Using the ECHO Model to Expand Access to Care for Hepatitis B

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11/14/17
Objectives

• Describe the Inception of Project ECHO and its mission and goals

• Introduce the basic principles and components of the TeleECHO model for education and workforce development

• Describe the first HBV ECHO Program
  • HBV ECHO: Reducing Perinatal Transmission
Moving Knowledge Instead of Patients
Hepatitis C in New Mexico (2004)

- Large geographic area, low population density
- Few health care providers and no specialists
- More than 35,000 reported HCV cases, < 5% had been treated
- Highest rate of chronic liver disease/cirrhosis
Hepatitis C Treatment in 2004

- **Good News**
  - Curable in 45-70% of cases
- **Bad News**
  - Severe side effects
  - Anemia 100%
  - Neutropenia >35%
  - Depression >25%
- No primary care clinicians treating HCV
Goals of Project ECHO

• Develop capacity to safely and effectively treat HCV in all areas of New Mexico and to monitor outcomes
• Develop a model to treat complex diseases in rural locations and developing countries
Methods

• Use technology to leverage scarce healthcare resources (specialty knowledge and expertise)
• Share “best practices” - reduce disparities by reducing variation in care
• Case based learning (learning by doing) to master complexity
• Web-based database to monitor outcomes

Project ECHO: Multidisciplinary Teams

**ECHO Facilitators**
- Multidisciplinary Team
- Infectious Diseases
- Hepatology
- Psychiatry
- Pharmacy

**ECHO Partners**
- Community Clinic
- Primary Care Team
Steps

• Train physicians, nurses, pharmacists and their teams in HCV care
• Conduct teleECHO clinics – “Knowledge Network”
• Initiate case-based guided practice – “Learning loops”
• Collect data and monitor outcomes centrally
Learning Loops

• Interactive Learning Environment
• Co-management of Cases
• Learning by doing
• Learning from didactics
• Learning from each other
• Collaborative Problem Solving
ECHO vs. Telemedicine

**TeleECHO™ Clinic**
- Expert hub team

**ECHO supports community based primary care teams**
- Learners at spoke site

**Patients reached with specialty knowledge and expertise**

**Traditional Telemedicine**
- Specialist manages patient remotely
Benefits to Clinicians and Teams

• No cost continuing education credits
• Professional interaction with colleagues with similar interest
  • Less isolation with improved recruitment and retention
• A mix of work and learning
• Access to specialty consultation with infectious diseases, hepatology, psychiatry, addiction specialist, pharmacist

Project ECHO Clinicians HCV Knowledge, Skills and Self-Efficacy

scale: 1 = none or no skill at all 7= expert-can teach others

<table>
<thead>
<tr>
<th>Community Clinicians n=25</th>
<th>Before Participation Mean (SD)</th>
<th>Today Mean (SD)</th>
<th>Paired Difference Mean (SD) (p-value)</th>
<th>Effect Size for the Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ability to identify suitable candidates for the treatment of HCV.</td>
<td>2.8 (1.2)</td>
<td>5.6 (0.8)</td>
<td>2.8 (1.2) (&lt;0.0001)</td>
<td>2.4</td>
</tr>
<tr>
<td>2. Ability to assess severity of liver disease in patients with Hepatitis C.</td>
<td>3.2 (1.2)</td>
<td>5.5 (0.9)</td>
<td>2.3 (1.1) (&lt;0.0001)</td>
<td>2.1</td>
</tr>
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<td>3. Ability to treat HCV patients and manage side effects.</td>
<td>2.0 (1.1)</td>
<td>5.2 (0.8)</td>
<td>3.2 (1.2) (&lt;0.0001)</td>
<td>2.6</td>
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### Project ECHO Clinicians HCV Knowledge, Skills and Self-Efficacy

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<td><strong>4. Ability to assess and manage psychiatric co-morbidities in patients with Hepatitis C.</strong></td>
<td>2.6 (1.2)</td>
<td>5.1 (1.0)</td>
<td>2.4 (1.3) (&lt;0.0001)</td>
<td>1.9</td>
</tr>
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<td><strong>5. Serve as local consultant within my clinic and in my area for HCV questions and issues.</strong></td>
<td>2.4 (1.2)</td>
<td>5.6 (0.9)</td>
<td>3.3 (1.2) (&lt;0.0001)</td>
<td>2.8</td>
</tr>
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<td><strong>6. Ability to educate and motivate HCV patients.</strong></td>
<td>3.0 (1.1)</td>
<td>5.7 (0.6)</td>
<td>2.7 (1.1) (&lt;0.0001)</td>
<td>2.4</td>
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Outcomes of Treatment for Hepatitis C Virus Infection by Primary Care Providers

