

Project Title:	Project ECHO: Extension for Community Healthcare Outcomes
Principal Investigator:	Arora, Sanjeev, M.D.
Organization:	University of New Mexico at Albuquerque
Mechanism:	RFA: HS04-011: Transforming Healthcare Quality through Information Technology (THQIT)
Grant Number:	UC1 HS 015135
Project Period:	09/04 – 08/08, Including No-Cost Extension
AHRQ Funding Amount:	\$1,455,258
Summary Status as of:	August 2008, Conclusion of Grant

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to improve the quality and safety of medication management via the integration and utilization of medication management systems and technologies.

Business Goal: Knowledge Creation

Summary: Project ECHO (Extension for Community Healthcare Outcomes) involves a partnership of academic medicine, public health offices, corrections departments, and community clinics dedicated to providing best practices and protocol-driven specialty healthcare in rural and underserved areas. This specific research project focused on using health information technology to provide improved treatment of hepatitis C virus (HCV). Project ECHO's weekly scheduled telemedicine clinics, which are hosted by UNM HSC specialists in the areas of HCV, use telemedicine pathways and Internet-based access to provide community healthcare practitioners with the opportunity to present cases, which are discussed among the network participants to jointly reach treatment decisions. This particular form of case-based learning, called "learning loops," allow community providers to learn from the experience of co-managing patients with specialists and their peer providers around the State. In these case-based learning clinics, partners rapidly gained deep domain expertise in HCV as they collaborated with university specialists in hepatology, infectious disease, psychiatry, and substance abuse in co-managing their patients. Expansion of this telehealth model to other chronic, complex diseases is underway.

Specific Aims

- Co-manage ECHO HCV patients by partnering urban specialists with community physicians. **(Achieved)**
- Develop and expand access to treatment for HCV and eventually other complex diseases (diabetes, asthma, etc.) by building treatment capacity in New Mexico among rural medical providers. **(Achieved)**
- Create a model for treatment of complex, chronic diseases in rural and/or underserved populations in New Mexico. **(Achieved)**
- Provide extensive professional healthcare no-cost education through use of telemedicine technologies. **(Achieved)**
- Develop Patient and Provider Outcomes Program. **(Achieved)**
- Expand telehealth access/infrastructure. **(Achieved)**

2008 Activities: In 2008, the grantee continued to offer teleconference clinics for HCV (during the first 8 months of 2008, 5,993 patient consultations were provided), while expanding to offer clinics for rheumatology, integrated addiction/psychiatry, child psychiatry, psychodynamic psychotherapy,

gestational diabetes/high-risk pregnancy, cardiovascular risk reduction, pediatric obesity, asthma/pulmonary disease, HIV, occupational medicine, medical ethics, and chronic pain.

Preliminary Impact and Findings: Provider outcome data demonstrated increased provider knowledge, self-efficacy in treating HCV patients, decreased professional isolation, and enhanced professional satisfaction. Preliminary patient outcome data analysis confirms co-managed HCV treatment by rural providers is as safe and effective as treatment delivered in an academic medical center HCV clinic.

Selected Outputs

Berkley EM, Leslie K, Arora S, et al. Chronic hepatitis C in pregnancy. *Obstet Gynecol* 2008 Aug; 112(2: Pt 1):304-10.

Geppert CM, Arora, S. Widening the door: the evolution of hepatitis C treatment in patients with psychiatric disorders. *J Hepatol* 2007 Oct; 46(4):957-9.

Gish RG, Arora S, Rajender RK, et al. Virological response and safety outcomes in therapy-naive patients treated for chronic hepatitis C with taribavirin or ribavirin in combination with pegylated interferon alfa-2a: a randomized, phase 2 study. *Hepatology* 2007 Jul; 47(1):51-9.

Arora S, Thornton K, Jenkusy S, et al. Project ECHO: linking university specialists with rural and prison-based clinicians to improve care for people with chronic hepatitis C in New Mexico. *Public Health Rep*, 2007; 122(S2):74-7.

Arora S, Geppert C, Kalishman S, et al. Academic health center management of chronic diseases through knowledge networks: Project ECHO. *Acad Med* 2007 Feb; 82 (2):54-60.

Arora S, O'Brien C, Zeuzem S, et al. Treatment of chronic hepatitis C patients with persistently normal alanine aminotransferase levels with the combination of peginterferon alpha-2a (40 kDa) plus ribavirin: impact on health-related quality of life. *J Gastroenterol Hepatol* 2006 Feb; 21(2):406-12.

Geppert CM, Arora S. Ethical issues in the treatment of hepatitis C. *Clin Gastroenterol Hepatol* 2005 Oct; 3(10):937-44.

Sulkowski M, Wright T, Rossi S, et al. Peginterferon alfa-2a does not alter the pharmacokinetics of methadone in patients with chronic hepatitis C undergoing methadone maintenance therapy. *Clin Pharmacol Ther* 2005 Mar; 77 (3):214-4.

iHealth Electronic Clinical Management Tool: Real-time remote entry and access to patient-specific information is needed for co-management and during consultative clinics. An outside vendor, Infosys Technologies, Inc., completed a new Web-based clinical management database, iHealth (trademark application pending), in May 2008. This allowed all partners to access information even from remote sites, with HIPAA-compliant controlled access to protect confidentiality. Clinical personnel from ECHO Partner Sites continued to receive iHealth instruction. This database will ultimately be utilized by all ECHO Partner Sites that treat HCV patients.

AHRQ 2008 Annual Conference presentation: ECHO Project ([PowerPoint® File](#), 2.6 MB; [Web Version](#)).

Grantee's Most Recent Self-Reported Quarterly Status: This project has been completed. Project ECHO will continue to offer clinics and services to rural New Mexico physicians. The project's success has spurred further interest as well as funding from additional sources, and its methodology will be expanded to other diseases while utilizing the same infrastructure developed with this grant.

Milestones: Progress is mostly on track.

Budget: Spending is roughly on target.