

Assessing Provider Barriers to Attending Developmental-Behavioral Pediatrics Telehealth Conferences

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Introduction: Telehealth has been used to educate community primary care providers (PCPs) how to manage complex patients, increasing PCPs' self-efficacy and role in patient-management. However, getting PCPs to participate in these educational telehealth sessions has been difficult, as seen by low numbers attending a developmental-behavioral pediatric telehealth conference series. The objective of this quality improvement project was to increase primary care provider attendance in telehealth conferences.

Methods: Quality improvement project monitored the attendance changes of telehealth conferences by primary care providers in the Rocky Mountain Region. Interventions to increase attendance included community outreach, addition of content experts and support staff as well as change in time and formatting of the conferences. Barriers to participation were evaluated with an online survey sent to 47 PCPs and three informal group interviews with PCPs from rural practices.

Results: Average attendance of the telehealth conferences was 2.5 participants per conference. Partnering with ECHO Colorado on 10/26/2016 increased average attendance from 2 to 4 participants per conference. Eighteen (38%) of 47 providers responded to the online survey. Barriers to participation included scheduling conflicts, technology issues, and being unaware of the conferences. Recording the conferences for later viewing and contacting practice administration staff to block future dates were suggested for increase attendance.

Conclusions: Partnering with a larger project (ECHO Colorado) improved marketing and attendance for the conferences. Results of the survey and group interviews informed the next steps, which include offering two conference times and targeting practice administrators to clear time in providers' schedules to participate.

BACKGROUND

The incidence of individuals with developmental disabilities has been increasing. The most recent data from the National Health Interview Survey in 2008 estimates that 15% of children ages 3-17 years old have a developmental disability, up from 12.8% in 1997¹. The most recent national estimate of children with an autism spectrum disorder is 1 in 68 children at 8 years of age². Thus, there is a high probability that a primary care provider would encounter a patient who has a developmental disability in their clinic.

Unfortunately, many primary care providers do not comfortable managing these patients³, and have indicated the desire for additional training in developmental-behavioral pediatrics beyond what they had received during their residency⁴. Also, there has been concern about a decrease in exposure in developmental-behavioral pediatrics during residency training since the 80-hour work-week limit has been placed⁵. With the lack of adequate training and comfort in managing patients with developmental disabilities in primary care providers, much of the care has been referred to developmental specialists, including developmental-behavioral pediatricians. However, this demand is unable to be met due to a national shortage of developmental-behavioral pediatricians⁶. The rising demand and lack of supply in these providers leads to long wait times for assessments as well as long distances to travel as many developmental specialists are based in large, urban tertiary care centers. This has contributed to a gap in access to care for this patient population.

The Health Resources and Services Administration (HRSA) defines telehealth as “the use of technology to deliver health care, health information or health education at a distance”⁷. The use of telehealth has been discussed by the American Academy of Pediatrics as a way to address access issues and physician workforce shortages⁸⁻⁹. A variety of ways to use telehealth in developmental-behavioral pediatrics has been previously outlined and included the education/consultation to primary care providers (particularly those in rural and underserved settings)¹⁰.

Using telehealth as a tool allowing specialty providers educate and provide consultation to primary care providers has been shown to be effective with the Extension for Community Healthcare Outcomes (ECHO) project. This project took place in New Mexico, connecting rural primary care providers to a panel of specialists in the management of patients who had hepatitis C¹¹. This model consisted of a sessions where primary care providers could seek consultation about their patients over a secure, online video conference in addition to receiving short didactics at the same session. This model was shown to increase the participating providers’ knowledge and self-efficacy in managing Hepatitis C¹¹⁻¹². The ECHO model has since been replicated in a number of locations and different specialties¹³⁻¹⁷ with other studies showing similar positive results as the ECHO project in New Mexico¹³⁻¹⁵. Several of those studies did note barriers to participation for primary care providers. The most commonly cited barriers were time constraints and lack of appropriate equipment¹⁴⁻¹⁶. Due to the success of the ECHO project and other similar iterations, a telehealth project focusing on developmental-behavioral pediatrics was piloted as a way to improve access to care.

