

Letters

RESEARCH LETTER

National Prescribing Trends of Direct-Acting Antivirals for Hepatitis C

Since initially becoming available in 2013, direct-acting antivirals (DAAs) have transformed the treatment of hepatitis C virus (HCV) infection. Treatment is well tolerated and results in cure (sustained virologic response) in more than 95% of individuals. However, only about a third of people in the US with HCV infection receive treatment within a year of diagnosis, an estimated 2.5 million to 4 million remain chronically infected, and incident cases of HCV have increased during the last decade.^{1,2} To better understand how the use of DAAs has evolved in the US, this study measured changes in patient and prescriber characteristics for these medications from 2013 to 2025.

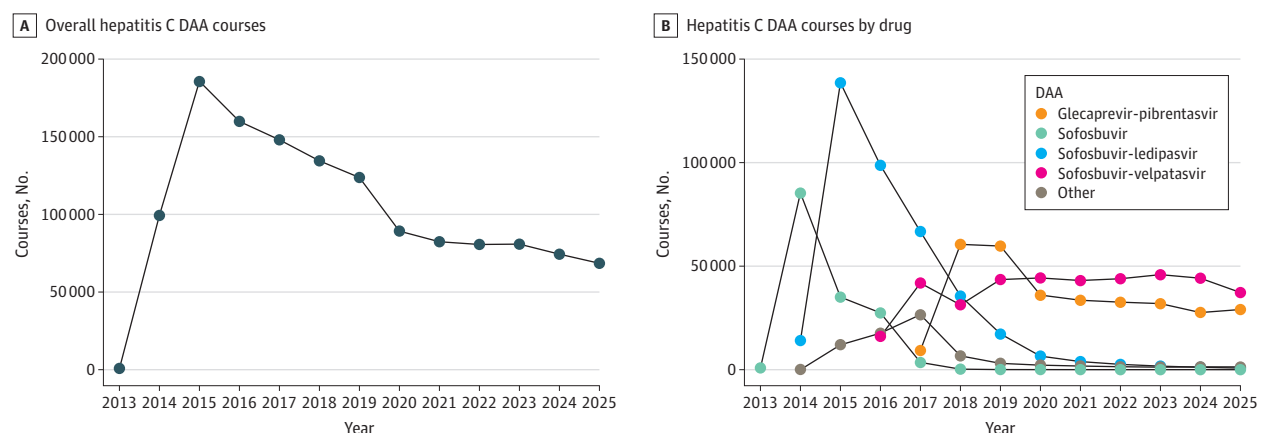
Methods | This cross-sectional study analyzed data from the Symphony Health Metys database, which estimates US prescription counts based on a large sample of retail, mail-order, and specialty pharmacy data. Counts of DAA treatment courses were estimated by dividing total dispensed tablet counts by drug-specific standard treatment durations (eTable 1 in [Supplement 1](#)). Data were aggregated at the US county and month level from January 2013 to December 2025 and stratified by specific drug, payer type (private insurance, Medicare, Medicaid, self-pay), patient age and sex, and prescriber specialty (gastroenterology or infectious disease specialist vs primary care). Treatment courses per 100 000 individuals in counties in and around metropolitan areas compared with rural counties are also reported (eAppendix in [Supplement 1](#)).

This study followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guideline for cross-sectional studies. The use of deidentified, aggregated data was determined not to represent human participants research by the Mass General Brigham Institutional Review Board. Analyses were conducted in R version 4.5.2 (R Foundation).

Results | An estimated 1.3 million courses of DAA were dispensed from 2013 to 2025; the annual volume was highest in 2015 (185 677 courses), declining to 68 523 in 2025 ([Figure 1A](#)). Prescribing reached its maximum number of courses prior to the introduction of newer regimens in 2016, which can be used to treat all genotypes of HCV ([Figure 1B](#); eTable 2 in [Supplement 1](#)). Medicare and commercial insurance accounted for most prescriptions in 2015 (36.8% and 44.7%), whereas Medicaid represented the largest share in 2025 (48.7%) ([Figure 2A](#)). Specialist prescribing declined from a peak of 66.1% of DAA courses in 2015 to 28.3% in 2025 ([Figure 2B](#)). The age distribution of patients being prescribed DAAs shifted over time, with adults older than 61 years accounting for 41.8% of treated patients in 2015 compared with 26.0% in 2025, while individuals younger than 40 years increased from 5.4% in 2015 to 28.9% in 2025 ([Figure 2C](#)). Treatment rates were initially higher in metropolitan counties but have been higher in nonmetropolitan counties since 2018 ([Figure 2D](#)).

