

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

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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

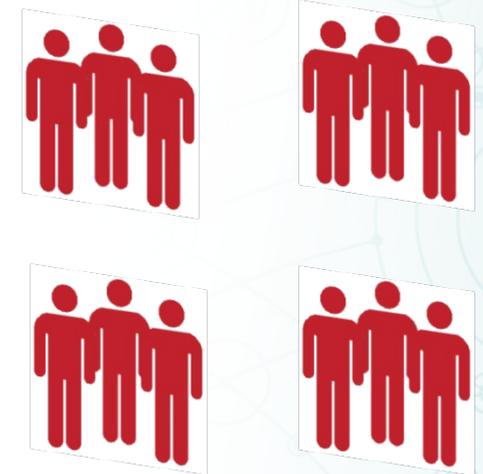
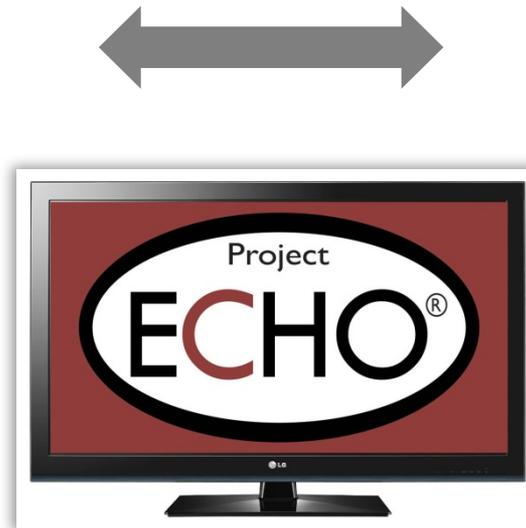
- Use technology to leverage scarce healthcare resources (specialty knowledge and expertise)
- Share “best practices” - reduce disparities by reducing variation in care
- Case based learning (learning by doing) to master complexity
- Web-based database to monitor outcomes

Arora S, Geppert CM, Kalishman S, et al: Acad Med. 2007 Feb;82(2): 154-60.

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



Stop Recording

Total non-video participants: 2



Mute Stop Video

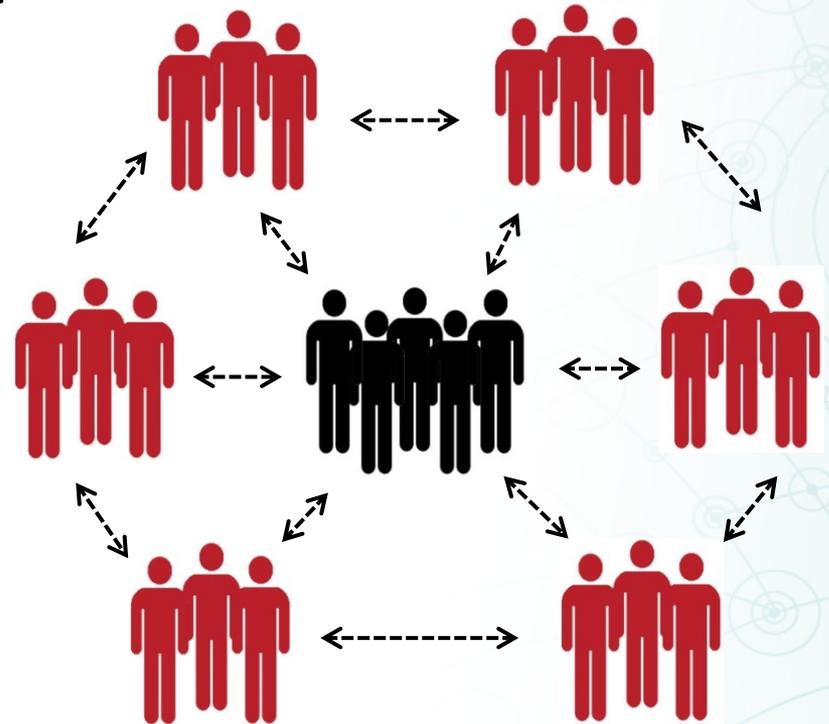
Invite Participants 14 Share Screen Chat Stop Recording

Leave Meeting



Learning Loops

- Interactive Learning Environment
- Co-management of Cases
- Learning by doing
- Learning from didactics
- Learning from each other
- Collaborative Problem Solving