RATIONALE:

A telehealth project was piloted at a large tertiary care center in Denver, Colorado where primary care providers from the Rocky Mountain region could consult with experts in developmental-behavioral pediatrics. However, poor attendance was a persistent issue throughout this project. If providers did

not participate, the impact on addressing access issues to developmental and behavioral specialists would be minimal, negating the purpose of the telehealth conferences. Due to this issue, the focus on the project shifted to assessing how to increase participation and assess the barriers to participation. Specific aims included: assess how changes in the format of the conferences, outreach attempts and partnering with a larger project were associated with any changes in attendance; assess the barriers to participation for primary care providers; and seek feedback on what changes are recommended from primary care providers to improve attendance.

Methods:

Attendance for telehealth conferences connecting primary care providers with content experts in developmental-behavioral pediatrics was tracked for the conferences from the initiation of the conferences, on 10/27/2014, through 2/18/2016. Changes in attendance were tracked in association with interventions intended to improve attendance. Interventions included changes in the conference format, outreach to community providers and partnering with a larger project, ECHO Colorado.

Conference Format Changes:

Several changes to the format of the conferences occurred and included changes to the structure of the conferences, changes in personnel and changes in the time and day. When the conferences first started on 10/27/2014, the format was an open discussion from primary care providers to a developmental-behavioral pediatric fellow about challenging cases or general questions around developmental-behavioral pediatrics. The conferences occurred before clinic (7:00-8:00 am) on Monday mornings and occurred twice monthly. Participants connected to the conferences via free and secure online videoconferencing programs. All that was needed to connect was a computer, smart phone or tablet with an internet connection.

The first change in the format was to change the date and time of the conferences to Thursday lunch hours (noon-1:00 pm). This change was based on feedback from the physician relations department who had been informed by community providers that the preferred time for conferences were over the lunch hour around the middle of the week.

The next change in the format of the conferences was the addition of a didactic portion, starting on 2/19/2015. Instead of two conferences a month that were open case discussions, one of the sessions was a case discussion and the other session was didactic given by a content expert on a specific topic. Content experts included developmental-behavioral pediatricians, licensed clinical psychologists, a psychiatrist, and a licensed clinical social worker. Examples of topics included developmental screening and referrals, sleep issues, and toileting issues. Participants of the didactic portions of the conferences received 1 hour of continuing medical education (CME) credit. This change was influenced by previous telehealth projects having successfully used CME as an incentive for recruitment^{13-14, 16-17} as well as CME being a successful incentive for community providers to participate in educational sessions at the academic center where this project took place.

Starting on 8/20/2015, the developmental-behavioral pediatric fellow was accompanied by other content experts for the case discussions. An expert panel was assembled for these sessions to answer questions or discuss challenging cases from primary care providers. The panel consisted of a developmental-behavioral pediatrician, developmental-behavioral pediatric fellow, post-doctoral clinical psychology fellow and social worker for most sessions in addition to other rotating content experts.

The final format change to the conferences occurred on 11/4/2015. This occurred in conjunction with partnering with ECHO Colorado. The format change was to make the conferences more in line with the ECHO model. Instead of one talk a month being a 1-hour didactic for CME and the other for case discussion, both conferences per month had a 20-30 minute didactic followed by 30-40 minutes of case

discussions. The expert panel would be present for all conferences, instead of just the one case discussion conference a month. CME credit would also be available for all conferences.

Outreach to Community Providers:

Outreach to community providers to recruit them to participate in the conferences occurred in a number of ways. Outreach attempts first occurred by partnering with the physician relations department. This initially consisted of informal outreach by physician relations representatives to practices they thought might be interested in the telehealth conferences. More formal outreach efforts by physician relations started in May 2015 via the “News Now Newsletter”. This newsletter is sent to 1,405 people, most of whom are pediatricians, mid-level primary care providers, and family medicine providers located between Fort Collins and Pueblo, Colorado. An announcement for DBP Connections was in the May, June, September, October, November and December of 2015’s “News Now Newsletter”. An email was sent to all clinical faculty at Children's Hospital Colorado on 6/5/2015; included in this email were 424 clinical providers. Information about DBP Connections was also included in the Colorado chapter of the American Academy of Pediatrics’s (AAP) “Chapter Connection” newsletter on 7/7/2015. This newsletter is sent to the approximately 500 members of the Colorado AAP chapter. These members consist primarily of pediatricians. In person outreach included a Grand Rounds presentation to 29 providers at Fort Carson on 10/13/2015 that included a portion discussing DBP Connections. Additional outreach was through partnering with ECHO Colorado.

