Title: Outcomes of pharmacy-led hepatitis C direct-acting antiviral utilization management at a Veterans Affairs Medical Center
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Purpose/Background: (72 words)
The Veterans Affairs Health Administration has reported hepatitis C virus infection rates among veterans to be twice that of the general United States population. New direct-acting antiviral (DAA) treatment options with superior sustained virologic response (SVR) rates, improved side effect profiles, and shortened treatment courses have significantly changed the management of chronic hepatitis C patients. These new DAAs are expensive and management strategies are needed to optimize utilization and improve clinical outcomes.

Research Objective: (26 words)
The objective of this study is to assess the economic and clinical outcomes of pharmacy-led hepatitis C DAA utilization management in a Veterans Affairs Medical Center.

Methodology: (123 words)
The Institutional Review Board approved this study. A retrospective review of patient electronic health records and the hepatitis C DAA outcomes tracking database was conducted at a Veterans Affairs Medical Center. Patients with a hepatitis C DAA restricted medication consult and therapy initiated between October 1, 2014 and September 30, 2015 were included. The primary endpoint was the overall cost proportion ratio of drug spend to cure rate calculated as the total dollars spent to the number of patients achieving SVR at least 12 weeks from end of treatment. Secondary endpoints included economic outcomes of the ratio of drug spend to cure rate for different subgroups, cure rates for clinical efficacy overall and for different subgroups, and safety outcomes including discontinuation of therapy.

Results: (131 words)
A total of 372 patients were included, with the majority being African-American, male patients around 62 years old. The most common hepatitis C virus genotype was 1a, about half of the patients had cirrhosis, most patients were treatment-naïve, and most had no co-infection with human immunodeficiency virus or hepatitis B virus. The overall cost proportion ratio of total drug spend to cure rate was $40,135.22. The overall cure rate was 94.1%. The ratio of drug spend to cure rate for cirrhotic patients was $41,907.35 compared to $38,430.77 in non-cirrhotic. The ratio of drug spend to cure rate for treatment experienced patients was $39,481.62 compared to $39,178.74 in treatment naïve. Ten patients discontinued therapy due to adverse effects such as anemia, nausea, vomiting, and anxiety, while four stopped therapy due to noncompliance.

Conclusion: (69 words)
The study suggests that pharmacist-led hepatitis C DAA management strategies such as patient outcomes tracking, budget tracking and forecasting, clinical guidance, and operational processes are an important factor in utilization. Overall, hepatitis C DAA treatment resulted in a high cure rate and consistent cost per cure ratio among all genotypes, regardless of presence of cirrhosis or prior treatment status. Future plans include sharing utilization management strategies with other institutions.