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IN-BRIEF

Project ECHO: Applications for the Medicolegal Death Investigation Community and Other Forensic Disciplines



"The key to Project ECHO lies in the 'All Teach-All Learn Model' which allows for learning in a nonhierarchical, inclusive, and virtual environment."

—Richa Ranade, ASTHO

Background

What is the ECHO Model?

Project ECHO, an acronym for the Extension for Community Healthcare Outcomes, was developed by Dr. Sanjeev Arora in 2003.¹ Originally devised to make specialized Hepatitis C treatment accessible to afflicted populations in the more rural, underserved areas of New Mexico, the ECHO model addresses the disparity of discipline-specific knowledge and expertise across different regions of the state with limited access to these resources. The ECHO model is a way to connect with experts and clinicians virtually to provide telemedicine and improved care to patients through valuable training and knowledge transfer.

The core values of the ECHO model, as identified by the University of New Mexico, are as follows²:

- Service to the Underserved
- Teamwork
- Democratization of Knowledge
- Innovation and Learning
- Trust and Respect
- Excellence and Accountability
- Joy of Work

Even before the COVID-19 pandemic, time and resource constraints limited travel both for patients seeking specialized treatments and for physicians looking to hone their skills through specialized trainings.

Objectives

- Provide an overview of the Project ECHO model.
- Describe Project ECHO's current forensic applications to medicolegal death investigation.
- Discuss the lessons learned from the ECHO: Overdose Fatality Investigation Techniques series from varied perspectives.
- Explore potential opportunities for the expansion of the ECHO model to other forensic disciplines.



Virtual communication platforms allow physicians to learn from fellow medical professionals across the country and engage with patients via telehealth options. Examples of successful telecommunications include efforts to mitigate treatment disparities by providing telepathology and teleradiology consultations and improved care for pediatric sexual assault victims in underserved regions.³⁻⁵

The ECHO model allows medical practitioners in rural areas to overcome geographical barriers, providing access to the wealth of knowledge and resources available in urban regions. The model captures a "meet-and-greet" atmosphere in a virtual setting, overcoming travel restrictions and physical barriers. Since its inception in 2003, over 3,000 ECHO programs have been established across the world to help address a multitude of diseases and other healthcare concerns.² Following its success in the healthcare arena, the ECHO model has been adapted to address a variety of cross-disciplinary needs. For example, the National Institute of Justice (NIJ) awarded an FY2019 Paul Coverdell award for the University of New Mexico – Office of the Medical Investigator (UNM-OMI) Project ECHO (2019-CD-BX-0070) on Medicolegal Death Investigation.⁶ Individuals and organizations interested in learning more about establishing an ECHO program are encouraged to take the 3-day virtual Immersion training offered by the ECHO Institute, which is located within the University of New Mexico Health Sciences Center (Albuquerque, NM).

Introduction

Project ECHO: Overdose Fatality Investigation Techniques

The Association of State and Territorial Health Officials (ASTHO) is a non-profit organization that represents public health agencies and professionals. ASTHO's official mission is "to support, equip, and advocate for state and territorial health officials in their work of advancing the public's health and well-being."⁷ In support of this mission, ASTHO formulated a plan to ascertain if the ECHO model could be adopted to support the medicolegal

death investigator (MDI) community, specifically regarding suspected overdose deaths. In 2018, ASTHO representatives received training from the ECHO Institute in Albuquerque, NM. In 2020, ASTHO received funding from the Centers for Disease Control and Prevention (CDC) National Center for Injury Prevention and Control (CDC Cooperative Agreement: CDC-RFA-OT18-18020501SUPP22) to pilot the Project ECHO: Overdose Fatality Investigation Techniques (OD-FIT).

The Project ECHO: OD-FIT targets MDI professionals and medical examiners/coroners (ME/Cs) nationally with mixed ME/C systems. Participants represent agencies with variable county/jurisdiction size, volumes of overdose casework, availability of training and mentorship, levels of experience in death investigation, and membership in relevant professional organizations. The ECHO series comprised monthly virtual sessions held to discuss the fundamentals of death investigation with a focus on overdose casework.

According to the Bureau of Justice Statistics' Medical Examiner and Coroner Offices, 2018 bulletin, 14 states have a mixed ME/C system whereas 13 states have county coroner systems, and 23 states have medical examiner (16 centralized/statewide systems and seven city/county/district/regional).⁸ Many ME/C offices do not have adequate resources to send their practitioners to national meetings and conferences to converse with professional peers. The ECHO series provides a virtual way for peers to interact, reducing strain on limited time and resources. The key to the ECHO: OD-FIT model is a regularly scheduled time for practitioners to meet with peers in a safe space to openly discuss difficult casework and new drug concerns, which may be regional at the onset.