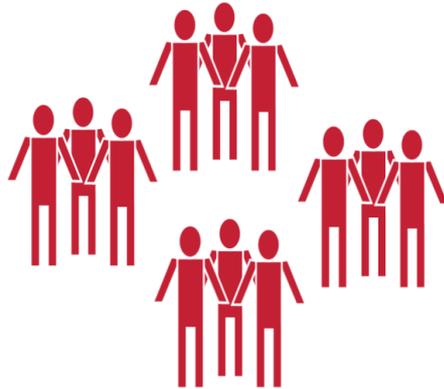
ECHO vs. Telemedicine

TeleECHO™ Clinic



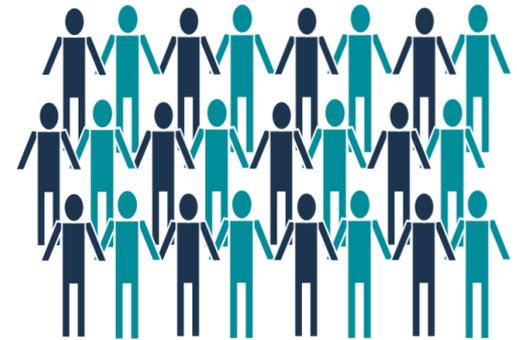
Expert hub team

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

Arora S, Thornton K, et al. Hepatology. 2010 Sept; 52(3):1124-33.

Project ECHO Clinicians HCV Knowledge, Skills and Self-Efficacy

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

Community Clinicians n=25	Before Participation Mean (SD)	Today Mean (SD)	Paired Difference Mean (SD) (p-value)	Effect Size for the Change
1. Ability to identify suitable candidates for the treatment of HCV.	2.8 (1.2)	5.6 (0.8)	2.8 (1.2) (<0.0001)	2.4
2. Ability to assess severity of liver disease in patients with Hepatitis C.	3.2 (1.2)	5.5 (0.9)	2.3 (1.1) (<0.0001)	2.1
3. Ability to treat HCV patients and manage side effects.	2.0 (1.1)	5.2 (0.8)	3.2 (1.2) (<0.0001)	2.6

Project ECHO Clinicians HCV Knowledge, Skills and Self-Efficacy

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

Community Clinicians n=25	Before Participation Mean (SD)	Today Mean (SD)	Paired Difference Mean (SD) (p-value)	Effect Size for the Change
4. Ability to assess and manage psychiatric comorbidities in patients with Hepatitis C.	2.6 (1.2)	5.1 (1.0)	2.4 (1.3) (<0.0001)	1.9
5. Serve as local consultant within my clinic and in my area for HCV questions and issues.	2.4 (1.2)	5.6 (0.9)	3.3 (1.2) (<0.0001)	2.8
6. Ability to educate and motivate HCV patients.	3.0 (1.1)	5.7 (0.6)	2.7 (1.1) (<0.0001)	2.4

ORIGINAL ARTICLE

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 57.5% 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 viral 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 viral response was 45.8% (38 of 83 patients) at the UNM HCV clinic and 49.7% (73 of 147 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

