

The Role of Project ECHO and Academic Medical Institutions in Supporting Rural Medical Practices

Gretchen Goble¹ and Bailey O'Donnell¹

¹Upstate Medical University Department of Family Medicine

History of Project ECHO

Project ECHO (Extension for Community Healthcare Outcomes) was developed to improve access to care for underserved populations with complex health problems. Specifically, it began in an effort to expand access to specialist treatment for patients with the Hepatitis C virus in New Mexico. In 2003, the University of New Mexico Health Sciences Center's HCV infection clinic created the Project ECHO program using Telehealth to reach the patients on their 6-month waitlist who would benefit from HCV treatment. Outcomes-based research suggested that the project was successful, leading to the expansion of Project ECHO nationwide.¹ Our team learned about Project ECHO while doing telehealth volunteering at Upstate Medical University's Joslin Endocrine Center, who hosts their own Project ECHO. Through our narrative review, we hope to identify the strengths of Project ECHO and its contribution to rural medicine.

Project ECHO Format and Expansion

Academic medical center-managed network connecting specialists with primary care providers from a variety of settings, including rural and urban federally qualified health centers, rural hospitals, DOH facilities, and correction facilities.²

Weekly "virtual grand rounds" to discuss cases and review management strategies via brief didactic sessions.²

Expanded to asthma, chronic pain, diabetes, CV risk reduction, high-risk pregnancy, HIV/AIDS, pediatric obesity, rheumatologic diseases, substance abuse disorders, and mental illness.²

Expansion to the **public health emergencies** – used to help manage ventilated patients during H1N1 outbreak.²

Project ECHO Impact on Rural Health

Access to Care:

A prospective cohort study comparing treatment for HCV infection at the UNM Health Sciences HCV clinic with treatment by PCPs at 21 ECHO sites in rural areas and prisons in NM was performed. Patients with no previous HCV treatment between 18 and 65 were assessed for a sustained virologic response (SVR) as the primary endpoint. **The SVR rate did not differ between UNM HCV clinic and ECHO sites**, suggesting that the program was successful in its goal to expand access to evidence-based treatment for HCV.¹

A participation survey was sent to providers participating in HCV ECHO Telehealth with a 61-71% participation rate suggested that there was **"Major Benefit" in multiple domains** including knowledge of HCV treatment and management, symptoms of HCV patients in treatment, competence, self-efficacy, and access to behavioral/mental health resources for patients with HCV.³

Project-ECHO AGE program targeting long-term care residents with dementia found that **74% of patients improved following recommendations** while only 20% improved when recommendations were not followed. In a matched cohort study, facilities reported significant **lower use of restraints**.⁴

Statistically **significant decrease in mean HBA1C** (10.2 to 8.4) over 5 months following Project ECHO training.⁴

Continuing Education:

By 2011, over 20,000 of **CME and nursing CEU** credit was awarded at no cost to the professionals.²

The six month participation survey suggested a **"High Degree" of physician "degree of learning"** for identifying patients who qualify for HCV treatment (71% High Degree) and HCV treatment protocol by genotype (63% High Degree).³

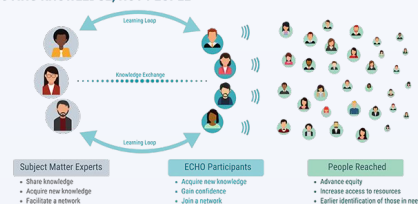
One study demonstrated statistically significant **improvement on a multiple choice questionnaire** on treatment resistant HTN.³

Community Health Workers and PCPs in 10 NM health centers reported **increased confidence** in managing complex diabetes and **servicing as a local resource** after 2 year participating in Endocrinological Project ECHO.⁵

Future Considerations for Rural TeleEducation

There are currently five Project ECHO programs at SUNY Upstate Medical University: pediatrics, geriatrics, endocrinology, toxicology, and neurosurgery. Historically, the endocrinology Project ECHO has suffered from lower attendance compared to the other Project Echo groups. Therefore, we will be conducting a needs assessment via survey administered to the NYS rural medicine providers involved with the R-MED program at Upstate Medical University. Through this survey, we hope to learn what types of academic medical center outreach programs rural practitioners are interested in for themselves and their patients. We also hope to learn what barriers to participation may exist that prevent engagement in educational opportunities

MOVING KNOWLEDGE, NOT PEOPLE



Conclusions

Rural providers often care for medically complex patients with little support from colleagues in surrounding areas or the ability to easily refer patients to specialists. Patients requiring specialist management are burdened by long waitlist and travel fees. In an effort to mitigate this, Project ECHO was formed. Our team reviewed relevant literature to learn about the history, format, expansion of Project ECHO and the impact on rural health care. Project ECHO programs are largely sponsored by Academic Medical Centers. In our future study outlined above, we plan to address different ways in which Academic Medical Centers can support rural health care professionals and physicians within and beyond the Project ECHO.

Bibliography

1. Arora S, Thornton K, Murata G, et al. Outcomes of treatment for hepatitis C virus infection by primary care providers. *N Engl J Med*. 2011;364(23):2199-2207.
2. Arora S, Kalishman S, Dion D, et al. Partnering urban academic medical centers and rural primary care clinicians to provide complex chronic disease care. *Health Aff (Millwood)*. 2011;30(6):1176-1184.
3. Arora S, Kalishman S, Thornton K, et al. Expanding access to hepatitis C virus treatment—Extension for Community Healthcare Outcomes (ECHO) project: disruptive innovation in specialty care. *Hepatology*. 2010;52(3):1124-1133.
4. Zhou C, Crawford A, Sertal E, Kurdyak P, Sockalingam S. The Impact of Project ECHO on Participant and Patient Outcomes: A Systematic Review. *Acad Med*. 2016;91(10):1439-1461.
5. Boucherville MF, Hager BW, Kirk JB, Qualls CR, Arora S. Endo Echo Improves Primary Care Provider and Community Health Worker Self-Efficacy in Complex Diabetes Management in Medically Underserved Communities. *Endocr Pract*. 2018;24(1):40-46.