Sanjeev Arora, M.D., Karla Thornton, M.D., Glen Murata, M.D., Paulina Deming, Pharm.D., Summers Kalishman, Ph.D., Denise Dion, Ph.D., Brooke Parish, M.D., Thomas Burke, B.S., Wesley Pak, M.B.A., Jeffrey Dunkelberg, M.D., Martin Kistin, M.D., John Brown, M.A., Steven Jenkusky, M.D., Miriam Komaromy, M.D., and Clifford Qualls, Ph.D.

ABSTRACT

BACKGROUND
The Extension for Community Healthcare Outcomes (ECHO) model was developed to improve access to care for underserved populations with complex health problems such as hepatitis C virus (HCV) infection. With the use of video-conferencing technology, the ECHO program trains primary care providers to treat complex diseases.

METHODS
We conducted a prospective cohort study comparing treatment for HCV infection at the University of New Mexico (UNM) HCV clinic with treatment by primary care clinicians at 21 ECHO sites in rural areas and prisons in New Mexico. A total of 407 patients with chronic HCV infection who had received no previous treatment for the infection were enrolled. The primary end point was a sustained virologic response.

RESULTS
A total of 57.9% of the patients treated at the UNM HCV clinic (84 of 146 patients) and 58.2% of those treated at ECHO sites (152 of 261 patients) had a sustained virologic response (difference in rates between sites, 0.7 percentage points; 95% confidence interval, −9.2 to 10.7; P = 0.89). Among patients with HCV genotype 1 infection, the rate of sustained virologic response was 45.8% (38 of 83 patients) at the UNM HCV clinic and 49.7% (71 of 142 patients) at ECHO sites (P = 0.57). Serious adverse events occurred in 13.7% of the patients at the UNM HCV clinic and in 6.9% of the patients at ECHO sites.

CONCLUSIONS
The results of this study show that the ECHO model is an effective way to treat HCV infection in underserved communities. Implementation of this model would allow other states and nations to treat a greater number of patients infected with HCV than they are currently able to treat. (Funded by the Agency for Healthcare Research and Quality and others.)
Hepatitis C Treatment in New Mexico

UNMHSC Center for Digestive Diseases Clinic
Treated Approximately 100 patients/year

2004

Project ECHO Partners
Treat Approximately 1,100 patients/year

UNMHSC Center for Digestive Diseases Clinic
Treated Approximately 250 patients/year

2016
Disease Selection

• Common diseases
• Management is complex
• Evolving treatments and medicines
• High societal impact
• Serious outcomes of untreated disease
• Improved outcomes with disease management
Successful Expansion into Multiple Health Conditions/Areas

- > 50 health conditions (147 hubs)
- Antimicrobial Stewardship
- Quality Improvement
- CIT (Crisis Intervention Team)
ECHO Hubs and Superhubs: Global

Key: ECHO Hub Type
- Superhub (10)
- Hub (119)
- U.S. DoD Hub (7)
- U.S. VA Hub (9)

Key: Country Shading
- ECHO impact (24)
- Awaiting ECHO impact (146)
HBV ECHO: Reducing Perinatal Transmission

25% of infants who develop chronic hepatitis B due to perinatal transmission will eventually die from chronic liver disease.

You Can Help!

