

Oklahoma State University Center for Health Sciences Project ECHO Implementation Profile

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The Oklahoma State University Center for Health Sciences Project ECHO operation in Tulsa and its Infant Mental Health ECHO and Pediatric Obesity Medicine ECHO were included in 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.

Tara Jackson, DrPH, director of Project ECHO at Oklahoma State University, was a 2021 implementation fellow and joined 14 other fellows alongside Diffusion Associates to conduct research for this study. This profile is based on interviews conducted in July-August 2021 by James W. Dearing, PhD, professor at Michigan State University, and Rachel Mutrux, senior program direction at Missouri Telehealth Network and a 2021 implementation fellow.

We begin this profile by sharing unique implementation insights from Oklahoma State University Center for Health Sciences Project ECHO hub and its Infant Mental Health and Pediatric Obesity Medicine ECHO programs.

ECHO Implementation Insights

Achieving Rapid Growth

The Oklahoma State University Project ECHO hub and programs provide an example of how to achieve rapid growth. High-level external champions were critical to the hub's strong start and prominent organizational position, yet there can be no discounting of the importance of a strong support staff and the expert medical leaders as program facilitators with which those staff work. Prominent physicians attracted participants and eased the burden of recruitment of guest speakers as well as the yield of new spoke participants. Incentivization, whether through token appreciation for speakers, alignment of content with CME requirements for spokes, or partial FTE buy-outs for facilitators, worked for this site.

Tapping into Networks

The Oklahoma State University Center for Health Sciences (OSUCHS) Project ECHO benefited from the early and continued involvement of program facilitators (faculty) who had medical appointments in the Center for Health Sciences and had integrated their ECHO work into their larger networks of colleagues across the nation. This resulted in ECHO programs that attracted spoke participants from many states, and didactic speakers from many locations outside of Oklahoma.

Engaging Residents

Medical residents in pediatrics, psychiatry, and pharmacy take part in ECHOs at OSUCHS. Residents attend and present cases. ECHO engages residents in an interdisciplinary team and reinforces how working together benefits the patient

ECHO Model Adoption

When a community business leader takes note of a social innovation such as Project ECHO, they can bring it to the attention of other highly placed officials. And when that business leader has strong ties to a university, the social innovation can find a new home. This happened when Jack Allen, a Tulsa, Oklahoma, businessman and active alumnus of the business college at Oklahoma State University learned of Project ECHO. Allen was chairman of HUB International Mid-America, and of CFR Risk Management & Insurance Services, two insurance brokers. After listening to Sanjeev Arora, MD, founder and director of Project ECHO, speak about Project ECHO at an event and meeting him, Allen described the ECHO Model to Kayse Shrum, DO, then president of the Oklahoma State University Center for Health Sciences (and now president of the university). The Center includes the College of Osteopathic Medicine, School of Biomedical Sciences, School of Forensic Sciences, School of Health Care Administration, School of Allied Health, and a Physician Assistant Program.

Shrum and Allen took a team to Albuquerque to meet with Arora. What struck Allen and Shrum was the alignment of ECHO with Shrum's osteopathic college, which educates and trains osteopathic physicians, scientists, and health practitioners, with an emphasis on providing health care for rural and underserved areas of Oklahoma. Project ECHO promised a means of continual medical education coupled with a support network so remote providers could be connected to each other and to their university.

The early and prominent engagement of Shrum led to an administrative structure within OSUCHS with Project ECHO organized as its own department and reporting directly to the senior vice president in the president's office. ECHO retained its administrative position when Shrum became university president and the senior vice president succeeding her as OSUCHS president.

The OSUCHS Project ECHO began in 2016. The first programs in adult psychiatry and pediatric obesity were paid for through private funding and the university general fund. Faculty were involved from the start. Colony Fugate, DO, a specialist in pediatric obesity, and Kelly Murray, PharmD, a faculty member in clinical pharmacy, were in the initial cohort of faculty attending immersion training in Albuquerque. They returned and launched the Pediatric Obesity ECHO in January 2017. It was also apparent that there was a great need for an increase in pediatric mental health consultation and education, so the Pediatric Behavioral and Emotional Health ECHO was started. Because of the growing interest in the mental health of infants and young children, the Oklahoma Department of Mental Health and Substance Abuse Services funded the Infant Mental Health ECHO as a spin-off of the Pediatric Behavioral and Emotional Health ECHO. During the COVID-19 pandemic, the Oklahoma State ECHO team more than doubled in size, from four full-time paid staff to nine (a director, manager, program specialist, and six program coordinators) as the number of programs multiplied to 18. The operation was supported most consistently by grants from community foundations and contracts from state departments in Oklahoma that receive monies from the U.S. Health Resources and Services Administration and the U.S. Centers for Disease Control and Prevention.