ECHO: OD-FIT Session Format

The general format of each ECHO: OD-FIT session involves a short, didactic presentation on a topic of interest followed by smaller breakout groups that engage in dynamic case discussions with individuals of varying levels of expertise. Project ECHO: OD-FIT holds monthly, 1.5-



hour sessions, open to all states, Washington DC, and some territories; these sessions were structured to allow for maximum engagement with 20-minute didactic presentations that lead into a case-based discussion. As of September 2022, the sessions are ongoing.

Organizer and Planning Team Efforts

The mantra of the ECHO model is "All Teach-All Learn."² The goal of each session is for individuals to learn from one another by sharing knowledge and experiences gained from MDI practice.

Starting in 2020, a planning team, consisting of ASTHO and CDC representatives and forensic pathologists, ME/Cs, and toxicologists, created the ECHO series curriculum. The curriculum was based on the team's experiences and expertise and the perceived needs of the MDI community and topics of interest.

Although the planning team identified key topics to discuss, participant feedback and engagement was used to shape future sessions. This approach led to a case study emphasis. Topics ranged from scene investigation to toxicological results in suspected overdose casework. For a full list of the topics, see *Exhibit 1*.

"It is one of the benefits of the model that anyone can join from anywhere at any time. [...] These are busy folks, they can [...] fit it in amongst all of the other things that they have to do every day."

-Richa Ranade, ASTHO

Lessons Learned

Building on the Strengths

According to the organizers and participants of ECHO: OD-FIT, one of the major strengths of the sessions is the scheduled training time that encourages participants to converse with and learn from their professional peers across the United States. These monthly 1.5- to 2-hour sessions are dedicated to professional development and minimally disruptive to daily ME/C and MDI activities.



Exhibit 1. ECHO: OD-FIT Session Discussion Topics. Note: These are the session topics as of September 2022, which may evolve as the series progresses.



Exhibit 2. ECHO: OD-FIT participant feedback.

The pre-established meeting schedule allows individuals from large and small departments to engage virtually with their peers to have an open discussion about current issues and relevant information. Participants can effectively manage their time and eliminate the additional burden of travel. Without this virtual platform, these individuals might not have the opportunity to interact. Smaller agencies are especially affected by time away from the office and the costs associated with professional development activities—the ECHO model addresses both challenges by offering no-cost virtual solutions.

By design, the organizers and planning team envisioned that the atmosphere of the sessions should feel like meeting up with colleagues in a coffee shop or after-hours at a conference. Examples of positive participant feedback are given in Exhibit 2. The live, interactive virtual sessions provide a safe space for open discussion with the ability to ask questions freely and without judgment, allowing room for professional growth. For this reason, only the didactic presentations are recorded for content while the discussions and breakout rooms are not. These recordings are edited and will be made available to participants. Any notes made by the organizers are for internal use only to improve the sessions and respond to participant feedback. Planning team members and participants may choose to take their own notes that they can reference later to assist current and future casework.

"We evaluated each session, and every session we received great feedback—they all learned a lot. They really enjoyed meeting with their peers virtually, and most of that positive feedback came from case studies. They really enjoyed having that space to ask questions and get feedback from peers who they may see as experts in the field."

-Rachel Redding, ASTHO

As many forensic practitioners and criminal justice professionals have noted in recent years, the tendency toward specialization and isolation in forensic science, often referred to as "silos," can be detrimental to the overall field because it prevents agencies and individuals from communicating regularly and sharing their knowledge.⁹ MDI practitioners are especially susceptible to the isolation aspect of the silo effect because ME/C systems can vary across county and state lines. For example, in states like California with mixed ME/C systems, there may be different regulatory requirements and varying access to training resources for ME/Cs across the state. The no-cost virtual ECHO sessions help bridge the gaps in knowledge within states and across different systems.

Although many organizations have begun to embrace the benefits of multi-disciplinary teams and cross-disciplinary communication, the need expands beyond local collaborative efforts. For example, there are often regional differences in the frequency and types of drugs seen in overdose casework. Knowledge of current nationwide drug trends may provide crucial information to forensic practitioners and MDIs in their suspected overdose cases.^{10,11} In-person national conferences provide a platform to discuss current trends in different parts of the country; however, time and resource constraints can prevent interested parties from attending such venues. The virtual format of the ECHO sessions creates a conference-like atmosphere that is accessible to everyone regardless of funding or geographical constraints.

