

## Background

- Hepatitis C virus (HCV) infection is a major health problem in the United States (US) affecting 4.1 million people<sup>1</sup>
- Very effective treatments in the form of Direct-acting Antivirals (DAAs) exist,<sup>2</sup> but they are costly
- State Medicaid programs use different access requirements to limit access; these requirements include liver disease diagnosis, sobriety of patient, and prescriber restrictions; these requirements vary across states

## Objective

- Explore variation in DAA utilization across Medicaid programs; assess the association of DAA utilization and Medicaid restrictions; and simulate the impact of policy change

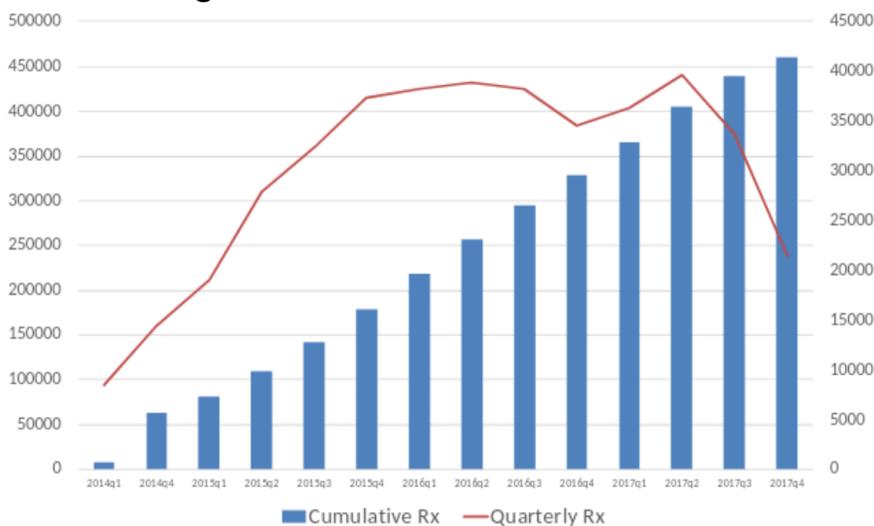
## Methods

- Used Medicaid state drug utilization<sup>3</sup> and Redbook® to identify DAA utilization across states from 2014-2017
- Estimated state-specific HCV infection in state Medicaid programs using state-specific prevalence data from 2010 and count of state Medicaid enrollees.
- Calculated percentage of treated population as DAA utilization divided by estimated infected population
- Assessed each Medicaid programs level of access restrictions using the National Viral Hepatitis Roundtable state data.<sup>4</sup>
- Examined association between Medicaid access restrictions and utilization using multivariate regressions that control for state's economic status
- Used results from regression analysis to simulate the utilization effect following state level policy changes

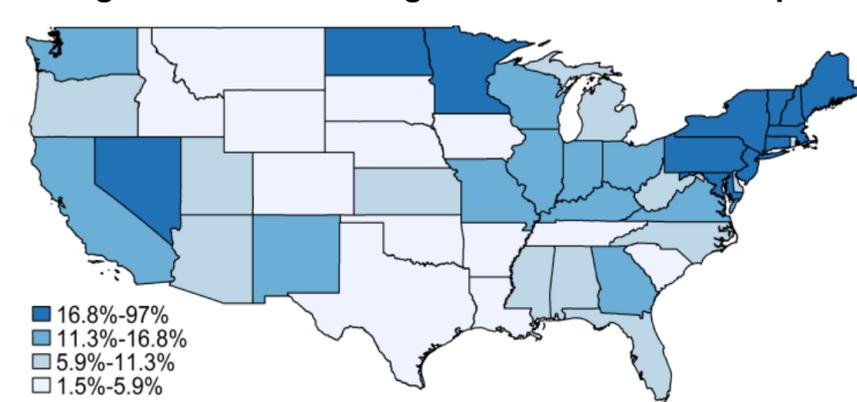
## Results

- DAA utilization increased from 2014-2017. Total cumulative prescriptions filled by Medicaid enrollees exceeded 450,000 by 4th Quarter 2017. **(Figure 1)**
- Significant variation of DAA utilization exists across state Medicaid programs. **(Figure 2)**
- States with highest coverage are: New Jersey, New York, Massachusetts, Maine, and Connecticut.
- States with lowest coverage are: Nebraska, South Dakota, Texas, Arkansas, and Colorado

**Figure 1: DAA Utilization 2014-2017**



**Figure 2: DAA Coverage of Estimated HCV Pop**



## Results (continued)

- State Medicaid programs had varying restrictions for DAA prescriptions. Since 2014, most states have relaxed these restrictions, especially the liver disease restrictions.
- Tables 1-3** show the unadjusted association between Medicaid restrictions and DAA utilization

**Table 1: Medicaid Liver Disease Restrictions (2017)**

Liver Disease Diagnosis	Average DAA Coverage	SD of DAA Coverage	Number of States
F3	6.40%	4.51%	12
F2	11.31%	5.93%	18
F1	15.57%	4.34%	4
None	22.23%	21.78%	17

**Table 2: Medicaid Sobriety Restrictions (2017)**

Sobriety Restrictions	Avg DAA Coverage	SD of DAA Coverage	Number of States
Abstain for 12 Months	10.9%	9.0%	2
Abstain for 6 Months	10.1%	9.1%	17
Abstain for 3 Months	8.5%	5.2%	5
Abstain for 1 Month	5.8%	2.1%	2
Screening and Counsel..	13.5%	6.4%	15
None	27.1%	26.0%	10

**Table 3: Medicaid Prescriber Restrictions (2017)**

Prescriber Requirements	Average DAA Coverage	SD of DAA Coverage	Number of States
By or in Consultation with Specialist	13.6%	7.9%	27
None	18.9%	24.2%	14
Specialist Must Prescribe	7.0%	6.0%	9
Unknown	24.7%	0.0%	1

- Multivariate regression suggests DAA coverage level is most associated with Sobriety and Liver Disease restrictions ( $p < .01$ ).
- Dropping disease restrictions
  - Impacts 34 states
  - Would treat ~70K more Medicaid Beneficiaries
  - Cost \$1.4 billion (assume \$20K treatment course)
- Dropping sobriety restrictions
  - Impacts 41 states
  - Would treat ~90K more Medicaid Beneficiaries
  - Cost \$1.8 billion (assume \$20K treatment course)
- Dropping both disease and sobriety restrictions
  - Impacts 47 states
  - Would treat ~160K more Medicaid Beneficiaries
  - Cost \$3.2 billion (assume \$20K treatment course)

## Conclusions

- As of 2017, approximately 13% of the estimated HCV infected Medicaid population received DAA treatment
- Wide variation exists across states, which is associated with Medicaid DAA prescribing requirements
- While relaxing requirements will increase use, we still model a significant shortfall in coverage in the Medicaid population

## Acknowledgments

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## References

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- Accessed from National Viral Hepatitis Roundtable at <https://www.stateofhepc.org>