Expanding Hepatitis C Virus Care and Cure: National Experience Using a Clinical Pharmacist Driven Model

David E. Koren, PharmD[1]; Autumn Zuckerman, PharmD[2]; Robyn Teply, PharmD[3]; Nadia Nabulsi, BS, MPH[4]; Todd Lee, PharmD, PhD[4]; Michelle T. Martin, PharmD[4]

[1]Department of Pharmacy, Temple University Hospital; [2]Vanderbilt Specialty Pharmacy, Vanderbilt University Medical Center; [3]School of Pharmacy and Health Services, Creighton University; [4]University of Illinois at Chicago College of Pharmacy

Liver Meeting 2018 #1887

Contact Information:
David Koren, PharmD
Temple University Hospital
3401 North Broad Street
Philadelphia, PA 19140, USA
Tel: 215-707-5015
Fax: 215-226-8223
david.koren2@tuhs.temple.edu

BACKGROUND

- The United States National Viral Hepatitis Action Plan calls for additional health care providers to expand hepatitis C virus (HCV) treatment capacity[1]
- Mid-level providers and non-specialist primary care providers have implemented successful HCV treatment programs[2-4]
- The effectiveness of a clinical pharmacist-driven HCV delivery model in an open system has not yet been reported
- The HCV treatment regimen and duration are selected by the clinical pharmacist at the 4 study sites

OBJECTIVE

- To determine sustained virologic response (SVR) rates of patients treated through a clinical pharmacist-driven HCV treatment model

METHODS

- Multi center, retrospective cohort (January 1, 2014 – September 7, 2018)

Study Population:

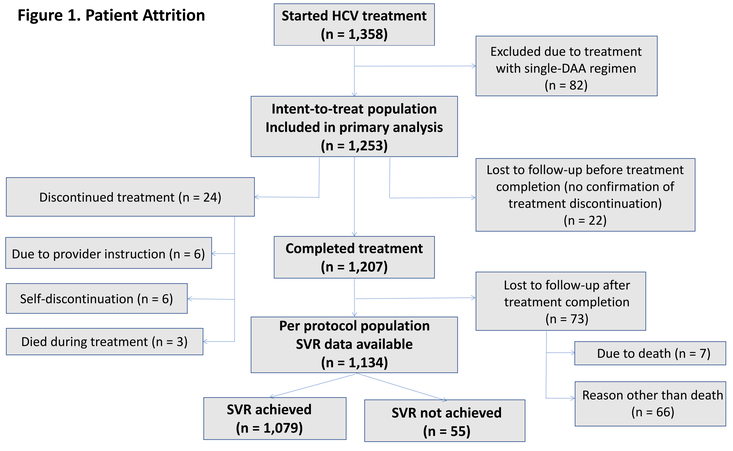
- Initiated HCV treatment with a dual or triple direct-acting antiviral (DAA) regimen between January 1, 2014 and March 12, 2018 under the care of the clinical pharmacist at 4 centers
- Excluded if 12 weeks after treatment completion by September 7, 2018 not yet met or if treatment was not provided by the clinical pharmacist

Statistical analysis:

- An intent-to-treat analysis was used for all primary statistics
- Descriptive statistics were provided to define the overall study population
- To identify significant associations between SVR rates and drug-drug interactions (DDIs), adverse drug reactions (ADRs), or adherence, χ^2 tests were used with p values <0.05 regarded as statistically significant

RESULTS

Figure 1. Patient Attrition



RESULTS

Table 1. Baseline Patient Characteristics (n = 1253)

Age, years (SD)	57.4 (10.1)
Born between 1945-1965, n (%)	928 (74.1)
Male, n (%)	801 (63.9)
Ethnicity, n (%)	
African American/Black	673 (53.7)
Caucasian	389 (30.9)
Hispanic	157 (12.5)
Other	36 (2.8)
Human immunodeficiency virus (HIV) coinfection, n (%)	225 (18)
History of solid organ transplantation, n (%)	90 (7.2)
Documentation of psychiatric illness, n (%)	420 (33.5)
Hepatocellular carcinoma (HCC), n (%)	49 (3.9)
Treatment-naïve, n (%)	1022 (81.6)
Genotype, n (%)	
1a	779 (62.2)
1b	299 (23.9)
Other	175 (13.9)
Cirrhotic, n (%)	505 (40.3)
Child-Turcotte-Pugh (CTP) class A	418 (33.4)
CTP class B	69 (5.5)
CTP class C	18 (1.4)
Regimen, n (%)	
Sofosbuvir/Ledipasvir ± Ribavirin (RBV)	757 (60.4)
Sofosbuvir/Velpatasvir ± RBV	131 (10.5)
Grazoprevir/Elbasvir ± RBV	114 (9.1)
Sofosbuvir + Simeprevir ± RBV	111 (8.9)
Glecaprevir/Pibrentasvir	79 (6.3)
Other	32 (4.8)
History of alcohol usage in the last 6-12 months, n (%)	390 (31.1)
History of intravenous drug use (IVDU) in the last 6-12 months, n (%)	70 (5.6)
History of IVDU ever, n (%)	536 (43)
History of other illicit substance usage in the last 6-12 months, n (%)	199 (15.9)
History of other illicit substance usage ever, n (%)	648 (51.7)

