



## Perspective

# Project ECHO, Communities of Practice, and a Successful Opioid Reduction Outcome

Ryan Spaulding<sup>1</sup>, Whitney Henley<sup>2\*</sup>, Shawna Wright<sup>3</sup> and Peggy Parker<sup>3</sup>

<sup>1</sup>Vice Chancellor, Institute for Community Engagement; Acting Director, Center for Telemedicine & Telehealth; Research Associate Professor, Department of Biostatistics and Data Science, University of Kansas Medical Center, USA

<sup>2</sup>Institute for Community Engagement, University of Kansas Medical Center, USA

<sup>3</sup>KU Center for Telemedicine & Telehealth, University of Kansas Medical Center, Kansas City, Kansas, USA

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\*Corresponding author: Whitney Henley, MPH, Institute for Community Engagement, University of Kansas Medical Center, USA, E-mail: [whenley@kumc.edu](mailto:whenley@kumc.edu), [RSPAULDING@kumc.edu](mailto:RSPAULDING@kumc.edu), [swright6@kumc.edu](mailto:swright6@kumc.edu)

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## Abstract

**Introduction:** Project ECHO offers a virtual, interactive sessions to connect health care providers with specialists. Evaluation efforts have focused on quantitatively identifying the implementation process and provider's perspectives. This case demonstrates that patient success stories are able to provide a wealth of information that can be used as part of evaluation efforts.

**Background:** Through presenting a patient case to the expert panel of a Pain Prescribing ECHO, an Advanced Practice Registered Nurse was able to assist a desperate patient who suffered from negative effects of opioid use for many years. This paper explores the experiences of the care provider during the ECHO sessions as well as afterwards when recommendations from the ECHO team were used by the provider.

**Patient success story:** The provider used the guidance from the ECHO to develop several new strategies to reduce the patient's opioid use. After pursuing multiple options, the patient has enjoyed a vast improvement in quality of life and a decrease in the amount of pain experienced.

**Discussion:** Using patient stories as qualitative outcome measures may assist ECHO programs in gaining insight into program effectiveness and demonstrate the value of the ECHO model.

## Introduction

As a relatively experienced Project ECHO (Extension for Community Healthcare Outcomes) team in the Kansas heartland, we are often asked if the ECHO model works, what the research indicates, and how ECHO is different from other traditional learning models in health care. To these questions we typically reply that while there is not a significant literature on clinical outcomes from accessing ECHO programs, one major benefit may be the development of a "community of practice" that results from providing ECHO sessions over time with a consistent audience. It is this community of practice that may eventually lead to longer term, improved health care

and also provides more immediate case studies that need to be disseminated. With this short article we wanted to share an important patient success story from one of our opioid management ECHOs that leveraged this community of practice, changed a patient's life, and altered the opioid statistics in Kansas even if just by a small percentage.

## Background

Project ECHO "is a collaborative model of medical education and care management that empowers clinicians everywhere to provide better care to more people, right where they live" [1]. It does this by offering primary care providers--often in rural or underserved areas--a virtual, case-based, guided practice



education session that allows them to treat patients with chronic conditions much like specialists would treat them. Using web-based videoconferencing technology participants connect with an interdisciplinary team of experts who share best-practices and mentor participants with the goal of enhancing participants' effectiveness in managing patients with complex medical conditions. Since its inception in New Mexico in 2003, the ECHO model has expanded rapidly, with 324 hubs across 37 countries and with 162 hubs located in the United States [2].

One possible reason for its global growth is that a hallmark of ECHO is its case-based learning approach, which utilizes actual patient cases presented by primary care participants for review and input by the specialist teams. These discussions not only inform the presenter, but also the entire ECHO session audience who can also provide input, share experiences and ask questions of the entire group. This interaction and collaboration may create a virtual, community of practice which can lead to greater knowledge acquisition and retention than other learning models. A community of practice is defined as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" [3] and is becoming more common in health care as a method for practice improvement [4]. Indeed, earlier this year our ECHO research team conducted interviews of our ECHO participants and the benefits cited by the interviewees are consistent with communities of practice. For instance, 91% believed that ECHO positively addresses rural isolation of health care providers, 88.9% appreciated the group/team format of ECHO, 87.5% believed ECHO enhances their learning, 63.6% reported that ECHO helps translate knowledge to practice, and 59% reported discussing ECHO with their colleagues [5].

We at the University of Kansas Medical Center (KUMC) in Kansas City began our Project ECHO program in 2016 and have also experienced rapid growth. While we have done many ECHO sessions across numerous chronic conditions, several of our most popular series have covered topics related to the opioid crisis. Compared to the average U.S. rate of 58.7 prescriptions for every 100 persons, Kansas providers wrote 69.8 prescriptions for every 100 persons in 2017 [6,7]. It is one of these ECHO series that provided us a patient story detailed below that demonstrates the ongoing promise of ECHO.