Partnering with ECHO Colorado:

ECHO Colorado is “a statewide program of training and practice support to increase the capacity to manage complex health care problems in primary care settings and to prevent disease in Colorado”¹⁶. It currently has seven different programs, one of which is DBP Connections. The partnership with ECHO Colorado began on 10/26/2015. Changes involved with this partnership included the addition of

administrative support and aid with outreach. Administrative support was provided by an ECHO Colorado Project Coordinator and Education Specialist whose duties included sending out formal announcements for each telehealth session to providers who expressed interest in the sessions, organization of CME paperwork as well as work with presenters on objectives and presentation style. Outreach occurred in a variety of formal and informal settings. ECHO Colorado reached out a variety of organizations. This included the following: Colorado Community Health Network (CCHN) which consists of 20 Colorado Community Health Centers; Colorado Rural Health Center (CRHC) which has 3500 individuals and 52 clinics as members; ClinicNET, a coalition of 43 safety net clinics; Denver Health medical center; Colorado Area Health Education Center (AHEC) which has over 234 rural providers throughout Colorado. There was also presentation about DBP Connections to the AHEC executive board on 12/3/2015. The outreach from ECHO Colorado was for their entire project, not just DBP Connections. Parties interested in ECHO Colorado would be directed to their website, which includes a link to information about DBP Connections¹⁷.

Assessing Barriers and Recommendations for Next Steps:

Barriers to participation were assessed through a brief online survey and three informal group interviews. A two-question online survey was sent to providers on the listserv who receive emails with information with links to connect to the telehealth conferences. In order to be on this listserv, providers would have reached out to a member on team, expressing interest in DBP Connections. The two questions on the online survey were: “What are the barriers to participating in DBP Connections? (select all that apply): cannot attend during the lunch hour; cannot attend on Thursdays; topics not of interest; do not like the current format of the talks; do not have a question to ask or patient to present; computer/technology issues; presenter/speaker issues; other (please specify)”, and “What would help you participate more often?” The survey was collected and managed using REDCap electronic data