What does HBV ECHO: Reducing Perinatal Transmission provide?
This teleECHO™ clinic provides training in hepatitis B virus (HBV) prevention, testing, and treatment with special emphasis on reducing the perinatal transmission of HBV. HBV ECHO: Reducing Perinatal Transmission is offered at no cost to select HRSA funded health centers and is accessible anywhere with internet service. Using simple videoconferencing technology, healthcare teams connect to a community of practice and experts in the field offering:

- A diverse curriculum focusing on HBV prevention, treatment and care management of women and infants at risk for perinatal HBV transmission
- Opportunity to present patient cases in a HIPAA-compliant format for recommendations from an interprofessional team of national experts
- Opportunity to discuss clinic or system specific challenges in addressing perinatal HBV in the primary care setting
- Membership to a virtual learning community that includes access to treatment guidelines and provider and patient resources
- Continuing education credits at no cost for participants

We are actively recruiting participants from select HRSA funded health centers:
- Primary care teams providing perinatal HBV care
- Primary care teams providing HBV care to infants, children and adults
- Clinical and/or administrative teams that strive to improve HBV prevention and care in their clinics by implementing best-practice models of care

Project ECHO® - supporting primary healthcare teams to provide specialty care in their communities since 2003.

(505) 272-6769
HBVECHO@salud.unm.edu
echo.unm.edu/HBV
Enroll now to reserve your space.
Password: HBVECHO2017

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HBV ECHO: Reducing Perinatal Transmission

- First clinic 1/24/2017
- 19 teleECHO clinics
- 32 unique participants
- Average 10 attendees per clinic
- 11 HRSA funded health centers
Three Components of HBV ECHO: Reducing Perinatal Transmission

- **Case Presentations:**
  - Receive recommendations from an interprofessional team of national experts
  - Present clinic cases of systems challenges in addressing perinatal HBV in the primary care setting

- **Brief Lectures:**
  - Diverse curriculum focusing on perinatal HBV prevention, treatment, care management, and system improvements

- **Virtual learning community**
## Brief Lectures

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic and Objectives</th>
<th>Speaker</th>
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</thead>
<tbody>
<tr>
<td>May 9, 2017</td>
<td>Barriers to Addressing Hepatitis B in African Immigrant &amp; Refugee Communities</td>
<td>Mohammed Abdul-Kadir, MPH International Community Health Services, Washington, D.C.</td>
</tr>
<tr>
<td></td>
<td>• Identify community (cultural/linguistic) and system barriers to addressing hepatitis B care in African Immigrant &amp; Refugee communities.</td>
<td></td>
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<tr>
<td></td>
<td>• Introduce Hepatitis Coalition of Washington’s (HBCW) efforts to increase awareness, testing and treatment in our communities and to address the barriers challenges</td>
<td></td>
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<tr>
<td>August 8, 2017</td>
<td>Optimal HBV Management in Pregnant Women</td>
<td>Teerha Piratvisuth NKC Institute of Gastroenterology and Hepatology, Prince of Songkla University, Thailand</td>
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<td></td>
<td>• Discuss the antepartum, intrapartum and postpartum management to prevent mother to child transmission of HBV</td>
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<td>August 22, 2017</td>
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<td>Teerha Piratvisuth, MD NKC Institute of Gastroenterology and Hepatology, Prince of Songkla University, Thailand</td>
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<td>• Discuss the antepartum, intrapartum and postpartum management to prevent mother to child transmission of HBV</td>
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<tr>
<td>September 5, 2017</td>
<td>HBV and Pregnancy: Consideration for Postpartum Flares</td>
<td>Kumar Visvanathan, MD Professor of Medicine, University of Melbourne, Australia</td>
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<tr>
<td></td>
<td>• Recognize post-partum HBV flares</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Discuss management of post-partum HBV flares</td>
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Virtual Learning Community

- Offline discussion and messaging
- Clinical resources discussed during the teleECHO clinics
- Relevant literature and guidelines
Who Should Be Involved?

• Any HRSA-funded health center in the United States who service clients with HBV
How to get involved

• Join HBV teleECHO: [https://echo.unm.edu/hbv-registration/](https://echo.unm.edu/hbv-registration/)

  Register Now

  Home   Benefits   Our Team   Welcome Guide   Virtual Learning Community

  Register Now

  Thank you for your interest in joining the HBV ECHO: Reducing Perinatal Transmission teleECHO clinic. We look forward to your participation. Once registered you will receive:
  • A welcome guide with instruction on how to join and present cases.
  • Regular HBV ECHO: Reducing Perinatal Transmission teleECHO clinic announcements, agendas, and didactic presentations.
  • Account access to our virtual community.

  Please click the button below to register:

  [Sign Up for HBV ECHO: Reducing Perinatal Transmission](https://echo.unm.edu/hbv-registration/)

• Contact us at HBVecho@salud.unm.edu