### Patient success story

As described above, our KUMC Project ECHO program utilizes patient cases prepared by primary care providers as the foundation for the clinical discussion. During a Treating Pain in 2018 ECHO in August 2018, a rural primary care provider presented a case in which an adult, female medically complex patient experienced chronic pain in multiple areas. The patient had been in a severe car accident in 2001 and required several abdominal surgeries that led her to experience chronic pain for 18 years. The provider described the patient as "what many would think of as the "typical opioid abuser." Prior to working with the provider, the patient had a history of breaking pain contracts, going to different providers at different locations,

and had been dismissed from pain management clinics and practices.

The provider treated the patient for more than four years without achieving effective pain management, and the patient suffered from systemic side effects related to opioid medication. Not knowing what else to do to help the patient, the provider presented the patient's case to the KUMC Project ECHO team.

After obtaining feedback from the interdisciplinary group of experts, and chatting with other Project ECHO participants, the provider developed several plans for assisting the patient, including assessment for a spinal cord stimulator, alternative medication strategies, referral to a gastroenterologist, and coordination with behavioral health to support healthy lifestyle changes. This plan was developed based on the guidance from the Project ECHO specialty team members that served on the expert panel. The provider followed the panel's guidance and though the patient was not a candidate for the spinal stimulator, she reported she was motivated to keep "thinking outside the box." This led to a subsequent referral to a certified registered nurse anesthetist who recommended that the patient consider an intrathecal pain pump. The patient was referred for further evaluation, and a pain pump was successfully implanted. Shortly following the ECHO series, the director of our Project ECHO program received an email from the provider who presented the patient's case. The provider was excited to report back to the team that the patient feels like she has "gotten her life back." The patient is experiencing minimal pain, is thinking more clearly, and able to attend her child's extra-curricular activities.

*"I am so pleased to report that I saw her today for a partial fill of her Oxycodone and she reported that this would be the last time she gets it filled as her pain is almost gone. She states that she is thinking more clearly and she feels like this is a new lease on life. She is looking forward to attending all of her pre-teen daughter's activities and functions and she feels like she has gotten her life back. I just want to thank you and the group for helping me to find a solution for this patient and giving her life back!!"*

Upon hearing news of the patient's progress, the KUMC Project ECHO team invited the provider to share her experiences and successes with the Pain Prescribing ECHO in March 2019. The provider agreed to review the case and the recommendations she followed after presenting the case at the Treating Pain in 2018 ECHO. The provider's willingness to share her approach and lessons learned with ECHO participants demonstrates the "all teach, all learn" community of practice developed through the Project ECHO approach. The provider's efforts to support the patient, consider alternatives to pain management, and share the case will ECHO learners resonated with the specialty team and ECHO participants alike. Through the ECHO, providers learned that implanted pain pumps may not be cost effective for all pain management patients, but this approach was a good fit given the patient's medical complexities. The case presentation led to a rich discussion about alternative pain management approaches.

In a subsequent interview with the Advanced Practice Registered Nurse (APRN), she indicated that she had been



treating the patient for several years without success and that she was invited to present a patient case for ECHO. The patient was “getting pretty desperate” and was trying to be compliant but having so much pain that she was coming in early or going to the emergency department frequently. If she had not been asked to present at ECHO and had not engaged in the case-based discussion, she is not sure what she would have done next. But now with the pain pump, the patient remains free from oral opioid medication and systemic side effects of opioid medication. Her pain pump was initially filled with morphine but was changed to alternative medications (Dilaudid and bupivacaine). The patient continues to do very well. In addition, as a result of ECHO, the APRN reported that she has cut back on the amount of opioids given to other patients for acute pain and has been more aware of how to use short acting and long acting opioids. She is also using more epidural steroid injections and has all of her back and neck pain patients go for evaluation with a pain management specialist. As it is intended, ECHO in this case embraced the community of practice model and resulted in increased provider awareness of the latest best practices for treating a complex patient case, practice improvement as well as a very successful patient outcome.

## Discussion

At the 2019 MetaECHO conference in New Mexico a major thread through many of the sessions was the need for Project ECHO programs to more systematically and comprehensively evaluate Project ECHO objectives and outcomes. Though this is accurate and the need for more randomized, controlled trials is substantial, this example of how ECHO has worked in Kansas is an important contribution to be considered. There are likely many stories like this from ECHO programs around the world that illustrate why Project ECHO exists, why it is expanding

so quickly and why so many providers continue to attend and refer to others, yet they are not aggregated or rarely published in any way so are not readily discoverable. Therefore, ECHO administrators may want to consider how to capture and utilize individual patient successes that can be used internally and externally to demonstrate the value of the model. In addition, ECHO programs would be wise to collaborate to aggregate case studies as a way to generate qualitative data that can also illustrate program benefits. Ultimately, our goal is to improve clinical practice, and we believe ECHO can be an effective tool for doing so when applied the right way, at the right time, with the right audience. Since ECHO depends so heavily on patient cases as a learning tool, it is intuitive that patient success stories post-ECHO would be similarly effective as an outcome measure.

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