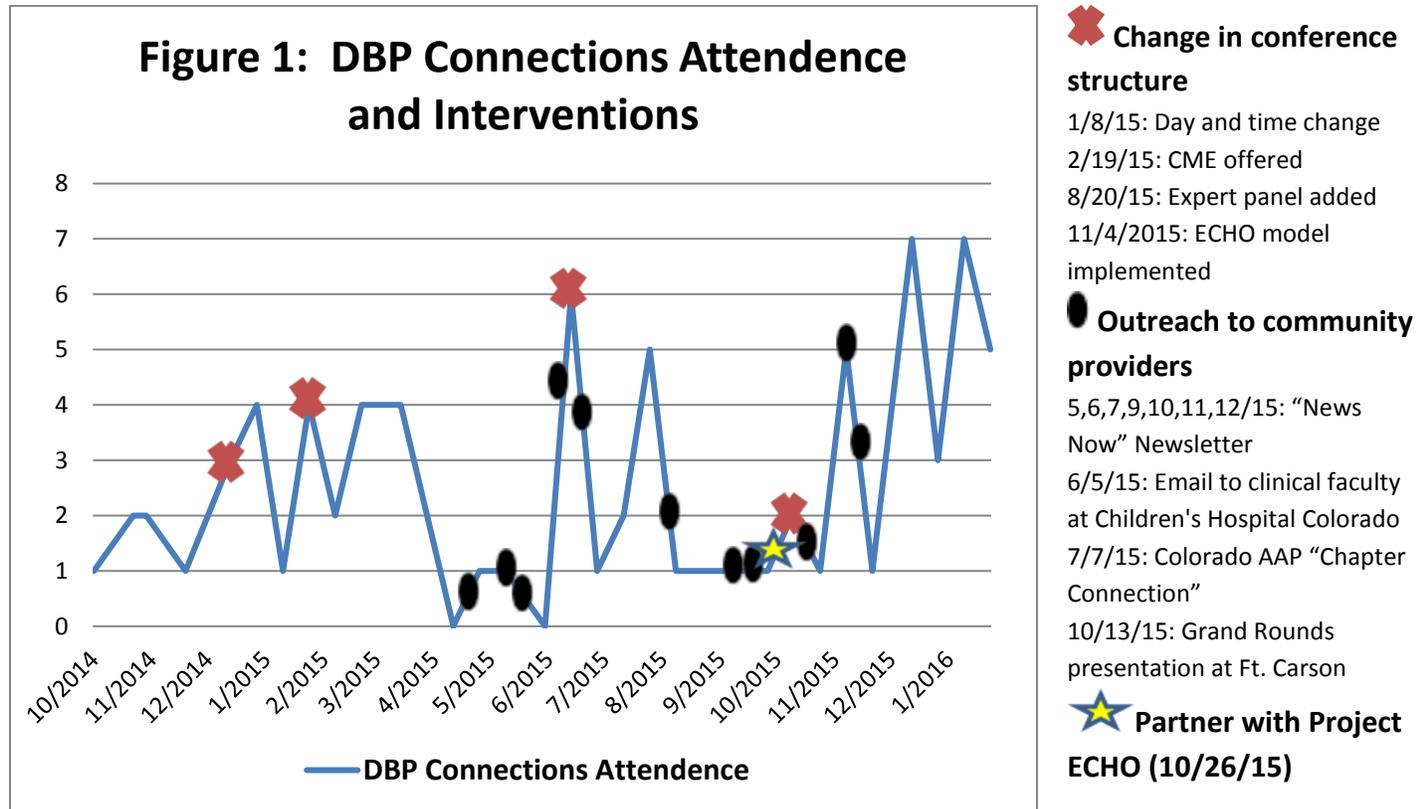
capture tools¹⁸. REDCap (Research Electronic Data Capture) is a secure, web-based application designed to support data capture for research studies, providing: 1) an intuitive interface for validated data entry; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for importing data from external sources.

Barriers were assessed via informal group interviews with providers from Grand Junction and Brighton, Colorado. Providers were recruited for these interviews by a parent advocate. The interviews started with a brief presentation going over the background and format of DBP Connections which concludes with a slide with the following questions to generate discussion: *Is this helpful for you? Thoughts about format (didactics and case discussions)? What are barriers to participating? What would help you participate/what changes would you recommend? Time and/or day of week change? Topics needed? Prefer case discussion, didactics or both? Incentives (CME)? How can we better support you in managing patients with developmental and/or behavior concerns?* Notes of responses during the group interviews were recorded by a member of the DBP Connections team.

Results:

The average attendance per telehealth session over the 17-month project was 2.5 people per session. The attendance and interventions are charted in Figure 1. The most highly attended sessions were on 1/7/2016 (topic: feeding difficulties) and 2/4/2016 (topic: sleep difficulties), with 7 people attending those sessions. Two sessions had zero attendees: an open case discussion on 5/7/2015 and a didactic on community resources on 6/25/2015. Overall, it does not appear that any one change in conference format or outreach attempt had a significant impact on the attendance of the conferences. Partnering with ECHO Colorado does seem to have gradually improved attendance. The average attendance before

partnering with ECHO Colorado was 2 people per session and increased to 4 people per session after partnering this group.



Online Survey:

Forty-seven providers were on the listserv to receive announcements for DBP Connections and received emails with online links to complete the brief survey. Eighteen providers responded to the survey, which is a 38% response rate. The following were cited as barriers to participation: 7 stated that they could not attend during the lunch hour, 4 could not attend on Thursdays, 4 cited computer/technology issues, and 2 did not have a question to discuss. None cited the topic, conference format or presenter/speaker issues as barriers to participation. Five cited "other" as a response to barriers and all five cited a busy schedule overall as the barrier, including one provider stating that their "schedule is unpredictable and can change last minute". Ten providers suggested a separate time (before or after

clinic in addition to the lunch hour) or day that would work better for their schedule; 4 asked that the sessions be recorded for later viewing; and 2 needed help with the technology.

Group Interviews:

Three group interviews took place: 2 in Grand Junction, Colorado and 1 in Brighton, Colorado.