The ECHO sessions resemble interactive workshops where individuals can gain valuable MDI skills and continuing education and credit hours (e.g., up to two MedChi CMEs and ABMDI credits per session). Participants can rely on the dedicated ECHO support staff to address any technical issues that occur so that everyone can contribute to the conversations.

The planning team facilitates a case study discussion with participants. The structure of the case study discussion has evolved over the course of the project, from small breakout group discussion to larger group discussion and polling based on cases submitted by the planning team. The organizers found that participation increased when the planning team members, who have many years of experience in the field, shared their most complex cases. Anonymous polling offered participants a low-stakes opportunity to share how they would have handled each case. This method led to richer discussion. According to the organizers and participants interviewed by the authors, future participants in the ECHO series will gain new insights and increased confidence in their MDI skills



whether they enter the meetings as an experienced subject matter expert or an early career MDI professional.

"Death investigators, coroners, MEs are responsible for educating the community and taking the lead—identifying changing trends in death investigation."

> —Alfarena McGinty, Marion County Coroner's Office

Attending relevant webinars prior to the ECHO sessions can help prepare participants. The Forensic Technology Center of Excellence provides free, on-demand MDI webinars.¹² Available webinar include topics considerations for prescription drug monitoring programs, data systems in forensic science services, and data-driven overdose response strategies. The ECHO: OD-FIT series strives to expand upon the topics covered in these resources by addressing essential MDI topics, including how to conduct a scene investigation, determining the cause and manner of death, writing a death certificate in overdose cases, and understanding toxicological reports. The ECHO: OD-FIT series examines foundational and advanced MDI knowledge in more depth, and participants gain a better understanding of how MDI will inform public health and overdose prevention efforts.¹³

"Everybody has to be willing to be vulnerable in terms of bringing in cases that they're struggling with – because everybody struggles with cases."

—Dr. Kurt B. Nolte, University of New Mexico School of Medicine

Furthermore, the ECHO: OD-FIT provides real-life casework discussions to assist in peer-to-peer teaching and provides a venue for feedback. A routine case in one jurisdiction may be a rare case in a different jurisdiction and can offer interesting discussion points. The participants in the ECHO sessions provide a sounding board for fellow MDI professionals to discuss their casework, especially for smaller agencies and jurisdictions that may not have regular access to other MDI professionals. Experienced MDIs and well-resourced agencies have also cited benefits to participation, including the ability to see death investigation from a different perspective. The major strengths of the ECHO: OD-FIT sessions are summarized in *Exhibit 3*.





Evolution of Project ECHO: OD-FIT

Despite the program's benefits, there are several difficulties associated with an all-virtual MDI training series. In the midst of the COVID-19 pandemic, the prospect of another virtual meeting can lead many to experience online meeting fatigue. This can lead to decreased participation because individuals no longer want to appear on camera or unmute to contribute to conversations. Planning team members noted that it is difficult to create the level of trust needed for an open and honest discourse about sensitive topics when people are only names on a screen. Telehealth and the ability to meet with people from across the United States was a novel concept pre-COVID-19 but after working from home for an extended duration, the novelty of the virtual workplace has diminished. As a result, keeping participants engaged requires more effort than before.

The original breakout sessions consisted of 20 to 30 individuals, many of whom did not have their camera on during the discussions. ASTHO found that this was too

many people in each breakout room to have an engaging discussion, and the inability to put a face to a name was detrimental to the formation of trust and the shared vulnerability that is essential for these sessions to function. Online meeting fatigue, the desire to join in listen-only mode, and lack of cases to discuss were all reasons cited for lack of participation within the breakout rooms. One office explained that 6-10 staff members often attended using one computer in a conference room, making verbal participation extremely difficult, if not impossible. Other offices did not have stable Wi-Fi or cameras/microphones, leading them to attend in listenonly mode. After moving away from breakout discussions and utilizing the planning team to present cases, participation increased immensely, with over 80% poll participation and additional participation in the chat. Participants became more comfortable verbally discussing the case, and positive evaluation results showed this change was welcomed. Following each session, the planning team reconvenes to identify opportunities for improvement. One of the issues cited most often was the need to increase participation and engagement among participants.

"There's this disparity in [...] knowledge, but if there's a disparity in engagement and sharing, the model doesn't work because the subject matter experts need to learn too. They need to learn what the constraints are in these individual systems."

