Cherokee Nation Health Services
HCV Elimination ECHO Program
Implementation Profile

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The Cherokee Nation Health Services HCV Elimination Program and its Cherokee Nation HCV ECHO program were part of a study led by Diffusion Associates and funded by the Robert Wood Johnson Foundation. The purpose of this study was to document and share how ECHO is adopted, implemented and sustained across ECHO hubs and programs in the United States and Canada. This study was separate from, but endorsed by, the ECHO Institute.

This profile is based on an interview conducted in December 2020 by James W. Dearing, PhD, professor at Michigan State University, and Karen Lee, MS, executive director of ECHO Chicago and a 2020 implementation fellow.

We begin this profile by sharing unique implementation insights from the Cherokee Nation ECHO work.

ECHO Implementation insights

Credibility Matters

Leadership engagement and support facilitated the success of ECHO operations. Jorge Mera, MD, was the director of infectious diseases for Cherokee Nation Health Services (CNHS), the largest tribally operated healthcare system in the United States. Mera was a national leader in infectious disease. His credibility has drawn others to participate in ECHO programs and take action to create their own ECHO programs, often with his help and participation. Within the Cherokee Nation Health Services, system leaders publicly signaled their commitment by providing funds for expanded infectious disease screening and treatment.

In-Person Outreach has Impact

In-person outreach to underserved rural health providers made a positive and lasting impact on subsequent ECHO participation by spoke providers. This aspect of how the CNHS ECHO team recruited ECHO spoke participants and expanded the reach of ECHO infectious disease programs was both ordinary and extraordinary. Trust was built through personal relationships; this was well known. But physically visiting the sites of rural providers and spending days with them was atypical for ECHO leaders and staff. Taking the time and effort to show up in person was a sign of sincerity and caring that likely affects the decisions of ECHO potential participants.

ECHO as Part of a Larger Strategy

The ECHO Model can be integrated with other strategies to improve patient health. The CNHS ECHO team and their collaborators did this to good effect in their HCV Elimination Program which demonstrated positive effects. ECHO programs were combined with outreach activities, increased

screening through electronic health record system reminders and testing of patients, linkage of infected patients to care, and treatment.

ECHO Model Adoption

Jorge Mera, MD, was the director of infectious diseases for Cherokee Nation Health Services (CNHS), the largest tribally operated healthcare system in the United States. The Cherokee Nation, also known as the Cherokee Nation of Oklahoma, is the largest Cherokee federally recognized tribe in the United States. CNHS is based at Hastings Hospital in Tahlequah, Oklahoma, home to the tribe, and serves more than 100,000 patients at 11 sites that include the tribal hospital, an employee health center, and nine tribal clinics. This health system offered many behavioral health, public health, and medical programs across cancer, diabetes, women and child health, emergency medical care, environmental health, and other topics. Mera and his team offered services and programs about hepatitis C virus (HCV), and human immunodeficiency virus (HIV), as well as other infectious diseases in one of the nation's largest HCV/HIV clinics for American Indian and Alaska Native people. The Cherokee Nation HCV Elimination Program under Mera's guidance was one of the first efforts of its kind to be supported by the U.S. Centers for Disease Control and Prevention (CDC). Mera's work was international in scope, reaching well beyond the state of Oklahoma.

Mera joined CNHS in 2011 and began working with Project ECHO in 2014. Mera was alarmed when he learned of a backlog of about 300 patients needing HCV treatment and an estimated 2000 patients undiagnosed. He began looking for solutions to rapidly treat more patients. After hearing about Project ECHO and its initial success with an HCV program, Mera participated as a spoke in an HCV ECHO program run by the ECHO Institute. After immersion training in Albuquerque, he launched a first ECHO program, then a second program, both linking specialists at Hastings Hospital with practitioners at the system's regional tribal clinics. These efforts were reinforced in 2015 by the Cherokee Nation's formal recognition of HCV as a public health threat and the health system's commitment to HCV elimination across the patient population. This announcement was made in a public proclamation announcing the expansion of screening and treatment. ECHO became a key component of the CNHS HCV Elimination Program strategy to improve the "cascade of care" by increased screening, diagnosis, linkage to care, treatment, and cure.

