

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

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# BACKGROUND & OBJECTIVES

- Estimated 12%–35% of incarcerated population chronically infected with HCV compared to 1%–1.5% in the general United States population.
- 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.
- Goal 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.
- 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**

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

- **ECHO Model**

- 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. Use of CES-D score monitoring and TCU Drug Screen II questionnaire.
- **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.

# Table 1: Baseline Characteristics

Characteristics	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	NM Prisoners
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 Diagnoses	
▪ Polysubstance dependence	115/169 (68%)
▪ Major depressive disorder	46/169 (27.2%)
▪ Anxiety	13/169 (7.7%)
Drug Use History**	
Use of ≥ three 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 Labs and Treatment Results

Lab/Treatment Results	NM Prisoners (N=196)
HCV Genotype 1 – no. (%)	121/196 (61.7%)
Use of GCSF during treatment*	21/196 (10.7%)
Use of Epogen during treatment*	16/196 (8.2%)
SVR – All Genotypes – no. (%)	111/196 (56.6%)
<ul style="list-style-type: none"> <li>▪ Genotype 1 (107 patients, excluding protease inhibitor)</li> </ul>	52/107 (48.6%)
<ul style="list-style-type: none"> <li>▪ Genotype 1 (14 patients treated with boceprevir or telaprevir)</li> </ul>	6/14 (42.9%)
<ul style="list-style-type: none"> <li>▪ Genotype 2</li> </ul>	10/15 (66.7%)
<ul style="list-style-type: none"> <li>▪ Genotype 3</li> </ul>	40/55 (72.7%)
<ul style="list-style-type: none"> <li>▪ Genotype 4</li> </ul>	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.
- 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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