Utilization, Reimbursement and Price Trends of Hepatitis C Virus Medications in the US Medicaid Programs from 2001 to 2021

Gari, M. PharmD, PhD Candidate [1], Alsuhibani, A. PharmD [1], Alashgar, A. PharmD [1], Guo, JJ. PhD [1]

[1] James L. Winkle College of Pharmacy, University of Cincinnati, OH

University of CINCINNATI

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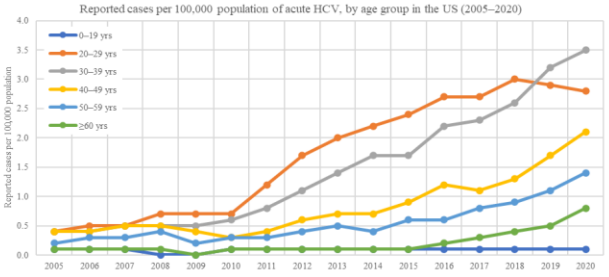
BACKGROUND

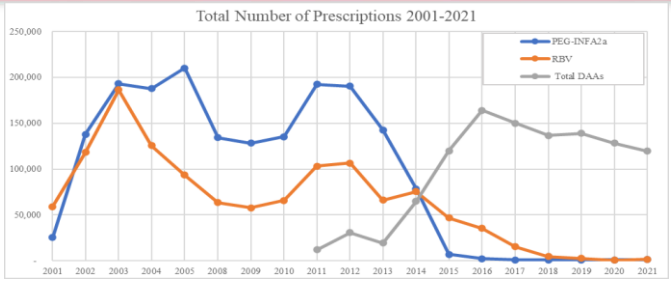
- Hepatitis C Virus (HCV) causes severe liver damage, including cirrhosis and liver cancer, and is primarily transmitted through infected blood.
- Globally, 71 million people have chronic HCV infection, and in the US, it's a leading cause of liver complications that often require transplantation.
- Direct-acting antiviral (DAA) agents offer cure rates over 90% but have been limited access due to high cost and reimbursement policies.
- Incidences of HCV kept growing since 2011 despite DAA availability.

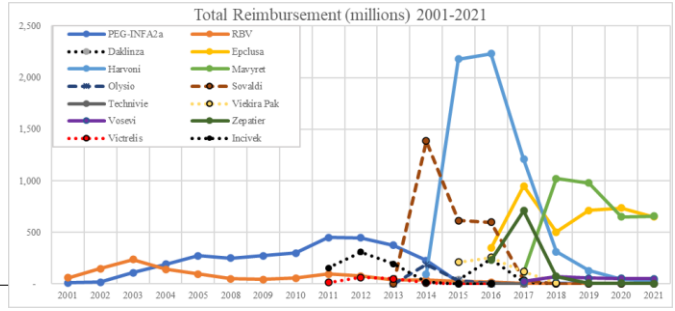
OBJECTIVE

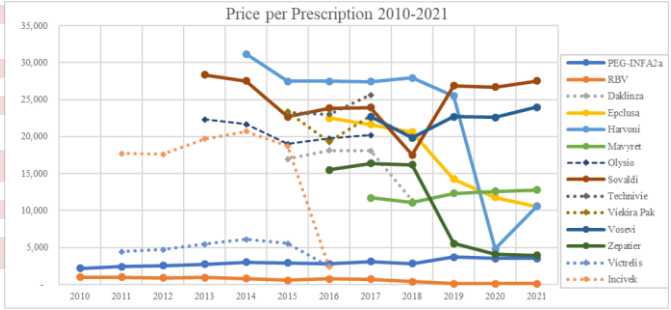
- To describe and analyze the utilization, reimbursement, and price trends of HCV medications in the US Medicaid-covered population.



Brand name	Generic Name	Manufacture Company	FDA approval	Discontinue
Victrelis	Boceprevir	Schering Corporation - Merck	05/13/2011	12/2015
Incivek	Telaprevir	Vertex Pharmaceuticals Incorporated	05/23/2011	10/2014
Olysio	Simeprevir	Janssen Pharmaceuticals Inc.	11/22/2013	05/2018
Sovaldi	Sofosbuvir	Gilead Sciences Inc	12/06/2013	
Harvoni	Ledipasvir / Sofosbuvir	Gilead Sciences Inc	10/10/2014	
Viekira	Ombitasvir / Paritaprevir / Ritonavir / Dasabuvir	AbbVie	12/19/2014	1/2019
Technivie	Ombitasvir / Paritaprevir / Ritonavir	AbbVie	07/24/2015	1/2019
Daklinza	Daclatasvir	Bristol-Myers Squibb Company	07/24/2015	1/2019
Zepatier	Elbasvir / Grazoprevir	Merck Sharp & Dohme	01/28/2016	
Epclusa	Sofosbuvir / Velpatasvir	Gilead Sciences Inc	06/28/2016	
Vosevi	Sofosbuvir / Velpatasvir / Voxilaprevir	Gilead Sciences Inc	07/18/2017	
Mavyret	Glecaprevir / Pibrentasvir	AbbVie and Enanta Pharmaceuticals	08/03/2017	







METHODS

- Longitudinal retrospective and descriptive study to examine all US HCV treatments, ribavirin (RBV), pegylated interferon alfa-2a (PEG-INFA2a), and all DAA agents.
- Study utilized state Medicaid drug utilization pharmacy claim files collected by the Centers for Medicaid and Medicare Services (CMS) (2001-2021) to examine HCV medication trends.
- Annual trends were calculated and analyzed for each medication's number of prescriptions, reimbursements, and prices.

RESULTS

- Introduction of new DAAs reduced utilization of PEG-INFA2a and RBV.
- Total number of prescriptions for RBV, PEG-INFA2a, and DAAs:
  - 2011: 103,358, 192,529, and 12,074
  - 2021: 1,600, 1,215, and 119,496
- Discontinuation of several DAAs due to market competition and lower utilization.
- DAAs are more expensive than PEG-INFA2a and RBV, resulting in higher reimbursement rates.
  - The overall prescription cost for RBV, PEG-INFA2a, and DAAs averaging around $797, $2,945, and $16,725.
- Harvoni had the highest annual reimbursement, exceeding $2 billion in 2014 and 2015.

DISCUSSION

- DAA agents reduced RBV and PEG-INFA2a utilization and increased market competition.
- DAA effectiveness, clinical guidelines and HCV genotype coverage play pivotal roles in shaping the utilization and pricing of DAA agents.
- Some efforts to mitigate the high price and accessibility issue include subscription model and generic production.

CONCLUSION

Despite the introduction of multiple DAAs agents, the drug prices remained high and unchanged during the study period. The increase in HCV incidence cases in recent years indicates accessibility issues for costly and effective DAAs medications.

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Contact Information

Musaab Gari, PharmD, PhD Candidate, Email: Garimh@mail.uc.edu

James L. Winkle College of Pharmacy, University of Cincinnati.

3255 Eden Ave., 161 Kowalewski Hall; Cincinnati, Ohio 45229