Figure 2. Overall SVR Rates

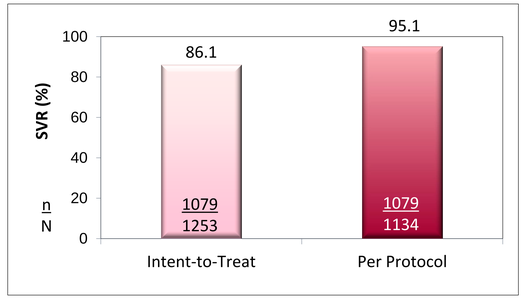


Figure 3. SVR by Selected Patient Characteristics

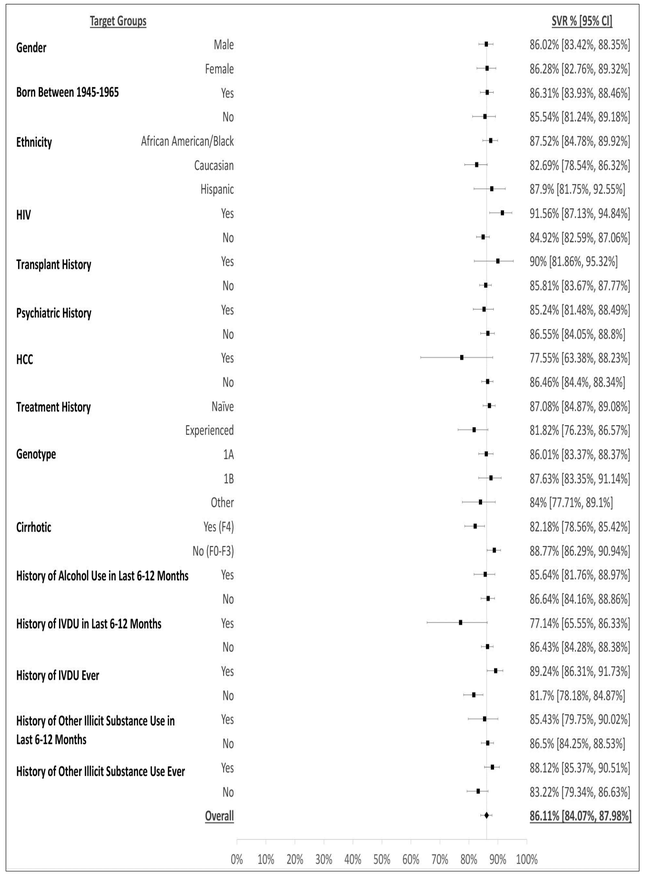


Table 2. SVR by Adherence, Baseline DDIs, and ADRs

		SVR, n (%)		P-value
		Yes	No	
Adherence	No missed doses	837 (90)	93 (10)	*<0.0001*
	≥1 missed dose(s)	242 (74.9)	81 (25.1)	
Presence of Drug-Drug Interactions	Yes	525 (88.1)	71 (11.9)	0.054
	No	554 (84.3)	103 (15.7)	
Presence of Adverse Drug Reactions	Yes	444 (88.3)	59 (11.7)	0.07
	No	635 (84.7)	15 (15.3)	

RESULTS

- Per protocol and intent-to-treat SVR rates did not differ among the 4 study sites (p > 0.05)
- HCV treatment was well-tolerated; 21.2% reported fatigue, 14.6% reported headache, and 22% reported other ADRs
- 47.6% of patients had DDIs at baseline; common drug classes included acid suppression agents (21.4%), statins (12.6%), and cardiac agents (9.9%)

CONCLUSIONS

- Our study is the first to describe the efficacy of clinical pharmacist-driven HCV treatment across a large and diverse population from multiple institutions
- Clinical pharmacist-driven HCV treatment was effective in patients with multiple comorbidities
- The clinical pharmacist-driven HCV treatment model is effective and comparable to other real-world studies with specialist, non-specialist, and non-hepatology providers[2-4]
- Collaborations should be established between HCV treatment providers and clinical pharmacists in order to replicate this model of care as a method of HCV treatment expansion and strategy for steps toward HCV elimination

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DISCLOSURES

Investigators received an investigator sponsored research grant from Gilead Sciences Inc. The poster contents are solely the responsibility of the authors and do not necessarily represent the official views of Gilead. Drs. Koren, Martin, and Teply have served on advisory board(s) for Gilead. Dr. Koren has served on an advisory panel for ViiV Healthcare. Dr. Teply has served on advisory boards for AbbVie and serves on the speaker's bureau for Gilead Sciences, Inc and AbbVie. Dr. Martin is a minor shareholder of AbbVie, Gilead, and Merck.