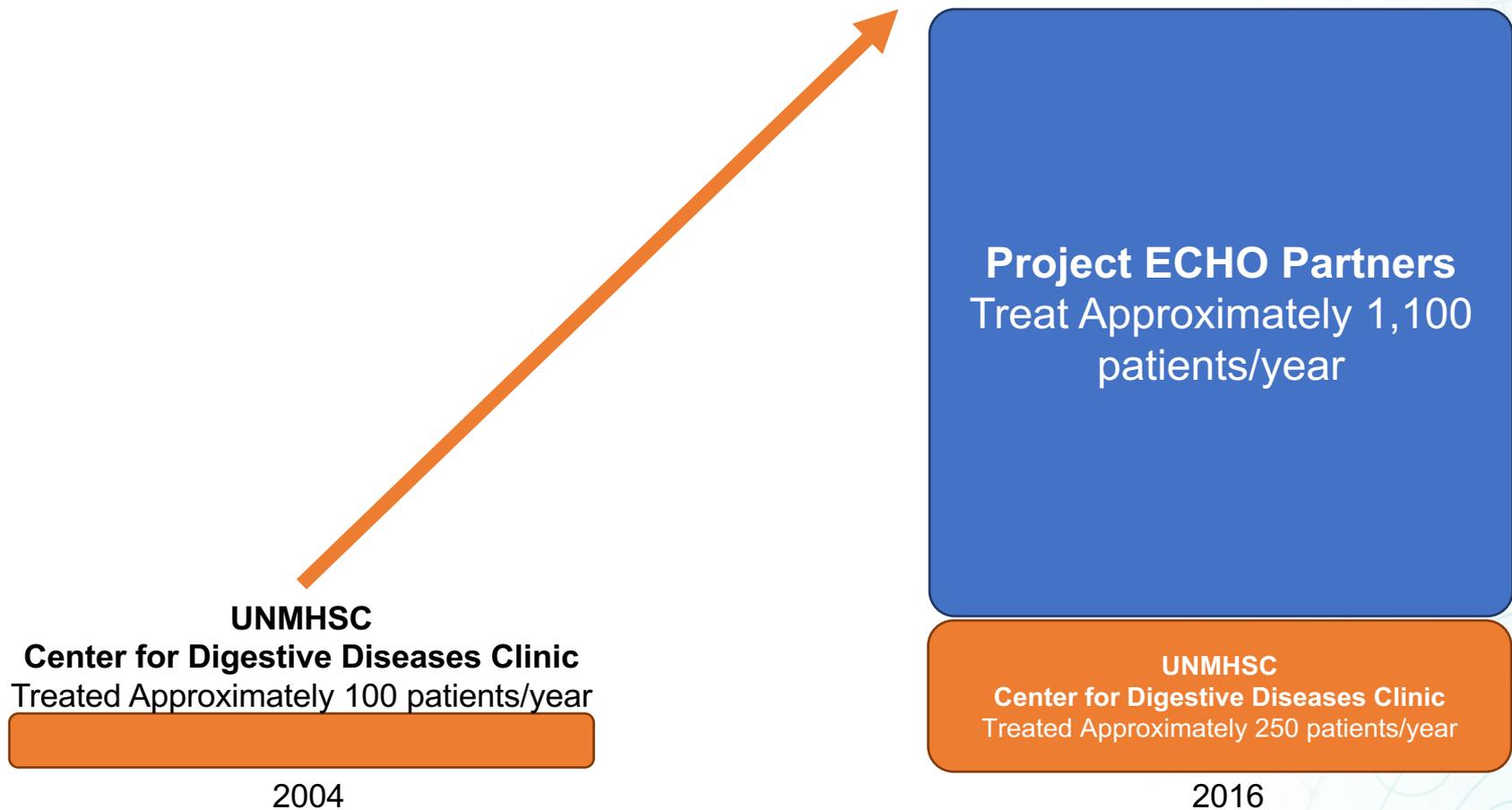
The results of this study show that the ECHO model is an effective way to treat HCV infection in underserved communities. Implementation of this model would allow other states and nations to treat a greater number of patients infected with HCV than they are currently able to treat. (Funded by the Agency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

From the Department of Internal Medicine (S.A., K.T., G.M., P.D., S.K., D.D., B.P., T.B., W.P., M. Kistin, J.B., M. Komaromy) and the Clinical and Translational Science Center (C.T.C.), University of New Mexico; and Presbyterian Healthcare Services, Adult and Geriatric Behavioral Health Clinic (S.J.) — both in Albuquerque; and the Department of Internal Medicine, University of Iowa, Iowa City (J.D.). Address reprint requests to Dr. Arora at Project ECHO, 1 University of New Mexico, MSC07-4245, Albuquerque, NM 87131, or at sarora@salud.unm.edu.

This article (10.1056/NEJMoa1009370) was published on June 1, 2011, at NEJM.org.

N Engl J Med 2011;364:2199-207.
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Hepatitis C Treatment in New Mexico



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





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

HBV ECHO: Reducing Perinatal Transmission starts in January 2017, offering twice-monthly teleECHO clinics.