The Project ECHO operation in OSUCHS hosted six healthcare ECHO programs, seven mental health ECHOs, and five education ECHOs with a staff of nine in the Tulsa office. OSUCHS was recognized as an ECHO Superhub: A training and technical assistance provider for start-up ECHOs.

Infant Mental Health ECHO

This OSUCHS ECHO program was led by Tessa Chesher, DO, a nationally known child psychiatrist. Chesher built a program that welcomed participants of a variety of types, not only pediatricians. The program began with 10 participants and grew to 70-80 per week. “Johns Hopkins had the first infant mental health ECHO,” Chesher said, “and we started the second. We work closely together with them, did trainings and consultations together, and presentations. Infant mental health was growing rapidly right now because we know the large impact that we can make if we focus on this area. James Heckman, an economist and Nobel Prize winner, found that you can get one of your biggest rates of return on investment, 13-1, if you invest in early childhood. What that has done from a funding standpoint is that funders say ‘Okay. Where do I want to put my money to get the biggest bang for my buck? Early childhood work!’ In our state we have several areas of needed growth, and infant mental health touches many of these areas, if not all. So, there are discussions at a state policy level on how to utilize infant mental health to have the most impact and effect the most change. We have increased infant mental health training across the state, so there are more providers for infants and young children. But, if we have more providers, we have to have ways to keep up their training, ways to provide a consistent message, and to support them in their casework.” Enter ECHO.

Chesher’s team included herself, a coordinator, a PhD specializing in infant mental health, a developmental and family specialist, and a licensed social worker who was an infant mental health supervisor and program manager of an infant and early childhood mental health program. Together, they identified topics for the sessions. Chesher then recruited didactic speakers from across the country, describing ECHO to them along with the audience and format, and a checklist of what will be needed. If they agreed to present, then Jade Goodson, ECHO manager, followed up with a template email confirming their commitment. Goodson was specific about the time period for the presentation since participants needed to attend a threshold number of minutes to qualify for Continuing Medical Education credits. Goodson offered a mini training on Zoom and ECHO processes, and managed their slides if asked. Didactic speakers were thanked with a \$50 Amazon gift card. The team mapped participation that showed providers tuning in from 45 of Oklahoma’s 77 counties, as well as 27 other states in America, and one province in Canada.

Pediatric Obesity Medicine ECHO

This OSUCHS ECHO was jumpstarted by Fugate’s attendance at immersion training in Albuquerque. There she met members of the well-established Missouri Show-Me ECHO Superhub, along with faculty and staff from other sites that were either starting an ECHO operation or had returned for additional training, or were presenters in the training. She got the strong sense that fidelity to what was being demonstrated was going to be a key to effectiveness. Fugate, a pediatrician, was taking part along with a pharmacologist, a dietician, and an exercise specialist. After returning to Tulsa, Fugate leaned on colleagues at Missouri ECHO for advice and examples from their programming, especially the Show-Me Autism ECHO, since autism also was a multidisciplinary challenge that relied on a large team. “What that means,” explained Fugate, “is that a single case can take a long time to understand, unlike, say, Hep C, where you can cover several cases in one session. Still, we weren’t exactly sure what we were doing in the beginning.” OSUCHS launched the first pediatric obesity medicine ECHO in the United States and the second obesity ECHO in the country.

“Now we have a lot of people who call us when they’re wanting to start their own ECHO,” said Fugate. “We meet them over Zoom, communicate via email, and that’s not just me and the immediate team. It’s the larger team under Tara (Jackson). Visitors attend our ECHO sessions to see how we do things, and they may ask questions about funding or research or implementation and resources.”

ECHO Model Implementation

To learn best practices and make sure they were on the right track, the team looked to the ECHO Institute and to other well-established hubs. “We had a lot of regular interaction with our ECHO liaison at the ECHO Institute and collaborated a little bit with some other ECHOs, and I would register for other ECHOs like Missouri’s because they are just Grade A,” said Goodson. The operation has grown externally as well as internally, for example, in establishing partnerships with the state Department of Education, and with the Cooperative Council of Oklahoma School Administrators led to support for its slate of education ECHO programs.

Being strategic about forming and maintaining external partnerships paid dividends. “We work to assess the needs of the state, and what ECHOs need to be developed to handle those needs,” said director Jackson. “And sometimes state policies support those things. I don’t think political context has much to do with it, though. We just continue to do our work. We are in the fortunate position that if there’s a need that can be handled in our state with an ECHO, our university will support that with general funds or like with HIV, state funds might be available.”