Subsequently, Mera attended another immersion training with CNHS colleagues. Whitney Essex, NP, Cherokee Nation Health Services, Mera's clinical partner, joined an ECHO Institute rheumatology ECHO program as a spoke, which led to her joining Mera in leading, staffing, and supporting the CNHS ECHO operations and attending immersion training in Albuquerque herself. Other medical specialists at CNHS and at Oklahoma State University, University of Oklahoma, Oklahoma State Department of Health, and academic medical centers outside of the state participated as specialists and collaborators. Stephanie Hammons, administrative assistant with Cherokee Nations, provided administrative support to ECHO programs. The CNHS hub in infectious diseases emphasized HCV, HIV, and COVID-19. Their immediate goal was the elimination of hepatitis C among the patient population.

In 2019 Mera was awarded the Outstanding Service Award by the National Indian Health Board.

ECHO Model Implementation

The format for the programs offered by Mera, Essex, and other Hasting Hospital colleagues were open-ended in terms of number of sessions per program, just as they experienced when participating in programs led by the ECHO Institute. As a means to generate interest among generalist providers in the CNHS system, Mera and Essex visited clinics and met in person with medical staff and explained the ECHO approach to mentoring and education. The personal touch worked. The number of spokes per program increased to about 10-15 participants per week, and the relationships formed kept the spokes in the programs. Success in forming linkages with practitioners in the tribal clinics, and in increasing access for patients to specialized care for HCV and HIV, led to inquiries about ECHO from other health systems. Soon, Mera found himself advising others about how to start their own ECHO programs. Moreover, Mera kept collaborating and participating in several roles, sometimes as session facilitator, sometimes as didactic expert, sometimes as spoke participant.

Mera's commitment to ECHO and to educating generalist providers in underserved rural areas about infectious disease care and prevention went well beyond the Cherokee Nation. Mera coached colleagues at Oklahoma State University (OSU) in the ECHO approach. Staff at OSU began supporting an HCV ECHO facilitated by Mera and Essex that extended the reach of Mera's work throughout Oklahoma. Meanwhile, OSU launched its own suite of ECHO programs in psychiatry, obesity, addiction medicine, women's health, hospital administration, correctional medicine, and an innovative set of educational ECHO programs outside of medicine and healthcare. Mera and Essex also helped the Northwest Portland (Oregon) Area ECHO hub, which served a large swath of Indian Country, by staffing their COVID-19 and HCV programs and helped the United South and Eastern Tribes ECHO with the same program topics.

Prior to the COVID pandemic, Mera and Essex over a three-year period took to the road and visited sites outside the state. On-site visits served several functions; introducing ECHO to tribes, developing personal relationships, and recruiting spokes to grow participation in the Indian Country work of the Portland-based network. Prior to the pandemic, "We were traveling at least every month to very remote clinics across the United States and Canada and Alaska, meeting with the various tribes," said Essex. The site visits were typically two days at each tribal location, ending with a large collective meeting of 40-50 people who would join a noontime ECHO session. "They would get to sit in on our case presentations, so they got to see, 'Oh, this is what they're talking about when they're talking about ECHO.' Then they would sign up for the listserv if they wanted to participate from their site."

Hands-on, visual, and personal demonstration of the ECHO model paid dividends. "That is a really powerful tool for engaging people," said Mera. "We noticed that right away. I mean, it was accidental, but we noticed, and we told the Portland people, 'Look, doing those face-to-face workshops really increases recruitments.' Then they started doing that very actively." Essex agreed, saying: "I think it's just human nature. Once you meet someone face-to-face, it makes them so much more comfortable to present cases to us…. That was the key to that success, those road trips and face-to-face meetings."

Factors Influencing Implementation

Studies of program implementation identify context factors that can shape how a program was implemented. Such factors include leaders or champions, state and federal policies, funding, partnerships or collaborations, staffing, internal structures and processes, and monitoring for quality and fidelity. Not all of these factors play a role in how ECHO was implemented here or elsewhere.

