



Hepatitis C Treatment Experience in the New Mexico State Prison System using the ECHO Model™



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BACKGROUND & OBJECTIVES

Hepatitis C virus (HCV) infection is a worldwide public health issue and a significant cause of morbidity and mortality.¹ This infection is highly prevalent in incarcerated populations and although effective treatment exists, barriers in access to medical care and specialty care services remains a constant challenge within incarcerated populations. It is estimated that between 12%–35% are chronically infected as compared to 1%–1.5% in the general United States population.²

The Extension for Community Healthcare Outcomes (ECHO) model was developed by the University of New Mexico Health Sciences Center for both outcomes research and delivery of services.³ One of the goals of Project ECHO® was to provide access to HCV specialty care for the state of New Mexico through teleECHO™ clinics and increase access to HCV treatment to underserved populations, which included the state prison population. The objective of this study was to describe the HCV treatment experience using the ECHO model in the state prison population in New Mexico.

METHODS

❖ Study Design and Population:

-We performed a retrospective review of 196 charts from adult prisoners treated for HCV in the NM prison system between 2007-2012.

-All 196 inmates were treated with pegylated interferon and weight-based ribavirin with 14 inmates receiving a directly acting agent (telaprevir or boceprevir).

❖ ECHO Model:

-Project ECHO formed a collaboration with the NM Department of Corrections (NMDOC).

-A Treatment Review Committee (TRC) consisting of an HCV specialist and pharmacist from Project ECHO and a psychiatrist, addiction specialist and infectious diseases nurse from the NMDOC jointly created an HCV treatment protocol.

-Patients were presented by NMDOC clinicians to the TRC in a weekly HCV teleECHO clinic.

❖ Project ECHO TRC HCV Protocol and Guidelines:

- Pre-phase 1: Screening and initial diagnosis.
- Phase 1: Identification of treatment candidates, both mental health and addiction screenings, and presentation to the TRC.
- Phase 2: Pre-treatment education and baseline labs.
- Phase 3: HCV antiviral treatment.
- Phase 4: Six month follow up for HCV viral load to assess achievement of sustained virologic response.

Figure 1: Example of Clinical Flow Sheet

-Mental Health Evaluation: Consisted of a psychiatric evaluation, baseline and monitoring of the Center for Epidemiologic Studies Depression Scale (CES-D) score and consideration of preventive treatment with antidepressant therapy.

Figure 2: Example of CES-D Screening Tool

-Addiction Screening: The inmate was asked to complete the Texas Christian University (TCU) Drug Screen II questionnaire consisting of 15 questions.

Figure 3: Example of TCU Drug Screen II Form

RESULTS

Table 1: Baseline Patient Characteristics

Characteristic	NM Prisoners (N=196)
Age-yr, average	38.7 (22-67)
Part of Birth Cohort-no. (%)	64 (32.7%)
Male sex-no. (%)	182 (92.9%)
Body-mass index*, average	28.8 (18.2-53.4)
Self-reported suspected route of transmission	
-Current/former injection drug user	83 (42.3%)
-Both injection drug use and unprofessional tattoo	56 (28.6%)
-Unprofessional tattoo	27 (13.8%)
-Sex with a HCV infected person	1 (0.5%)
-Blood transfusion before July 1992	1 (0.5%)
-Unknown	28 (14.3%)

*BMI data missing for 5 patients

Table 2: Medical, Psychiatric and Drug Use History

Medical Conditions:	
No chronic medical conditions reported-no. (%)	107/196 (54.6%)
Psychiatric Conditions*:	
Axis I Psychiatric Diagnosis reported	169/196 (86.2%)
One Psychiatric condition reported	96/169 (56.8%)
Two Psychiatric conditions reported	58/169 (34.3%)
Top Three Psychiatric Diagnosis	
-Polysubstance dependence	115/169 (68.0%)
-Major depressive disorder	46/169 (27.2%)
-Anxiety	13/169 (7.7%)
Drug Use History**:	
Use of ≥ 2 drugs reported-no. (%)	142/190 (74.7%)

*Psychiatric conditions missing data for 16 patients

**Drug use history missing data for 6 patients

Table 3: Baseline Lab and Treatment Results

Lab/Treatment Results	NM Prisoners (N=196)
HCV genotype 1	121 (61.7%)
Use of GCSF during treatment*	21/196 (10.7%)
Use of Epopgen during treatment*	16/196 (8.2%)
SVR all genotypes	
-Genotype 1 (107 patients excluding protease inhibitor use)	52/107 (48.6%)
-Genotype 1 (14 patients treated with boceprevir or telaprevir)	6/14 (42.9%)
-Genotype 2	10/15 (66.7%)
-Genotype 3	40/55 (72.7%)
-Genotype 4	3/5 (60.0%)

*Granulocyte colony stimulating factor and Epoetin alfa

CONCLUSIONS

- ❖ The ECHO model is an effective way to treat HCV in a state prison system and achieves similar cure rates (SVR) as those seen in interferon licensing trials.^{4,5}
- ❖ Our work highlights the prevalence of substance use/abuse/dependence and psychiatric conditions within this population, drawing attention to the need for ongoing efforts towards risk reduction education.

REFERENCES

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