A distinguishing characteristic of the OSUCHS Project ECHO operation was its integration into the education of medical residents. Residents in pediatrics, psychiatry, and pharmacy take part in ECHOs. “There’s basically an annual schedule that’s set, and a resident will probably present twice a year,” said Goodson. “They will present a case and they can choose which ECHO they present in. So, if they have a kid 0 to 5, they do an infant ECHO; 5 to 18, they do a pediatric ECHO. Those were written into the curriculum for them. Addiction residents present, pharmacy residents present. We’ve had pharmacy residents present in the Hepatitis C ECHO. This goes for the Psychiatry ECHO, too. The residents are highly encouraged to present. In the Pediatric Obesity ECHO, a whole class will join so that they’re exposed to it.” Jackson shared, “The goal is to get the residents exposed to an interdisciplinary team and understand how working together has benefit, as well as getting them used to presenting in an ECHO as a tool for once they graduate.”

In addition to supporting its nine full-time staff with each of the six program coordinators responsible for three ECHO programs, the ECHO office supports lead facilitators by paying for .2 of their salary for the duration of the program. Since all the OSUCHS Project ECHOs were non-cohort, they did not have end dates to make budgeting easier. “You’re paying for your team, and so it depends on the salaries and the percent FTE for those teams,” said Jackson. “But depending on the size of the team, it’s about \$100,000 to \$250,000 per program per year. And in effect those are all recurring costs because we’ve kept every ECHO that we’ve started with the exception of the nursing home ECHO.”

The team committed to promoting and standardizing best practices. Fugate explained: “I’m an academic physician. I teach obesity medicine at multiple levels and I sit on national committees to develop core competencies for obesity medicine. What we tried to do with ECHO was have a rolling series of 16 specific lectures because that’s really about what you’d cover in a basic course in obesity medicine, to get students ready for their boards, or a basic course in medical school, that’s about 16 hours or 16

topics. All evidence based. That's also the number of hours you need for CME each year in Oklahoma if you're a physician."

"All teach, all learn" guided the Tulsa team. They used case presentations, encouraged and drew out comments and participation from spoke members, had experts who learned from the spokes as well as offered advice, all in a nonjudgmental environment where participants felt safe and could express vulnerability in terms of not knowing the answers to everything. Occasionally the team would run a fundamentally different type of ECHO, such as for COVID-19 when there was a time-sensitive need and demand to convey as much information as possible to practitioners at a time of very high uncertainty. But almost all the Oklahoma State ECHOs run on the classic ECHO Model of smaller numbers of participants, an orienting didactic, and cases presented and led by spoke participants. "I remember an instance in our Hepatitis C ECHO with a first-time presenter," recalled Goodson. "She had just joined the group, we gave her the case form, we explained things really quickly. She observed several others present their cases and then she started by saying 'I don't know if I'm doing this right, you all are so good at this,' but the facilitators were like 'Oh, it's fine, just go through the form, you're doing great.' You could see how much she learned from watching and trying herself. Now she's like an official member, she always generates questions, and she's changed how some of the other members think. They're all in the same boat. It was just cool to watch."

The Infant Mental Health program created a supportive, high yield learning community that focused on critically important issues in child development and mental health. There was a high touch to the program team's activities and demeanor. "I try to build relationships with our spokes," said Goodson. "Being personable. It gets fun whenever we're trying to talk and not be so serious. That makes it a great program." Chesher agreed. "This ECHO is fun and challenging, and I am always learning something new. We meet before each session for 30 minutes to talk about the case and prepare. We laugh a lot. We do the session, and then afterwards, we meet again. Infant mental health deals with many hard topics like abuse and neglect, and it is important that we take time as a hub team to reflect at the end of the sessions. We laugh a lot then, too, though. I think our warmth as a team comes through during the sessions. It makes people want to come back, and it makes them feel a part of our team. We work very hard to have high quality in our content as well. Everyone is invested."