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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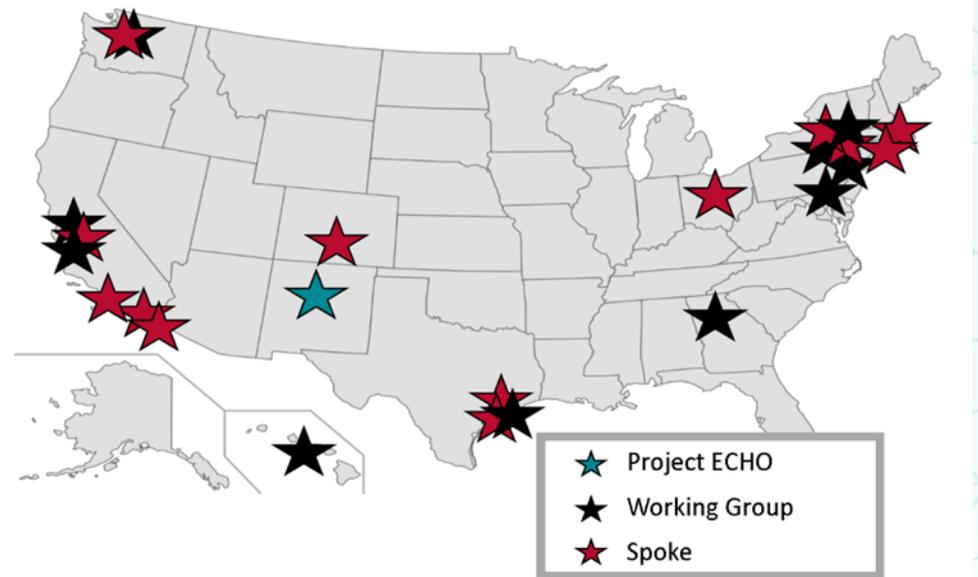


HBV ECHO: Reducing Perinatal Transmission

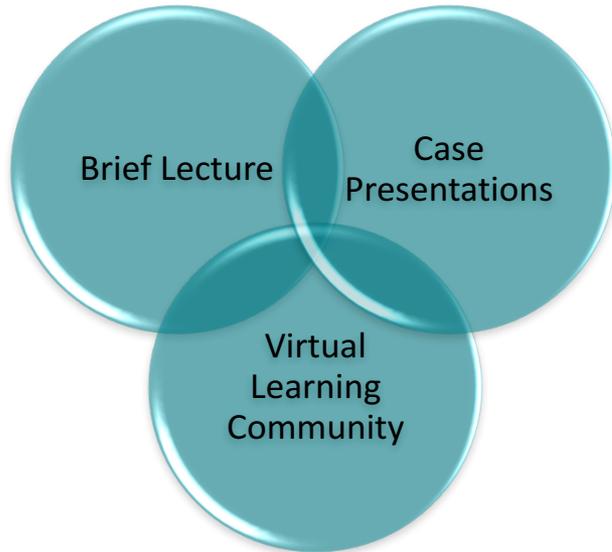
Zoom Participant ID: 54 Meeting ID: 454-536-2087



- 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

Date	Topic and Objectives	Speaker
May 9, 2017	Barriers to Addressing Hepatitis B in African Immigrant & Refugee Communities <ul style="list-style-type: none"> • Identify community (cultural/linguistic) and system barriers to addressing hepatitis B care in African Immigrant & Refugee communities. • Introduce Hepatitis Coalition of Washington's (HBCW) efforts to increase awareness, testing and treatment in our communities and to address the barriers challenges 	Mohammed Abdul-Kadir, MPH International Community Health Services, Washington, D.C.
August 8, 2017	Optimal HBV Management in Pregnant Women <ul style="list-style-type: none"> • Discuss the antepartum, intrapartum and postpartum management to prevent mother to child transmission of HBV 	Teerha Piratvisuth NKC Institute of Gastroenterology and Hepatology, Prince of Songkla University, Thailand
August 22, 2017	Optimal HBV Management in Pregnant Women <ul style="list-style-type: none"> • Discuss the antepartum, intrapartum and postpartum management to prevent mother to child transmission of HBV 	Teerha Piratvisuth, MD NKC Institute of Gastroenterology and Hepatology, Prince of Songkla University, Thailand
September 5, 2017	HBV and Pregnancy: Consideration for Postpartum Flares <ul style="list-style-type: none"> • Recognize post-partum HBV flares • Discuss management of post-partum HBV flares 	Kumar Visvanathan, MD Professor of Medicine, University of Melbourne, Australia

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/>

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*

- Contact us at HBVecho@salud.unm.edu