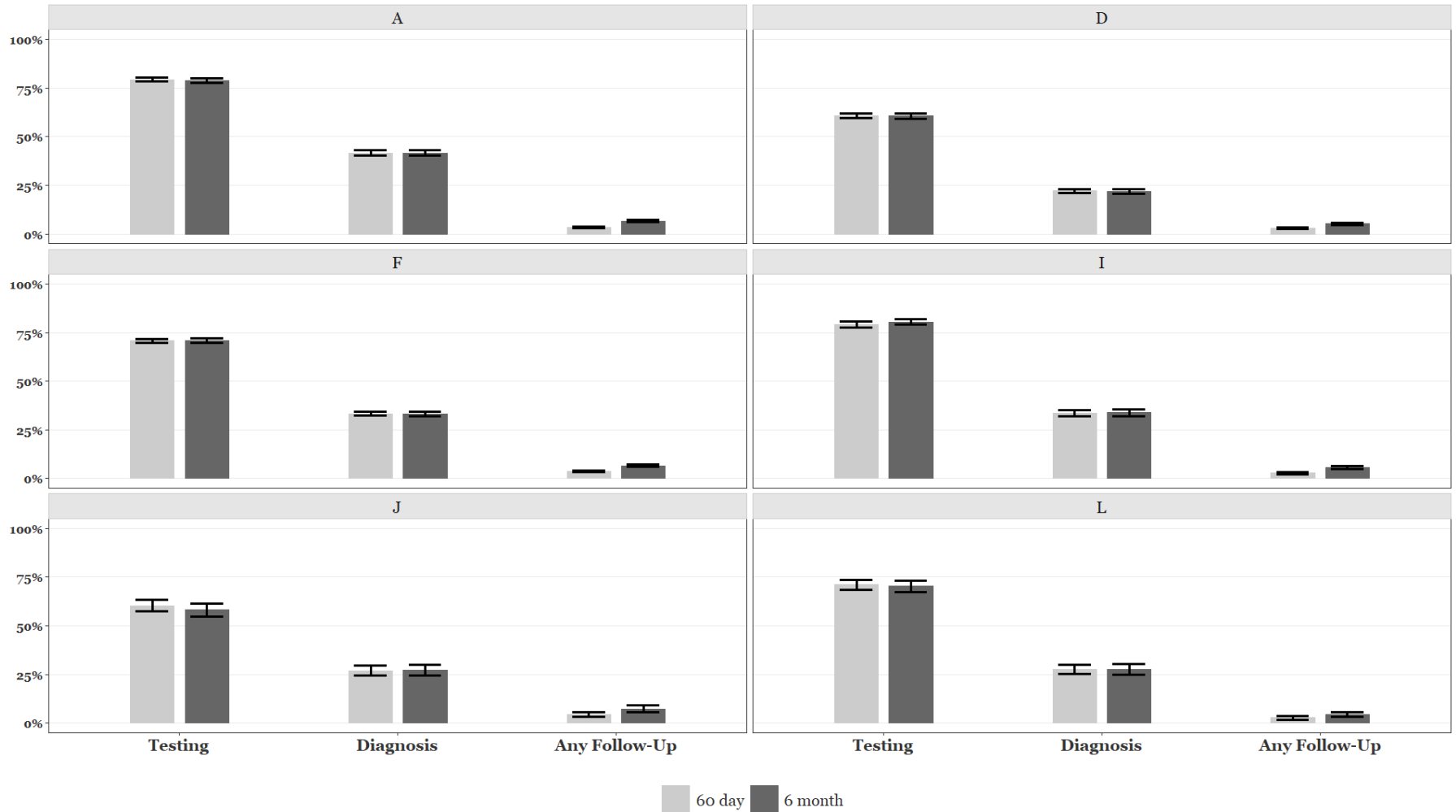
Population characteristics

- Race: white - 86%, black - 7%, Hispanic – 2%
- MOUD during pregnancy – 55%
- Co-occurring non-ODD substance use disorders – 60%
- Cirrhosis or liver disease – 5%
- Infectious sequelae of injection drug use (e.g., endocarditis) – 5%