—Dr. Kurt B. Nolte, University of New Mexico School of Medicine

To address the issue of limited participation, caused in part by the increased demands on the MDI workforce during the pandemic, the organizers of the ECHO: OD-FIT series were forced to adapt. The pilot year began with limited recruitment, which led to less than desired registration and participation. At the planning team's request, ASTHO expanded the program allowing ME/Cs from all states and territories to attend. Outreach efforts also evolved over time. Special outreach efforts were made to the public health workforce, including forensic toxicologists, state health agency staff, and representatives from State Unintentional Drug Overdose Reporting System (SUDORS) and CDC's Overdose Data to Action, with the goal of educating these professionals about the challenges experienced by MDIs conducting drug-related death investigations. Although ECHO: OD-FIT focuses primarily on issues surrounding overdose fatalities, this information is also relevant for the non-ME/C public health officials and agencies that encounter individuals who use drugs before a fatality occurs (e.g., non-fatal overdoses that require medical intervention or hospitalization). Additionally, the public health perspective helps contextualize the MDI's role in drug-related casework, providing a framework to understand the importance of the information they share. Therefore, it is important for public health officials to not only understand the role of the ME/C in overdose deaths but also how their ongoing collaboration, communication, and community efforts could inform death investigations and potentially reduce the overall number of overdose fatalities.

Although it is not a requirement that registered participants attend every session, it is highly encouraged that they try to attend as many as possible to create the sense of community that Project ECHO is built upon. Participants have described the Project ECHO: OD-FIT series as both a time commitment and a shared responsibility to your MDI colleagues and community.

Individuals often describe their personal learning styles as visual, auditory, reading/writing, or kinesthetic. Yet the ECHO model sessions are a mixture of visual and auditory learning with didactic presentations and breakout discussions. Some participants and ECHO: OD-FIT planning team members suggested providing a written agenda of session topics and a general outline summarizing the session discussion. These documents are targeted at the reading learners but also serve as reminders of discussion points long after the program is



completed. Key improvements to the ECHO: OD-FIT program are outlined in *Exhibit 4*.

Potential Future Directions

Additional Applications of the ECHO Model

Project ECHO: OD-FIT participants and planning committee members have noted that the topic of overdose casework could be tailored to other audiences that interact with individuals experiencing substance use disorder. Other sectors of the public health workforce, such as nursing students, hospital staff, and emergency medical technicians may be familiar with the ECHO model as it is used in healthcare; however, the specific topics addressed in ECHO: OD-FIT from an ME/C perspective are applicable to this audience as well. Additionally, law enforcement agencies, crime laboratory supervisors, and policymakers could benefit from knowledge of MDI overdose casework to inform overall decision-making processes.

Other Types of MDI

Although Project ECHO: OD-FIT was originally adopted to address overdose fatalities, there is the potential to expand OD-FIT to other MDI cases. For example, this model could be adopted for general homicides, infant/child deaths, in-custody deaths, and officerinvolved shooting fatalities, to name a few. In the current climate, an FIT for infectious diseases, including COVID-19, may also be pertinent.



ECHO: OD-FIT logo, reproduced with permission from ASTHO.





Other Forensic Disciplines

ASTHO's adoption of the ECHO model to address the needs of the MDI community in reference to overdose fatalities may provide guidance for other forensic disciplines seeking to expand their educational and training opportunities. Case-based learning and active cross-disciplinary communication on a nationwide virtual platform could be used to inform forensic practitioners, policymakers, and other stakeholders about current issues and potential solutions to address them.

Although the ECHO model may not be applicable to everyone, participants believe it is worth investigating because it can be tailored to fit a variety of needs, including time and resource constraints and different levels of subject matter expertise.

Summary

Similar to the foundational ECHO model designed for primary care providers, ECHO: OD-FIT is designed to promote the rapid dissemination of medicolegal death investigation–specific knowledge for immediate application to overdose casework.¹⁴ The ECHO model is a vehicle for information sharing between individuals without the resource requirements of in-person meetings and training workshops; it is an engaging virtual learning



model of two-way conversations where everyone can contribute their unique perspectives. In particular, the ECHO model targets underserved, under-resourced communities that benefit from peer network and interaction. By bringing together multi-disciplinary contributors in a virtual setting and creating a safe space for open discussion, individuals can share their knowledge, expertise, and experience, which may inform best practices in the future.

Want to learn more about Project ECHO: OD-FIT? Email <u>odfitecho@astho.org</u> or contact the organizers directly at <u>rredding@astho.org</u>¹⁵

Want to establish your own ECHO? Reach out to the ECHO Institute at the University of New Mexico²

Resources

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9