Seventeen providers attended the first Grand Junction meeting and 14 attended the second meeting.

Thirteen providers attended the group interview in Brighton. Providers in all three meetings expressed that attending the telehealth sessions would be helpful in their management of patients with developmental disabilities. Barriers to participation included having an unpredictable schedule that is not under their control; not reading email reminders about sessions due to being inundated with a large amount of work emails in general; computer and office Wi-Fi issues preventing participation; and the Brighton practice was unaware of the existence of DBP Connections prior to their practice being asked to do a group interview.

Suggestions to increase their participation included: recording the sessions for later viewing; contacting the practice's business manager about the sessions who could then block out time for providers to participate; and offering sessions during the lunch hour as well as before clinic.

Conclusion and Next Steps:

Attendance for DBP Connections was an issue throughout this project. Time constraints of primary care providers are significant barriers for participation. The lack of control over their own schedule in addition to email fatigue about conferences indicate that directly contacting providers might not be the most effective way to ensure participation. As mentioned in the group interviews, contacting the practice manager/coordinator who has more control over providers' schedule and could block times for participation could be considered. This could also help with marketing as many of the outreach

attempts (including newsletters) are done through email and might be ignored by providers who might otherwise be interested. Issues with provider use of email has been noted previously in the literature, including providers being overwhelmed by the amount of emails they receive as well as confusing some emails with spam¹⁹. Technology and internet issues were also cited as barriers, which are often outside the control of providers if they are trying to connect at their office. Having more face-to-face opportunities for recruitment with community providers might increase awareness of the conferences. This should then be followed up with contacting the practice's manager/coordinator to discuss logistics (scheduling and technical requirements) for participation.

The variability of schedules was also appreciated during both the group interviews and responses from the online surveys. This indicated that there is no ideal time that would meet the needs of all providers, but offering conferences both before clinic (7:00-8:00 am) and during the lunch hour would help accommodate different schedules. Further, providers indicated the need to know about the topic, date and time of the telehealth conferences 2-3 months in advance to allow for planning on their end.

Attendance did start to trend upward after partnering with ECHO Colorado. This is likely due to the increase in administrative support and networking. The administrative support included standardizing announcements/reminders for the conferences and providing technology support, allowing the conferences to run more smoothly. The ability for ECHO Colorado to reach a wide array of providers throughout Colorado and then guide them towards DBP Connections contributed significantly to the increase in attendance.

Public Health Significance:

As mentioned before, the number of children with developmental disabilities, including those with an autism spectrum disorder, has been increasing¹⁻², but there is a shortage of developmental specialists (as well as other pediatric subspecialists)⁶. This has led to a gap in care for individuals with

developmental disabilities and special healthcare needs. Connecting primary care providers to subspecialists via telehealth can help narrow this gap. However, this is ineffective if primary care providers do not participate in the conferences. While being able to connect to specialists over the internet via telehealth should seemingly increase attendance due to the improved convenience, it did not seem to be the case with this project. A potential reason could be the ease of not participating. A number of distractions and issues can occur in a busy primary care practice which could distract or prevent a potential participant from joining the conference as they were planning to join from their office. This is different than if a provider had to travel or show up in person to a conference where they would have to leave their practice (and distractions) to participate. The barriers encountered and potential reasons for poor participation should be considered when planning for future telehealth conferences designed for primary care providers.

Self-Reflection:

This project was a challenge as it was not my initial project. I had initially intended to measure primary care provider self-efficacy on managing patients with developmental disabilities before and after participating in the telehealth conferences. As participation was poor, I had to change the scope of this project significantly. This then created some design issues as we had not been working on increasing participation in a systematic way; rather, we used any and all options available to recruit participants. This made it somewhat difficult to attribute interventions with changes in attendance. Also, our measures of barriers to participation occurred at the end of the project due to initial plans for a different measurement. It would have been more helpful to have measured the barriers much earlier in the project as we could have made more informed changes to increase participation. Overall, it was a valuable experience in learning how to work with busy primary care providers and has informed next steps for our conferences which include offering two different times, making the recorded sessions

more easily accessible and incorporating practice managers/coordinators into the outreach process. I will also be able to take the lessons learned from this project to my new faculty position as I will be on an advisory panel for telehealth conferences.

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