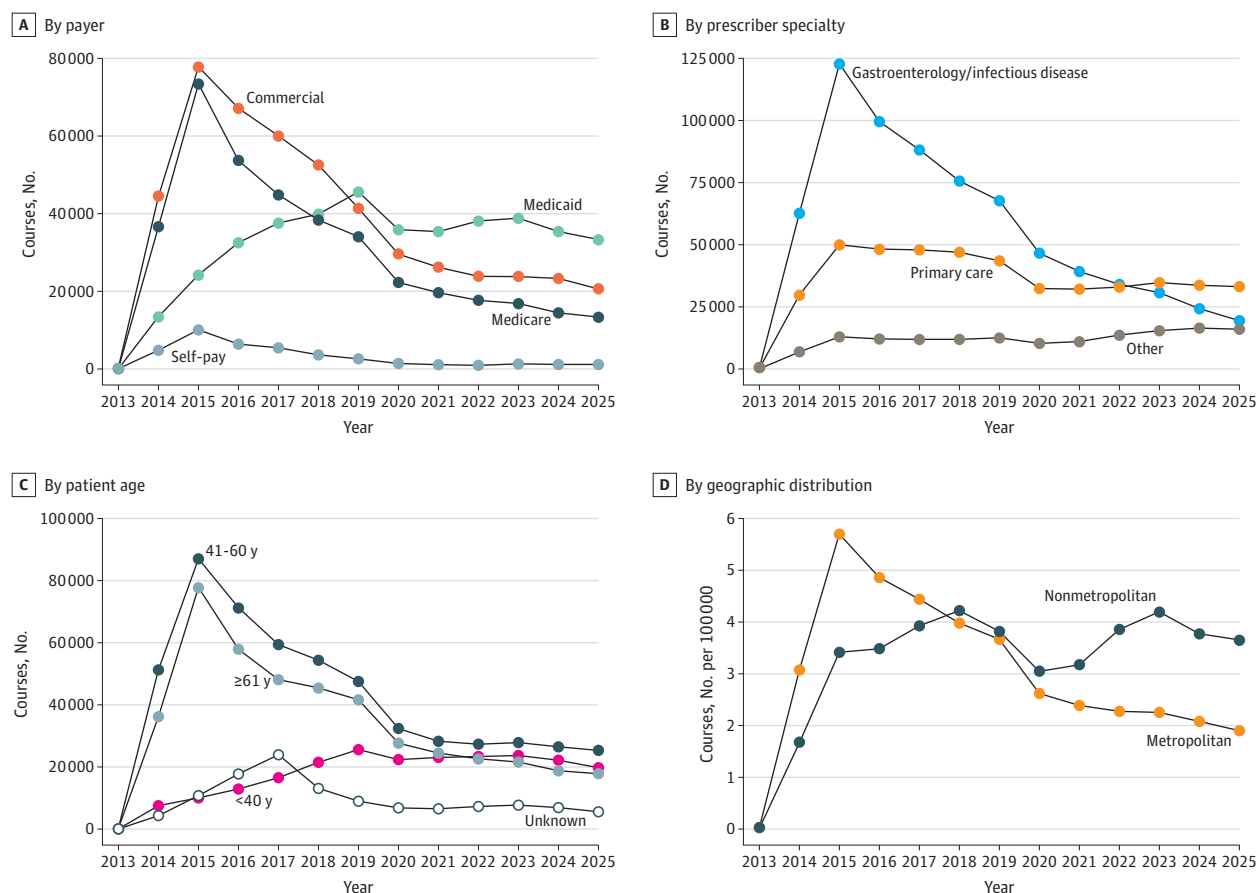
Discussion | In this national cross-sectional study, DAA prescribing peaked in 2015 and then declined substantially. Initially, DAA treatment was concentrated among older adults and individuals with Medicare or commercial insurance, consistent

Figure 1. Estimated Annual DAA Courses Dispensed at Retail, Specialty, and Mail-Order Pharmacies in the US, Overall and by DAA



DAA indicates direct-acting antiviral. Data are from Symphony Health Metys. Results for sofosbuvir-velpatasvir and sofosbuvir-ledipasvir include branded and authorized generic versions.

Figure 2. Estimated Annual DAA Courses Dispensed at Retail, Specialty, and Mail-Order Pharmacies in the US by Payer, Prescriber Specialty, Patient Age, and Geographic Distribution



DAA indicates direct-acting antiviral. Data are from Symphony Health Metys. Geographic distribution is at the county level and reflects treatment courses per 100 000 individuals based on the US Census Bureau Population Estimates Program, 2013-2024.

with previous Medicaid restrictions that limited coverage to patients with advanced liver fibrosis.³ We observed that DAA prescribing among Medicaid beneficiaries increased from 2016 through 2019 and then began decreasing, possibly due to interrupted access during the COVID-19 pandemic. This study is limited by reliance on aggregated claims that could not be linked longitudinally to assess treatment persistence. Other limitations of this study are that nonretail claims were excluded, including DAAs dispensed in correctional facilities.