Below, we identify factors that emerged during interviews that appear to influence how ECHO was implemented by Cherokee Nation Health Services (CNHS).

Inter-organizational Environment and Networks

The CNHS ECHO team set up its operation and then responded to the inquiries of other medical specialists to initiate their own ECHO hubs. Mera and Essex played key roles in new ECHO programs organized around infectious disease. Doing this, the CNHS ECHO team extended the reach of Project ECHO to benefit additional rural underserved populations. In the case of advising Oklahoma State University medical leaders, this meant a considerable widening of topics to which the ECHO Model was applied in the state. For the Northwest Portland (Oregon) Area Indian Country and the United South and Eastern Tribes, it meant reaching more tribes throughout North America with HCV and HIV programming. Inter-organizational relationships greatly expanded this team's ECHO work.

Leadership

Institutional and political leaders were important in drawing the attention of health care providers to the necessity of prioritizing action against HCV. Leaders legitimized the effort by attending a kick-off event and publicizing the problem by funding a multimedia public awareness campaign in late 2016.

Patients/Client Characteristics

Need for both prevention and treatment of infectious disease was high among Native Americans and First Nations people. Disease rates were higher than for the general population, and health services were less accessible than for the general population. These two factors—high need and low service provision—made for a powerful rationale for why resources should be allocated to support systems such as ECHO.

Funding

The CNHS ECHO operation was fully funded by the Cherokee Nation Health Service. While the team was not funded to do everything that they would like to do, such as pay participating providers for the time they spend as a member of a program, they did not have to spend time developing and submitting funding proposals to potential sponsors as a way to overcome some of the uncertainty that hovers over most ECHO operations. The certainty of funding was an important factor that enables this team to plan for the long term and the eradication of HCV.

Recruitment of Participants

Identifying potential spoke participants—the generalist providers who see underserved patients—was one of the most vexing challenges for ECHO staff, along with recruiting those providers to try out an ECHO session and then signing them up as a regular spoke participant. Mera and Essex visited rural clinics to meet in person with medical staff and explain and show the ECHO approach to mentoring and education. Their personal outreach to sites where tribal clinics were located was effective in finding new spoke participants. Investing the time in a personal visit was a show of good faith and commitment. It communicated that they care about a tribe and its members. Personal visits as performed by Mera and Essex were also important because skeptical tribal decision makers can then better assess how the ECHO model was different from other approaches to continuing medical education.

Quality and Fidelity Monitoring

The CNHS ECHO team conducted ECHO programs in ways that they saw as faithful to the original format and demeanor as modeled for HCV by Sanjeev Arora, MD, director and founder of Project ECHO. They did not invest much time and attention to ensuring quality or trying to continuously improve what they do. They did not presume to know everything about topics or have all the answers to a case presented by a spoke participant. Indeed, this self-effacing orientation was much of their approach to creating and sustaining an "all teach, all learn" climate among program participants. When Mera shared that he did not know the answer to a question, that vulnerability allowed him to turn the question around to the group, thus turning generalist learners into field-based experts in their own right. This was not to say that the team did not engage in research. They did. On the basis of their experience to date, they believed that they were implementing ECHO programs in an effective way.

ECHO Vision and Sustainability

The Cherokee Nation Health Services ECHO team had a clear vision: The elimination of hepatitis C within the CNHS patient population. At the same time, the team was expanding its work through partnerships with other health systems by helping out when they were asked.

Sustainability for ECHO work at Hastings Hospital and the set of distributed clinics within the Cherokee Nation was not at issue. CNHS leadership signaled that HCV was a health priority. The health system also allowed ECHO staff to provide help to other tribal health systems for mentoring generalist providers in the prevention and treatment of infectious disease. Partnering health systems such as Oklahoma State University offset the time commitment by CNHS ECHO staff by providing staff and technical support.

Respondents

Whitney Essex, NP
Infectious Diseases
Cherokee Nation Health Services

Jorge Mera, MD
Director of Infectious Diseases
Cherokee Nation Health Services

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