"All teach, all learn" was an approach that worked well given the complexity of pediatric obesity topics. "Health disparities and social determinants are one of the roots of obesity medicine. We all have a role to play to help reduce the negative impacts of obesity on society, and not just the medical impacts," said Fugate. This was where 'all teach, all learn' came in. "It is the perfect concept for our particular disease. When we say, 'all teach, all learn,' it empowers everyone to bring forward their ideas, their information, and share it widely with others. And it reminds us on the ECHO team that we are learners, we're not there to just push information out, right? We are not there to solve a community's problem. It's to connect with other like-minded individuals who share the same mission. ECHO is the tool. And the conversations and helping and resources go well beyond the Zoom sessions." A disease that required knowledge and resources from a diversity of providers invited spoke participants to speak up and volunteer ideas and examples from their practices because the conversations made it clear that no one—not even the highly trained specialists—had all the answers. Said Megan Claybrook, coordinator for the Pediatric Obesity Medicine ECHO: "It really opened my eyes! A school nurse speaking up and asking questions and telling the others the real situation. I was so proud of her. And the discussion, it's never about weight. It's never about the weight no matter what. It's about helping the kid feel comfortable and supported."

Factors Influencing Implementation

Studies of program implementation identify outer and internal contextual factors that can shape how a program was implemented in an organization. Factors in the outer context that can influence program implementation include the involvement of external leaders or champions, state and federal policies, external funding, and external partnerships or collaborations. Inner context refers to characteristics within an organization such as its structures and processes, leadership within the organization, extent of monitoring for quality and fidelity, and staffing—including how people were trained and the characteristics of the people leading and supporting the program.

Not all of these factors play a role in how ECHO was implemented here or elsewhere, and some factors were more important than others. Below, we identify factors that emerged during interviews that influenced the implementation of programs at the Tulsa ECHO hub.

External Leaders and Champions

Early enthusiasm from a champion for Project ECHO paired with the receptiveness of the OSU Center for Health Sciences' president, Kayse Shrum, MD, paved the way for the success of Oklahoma State University Project ECHO. This high-level buy-in led to the direct report structure of the ECHO operation as well as its early and continued internal funding.

State and Federal Policies

As with some other university-based ECHO hubs, the need for health provider support in rural America has led to stable funding for specific ECHO programs that address needs such as opioid abuse prevention, substance use treatment, HIV prevention, and non-healthcare ECHOs focused on issues such as workforce development, job retraining, and vocational STEM education. The OSUCHS ECHO hub has contract relationships with several state departments that needed outside providers of evidence-based programs and services.

Structures and Processes

There were not topical boundaries or limits to the programming at this hub. The internal leadership team has an entrepreneurial approach to identifying niches where ECHO can add value, whether that was in public health, education, job creation, international development, or other topics.

Staffing

On-going training and development in ECHO were emphasized and encouraged for all staff resulting in highly competent delivery of ECHO programs. Many physician and operational staff attended ECHO immersion training in Albuquerque. Staff had continued and regular interactions with the ECHO Institute. Early on, the hub turned to experienced personnel at the Missouri Show-Me ECHO for advice and examples. The site's designation as a Superhub raised the status of training and learning for ECHO staff.

Funding

OSUCHS Project ECHO had ongoing costs. Funding came from multiple sources – such as College of Osteopathic Medicine, foundation and individual donor support, as well as federal pass-through dollars.

Funding paid for administrative staff and, importantly, physician time. “We do some incentivization, and salary support for the hub team, which have been important,” said Fugate. “With the physician providers, they want to participate on the hub team but they have overwhelming time constraints in their practices. That’s where having some salary support is helpful.”

ECHO Vision and Sustainability

“We want to make sure that everybody knows we are here to serve the state and help us get to be a Top 10 state,” said Jackson. “And that this is a resource and a vehicle to do that. We can do ECHOs in anything. We were testing talking about clean water wells, education, and agriculture in Africa. And because we are also OSU Stillwater, we have a Vet Med school, we have a huge agriculture department, those kinds of things, we can grow in breadth and depth. We’re still so new that we’re like a start-up. I never want to lose that entrepreneurial spirit. We’re very honored that the university thinks that this is a special project.”

“My dream,” mused Chesher, “would be to have several national infant mental health ECHOs that shared 70 percent of a curriculum, with the remaining 30 percent regionally specific. That way, we’d have consistent messages. One of our recent regional examples of a topic was the need to increase and to continue the discussion on race. Tulsa has a long history of racial struggles, and last year was the 100th anniversary of the Tulsa race riots. We decided we’ve got to learn how to talk with young children about race. We had a national speaker from Tulane, James Heckman, come to talk with us about how to talk with young children about race. We also had another national speaker come from New York to talk about Black maternal mental health. We’re trying to address the needs of our community.”

For program facilitators, continued implementation depended on commitment and belief. “The reality,” said Fugate, “is that ECHO is none of our primary jobs. We all do it because we love it, and we’re dedicated to it, and it’s important to us. We understand its value. But none of us really has a significant portion of time blocked for ECHO even with some salary coverage. It’s just another hat we wear.”

Respondents

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