The current results from 2014 to 2020 were consistent with a prior study using an alternate national prescription database.⁴ In more recent years, the annual treatment volume (approximately 69 000 courses) was similar to the estimated number of incident HCV infections in the US but is substantially below the approximately 260 000 annual treatment courses needed to achieve national elimination targets.⁵ This may explain why HCV prevalence in the US did not decrease in 2017 to 2020 compared with earlier periods, and may have even increased according to estimates of national surveys adjusting for underrepresentation of people who inject drugs.²

To increase HCV treatment and support eradication in the US, several changes are needed. Improved screening is impor-

tant but insufficient; in 1 trial, less than 20% of those diagnosed by universal screening received treatment.^{6,7} Further efforts to accelerate progress include expanded point-of-care diagnostics to facilitate same-day treatment, implementing telehealth and mobile outreach, and financing reforms such as the proposed national subscription model under the Cure Hepatitis C Act of 2025.⁸⁻¹⁰

Sanjay Kishore, MD
Margaret Hayden, MD, MPhil
Micah Johnson, MD
Aaron S. Kesselheim, MD, JD, MPH
Benjamin N. Rome, MD, MPH

Author Affiliations: Department of Medicine, University of Virginia School of Medicine, Charlottesville (Kishore, Hayden); Department of Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, Massachusetts (Johnson); Program on Regulation, Therapeutics, and Law (PORTAL), Division of Pharmacoepidemiology and Pharmacoeconomics, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, Massachusetts (Kesselheim, Rome).

Accepted for Publication: March 5, 2026.

Published Online: March 25, 2026. doi:10.1001/jama.2026.3328

Corresponding Author: Sanjay Kishore, MD, University of Virginia School of Medicine, 1215 Lee St, Charlottesville, VA 22903 (sanjay.kishore@uvahealth.org).

Author Contributions: Drs Kishore and Rome had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Concept and design: All authors.

Acquisition, analysis, or interpretation of data: Kishore, Kesselheim, Rome.

Drafting of the manuscript: Kishore.

Critical review of the manuscript for important intellectual content: All authors.

Statistical analysis: Kishore.

Obtained funding: Kesselheim.

Administrative, technical, or material support: Hayden, Rome.

Supervision: Hayden, Kesselheim, Rome.

Conflict of Interest Disclosures: Drs Kishore and Hayden reported consulting for the Equal Justice Initiative. Drs Kishore, Hayden, and Johnson reported being unpaid cofounders of EqualCure. Dr Kesselheim reported serving as an expert witness in cases against Gilead, Johnson & Johnson, generic manufacturers, and pharmacy benefits managers and serving as a consultant for Alosa Health. Dr Rome reported receiving grants from Humana, Elevance Health Public Policy Institute, and PCMA Foundation and personal fees from Alosa Health.

Funding/Support: Drs Kesselheim and Rome were supported by a grant from Arnold Ventures.

Role of the Funder/Sponsor: The supporter had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; or decision to submit the manuscript for publication.

Data Sharing Statement: See [Supplement 2](#).

1. Centers for Disease Control and Prevention. Too few people treated for hepatitis C reducing barriers can increase treatment and save lives. Accessed November 24, 2025. <https://www.cdc.gov/vitalsigns/hepc-treatment/index.html>

2. Hall EW, Bradley H, Barker LK, et al. Estimating hepatitis C prevalence in the United States, 2017-2020. *Hepatology*. 2025;81(2):625-636. doi:10.1097/HEP.0000000000000927

3. Davey S, Costello K, Russo M, et al. Changes in use of hepatitis C direct-acting antivirals after access restrictions were eased by state Medicaid programs. *JAMA Health Forum*. 2024;5(4):e240302. doi:10.1001/jamahealthforum.2024.0302

4. Teshale EH, Roberts H, Gupta N, Jiles R. Characteristics of persons treated for hepatitis C using national pharmacy claims data, United States, 2014-2020. *Clin Infect Dis*. 2022;75(6):1078-1080. doi:10.1093/cid/ciac139

5. National Academies of Sciences, Engineering, and Medicine. *A National Strategy for the Elimination of Hepatitis B and C: Phase Two Report*. National Academies Press; 2017.

6. Haukoos J, Rothman RE, Galbraith JW, et al; DETECT Hep C Screening Trial Investigators. Hepatitis C screening in emergency departments: the DETECT Hep C randomized clinical trial. *JAMA*. 2025;334(6):497-507. doi:10.1001/jama.2025.10563

7. Malani PN, Schenkel SM. Leveraging the emergency department to address the hepatitis C epidemic. *JAMA*. 2025;334(6):507-508. doi:10.1001/jama.2025.10868

8. Friedmann PD, Wilson D, de Gijzel D, et al. Mobile telemedicine for treating chronic hepatitis C among rural people who inject drugs: a randomized clinical trial. *JAMA Netw Open*. 2026;9(1):e2555125. doi:10.1001/jamanetworkopen.2025.55125

9. Fleurence RL, Collins FS. A national hepatitis C elimination program in the United States: a historic opportunity. *JAMA*. 2023;329(15):1251-1252. doi:10.1001/jama.2023.3692

10. Cure Hepatitis C Act of 2025, S 1941, 119th Cong (2025). Accessed March 1, 2026. <https://www.congress.gov/bill/119th-congress/senate-bill/1941/text>