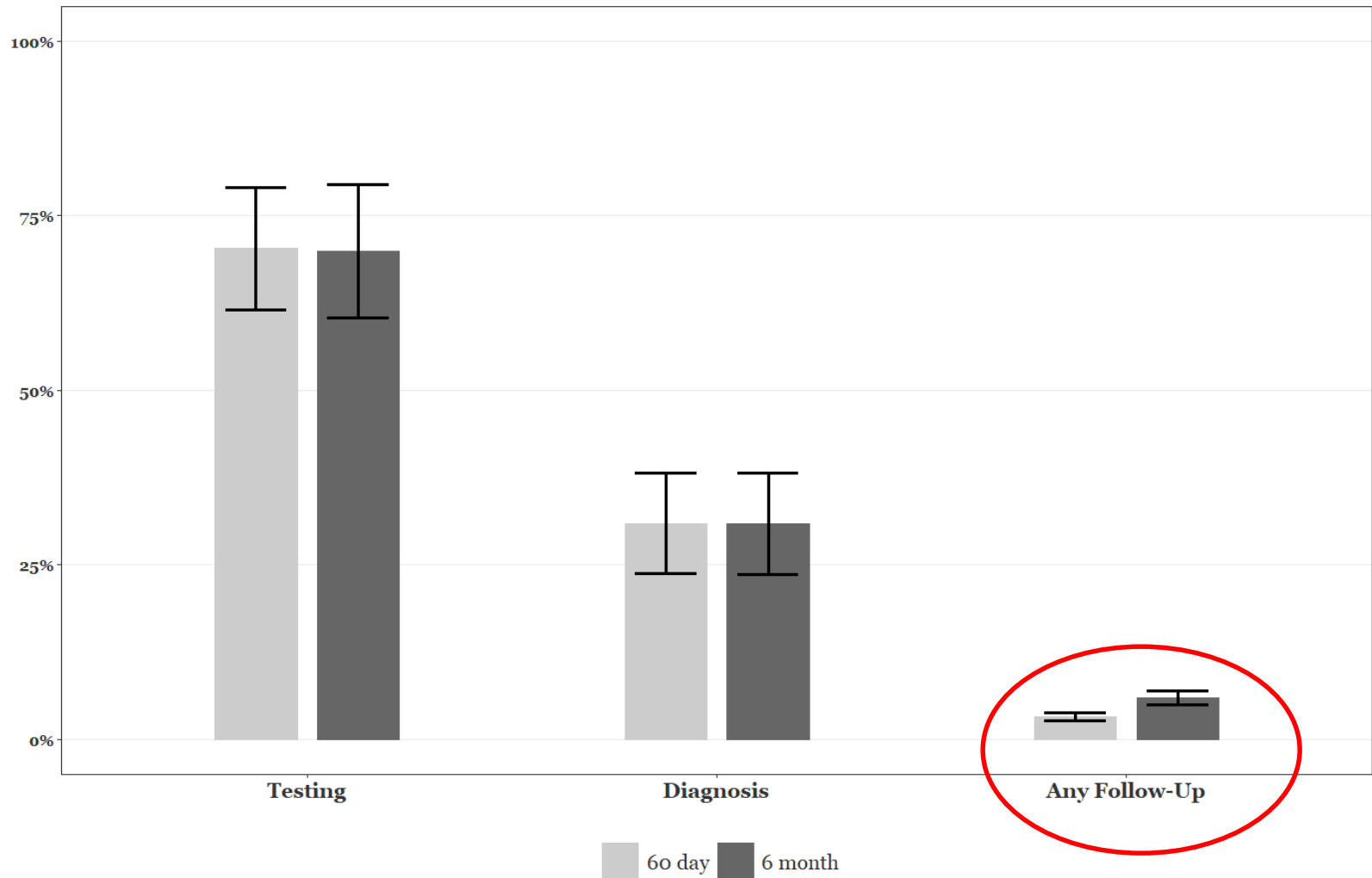
Prevalence estimates of HCV care cascade

	Pregnancy, N=23,780					60 days postpartum, N=23,780		6 months postpartum, N=19,697	
State	HCV test, %	HCV diagnosis, %	HCV diagnosis before test, %	HCV diagnosis after test, %	HCV diagnosis without test, %	Follow-up visit, %	HCV medication , %	Follow-up visit, %	HCV medication c, %
A	79.3	41.7	7.4	26.9	7.4	8.1	<1	15.9	1.9
D	60.7	22.2	3.6	14.5	4.0	12.0	1.1	22.2	5.4
F	70.9	33.3	7.8	19.0	6.5	10.6	<1	19.1	2.6
J	60.4	27.0	7.0	14.1	5.9	15.8	1.5	26.4	2.3
I	79.3	33.6	5.0	24.5	4.1	8.3	<1	16.5	<1
L	71.1	27.6	6.2	17.1	4.4	10.5	<1	15.8	4.2
Overall	71.0	32.0	6.2	20.1	5.7	10.0	<1	18.4	2.6

State-specific average predicted probabilities



Global average predicted probabilities



Gaps and barriers

- Provider-level

- How do we communicate the need for HCV screening and educate patients regarding risk factors for infection?
- Once diagnosed, how do we communicate the need to treat HCV and educate patients regarding sequelae from untreated disease?
- How do we link patients to treatment? Passive recommendation vs. active coordination of care?
- How do we create a provider workforce that is more comfortable with providing HCV treatment?

- Patient-level

- How do patients prioritize HCV infection when recovery is unstable?
- What motivates patients to pursue treatment when they are largely asymptomatic at the time of initial diagnosis?

- System-level

- How do we integrate HCV treatment into obstetric, primary care, and community settings?

