

UI researchers find benefits to using telehealth with ASD families

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Telemedicine - connecting health care providers and patients via computer or smart phone for diagnosis and treatment—has been making it easier, and more cost-effective, to "see" the doctor. Using a camera-enabled computer or smart phone, patients with common health concerns can get some diagnoses without leaving their homes. Emergency room doctors and nurses are able to communicate with their peers in larger trauma centers via computer, as well.

Now a new University of Iowa study, published recently in the journal *Pediatrics*, shows that parents with children on the autism spectrum are able to have a specialist address challenging behavior in these children by interacting over the computer, too—and at less than half of the cost of receiving similar care in person.

"A lot of kids who are on the autism spectrum have significant problems with behavior," says Scott Lindgren, PhD, professor of pediatrics in the Stead Family Department of Pediatrics at University of Iowa Carver College of Medicine, and lead author of the study. "These kids may have trouble following directions, or have problems when there are changes in their schedule or routine. They also don't always have good enough communication skills to be able to explain to someone why they're getting upset or having a meltdown."

Parents are often frustrated, Lindgren says, because they don't know how to communicate with their child to find a way to prevent or stop a meltdown. What adds to frustrations, he says, is that many Iowa families

live in areas where services for children on the autism spectrum may be hard to come by.

"There are a limited number of professionals with the training and expertise needed to work with these children, which means a lot of families can't get access to the services they need," Lindgren says. "That's the situation we have in Iowa."

With the availability of telemedicine, he says, families with limited access—particularly those in rural settings - will be able to connect with their provider without causing a big disruption to their child or their [family](#).

Additionally, the study showed that total costs for treating a child for challenging behaviors was cut from nearly \$6,000 per child to just over \$2,100 through the use of telemedicine - or [telehealth](#), as it is often called. Cost savings were seen in various areas, including travel expenses and staff hours that were saved when no travel was involved.

In the study, Lindgren, who is co-director of the UI Children's Hospital Autism Center, and David Wacker, PhD, professor of pediatrics in the Stead Family Department of Pediatrics at UI Carver College of Medicine, along with other UI colleagues, examined whether these families could be served by using telehealth to train parents to use applied behavior analysis (ABA), a common intervention for children with autism spectrum disorder (ASD).

The group studied 107 children ages 21 months to 6 years old with ASD or other developmental disabilities and who were treated between 1996 and 2014. The children were divided into three groups: 52 kids treated between 1996 and 2009 who had a behavior consultant come to their home; 23 children treated between 2009 and 2012 whose parents went to a clinic near their home to be coached via telehealth; and 32 children

who were treated between 2012 and 2014 as part of a trial in which their parents were trained in functional communication training (FCT), a type of ABA treatment, via telehealth coaching at home.

Researchers found that not only are specialists able to successfully train parents to use ABA procedures using telehealth, and at a fraction of the cost, but they are also able to provide the training to families in outlying rural areas who might otherwise not have access to care.

"When we were starting to do this with telehealth a few years ago, a lot of people said there's no way to work with children with autism without seeing them in person," Lindgren says. "Usually the way they had been managed was that the family would come to the hospital and see Dr. Wacker and he'd evaluate the [children](#)." Behavior analysts were then sent out to the home to work with the family, Lindgren says.

As telehealth services evolved, he says, families would go to one of 14 regional clinics around the state and be coached by a behavior consultant via an internet connection between the hospital and the local clinic. It saved families from having to drive to the hospital, but it still involved leaving the home and disrupting the child's routine.

With the most recent approach of using in-home telehealth, parents and consultants could connect via a computer at home, which often gave consultants a glimpse into where the child was most comfortable and where most challenging behavior occurred. The parents would then receive coaching in functional communication training at home.

"This coaching is more than having a casual talk with families," Lindgren says. "It's setting up a variety of situations in which problem behavior may occur, and helping parents find ways to address problems constructively, and to better understand why that behavior is occurring. For 90 percent of the kids we evaluate, we can find a social reason for

what that child is doing."

Lindgren said he's been pleased with the results of the consultations via telehealth - and so have been families.

"It's been impressive to me to see how well this works in different settings," he says. "Almost all of the [parents](#) do well enough in this training to be able to help their kids a lot. And that reduces stress on the family and helps kids succeed in school and in life."

Provided by University of Iowa

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