

ASD early intervention found cost effective through school years

May 1 2013

The Early Start Denver Model (ESDM), a comprehensive behavioral early intervention program that is appropriate for children with autism spectrum disorder (ASD) as young as 12 months, has been found to reduce the need for ASD therapies and special education services through the school years following their early intervention. These findings were presented by David S. Mandell, Sc.D., Associate Professor, Director, Center for Mental Health Policy & Services Research, University of Pennsylvania Perelman School of Medicine, today at the Autism Speaks Toddler Treatment Network meeting held in San Sebastian, Spain concurrent with the start of the International Meeting for Autism Research.

The investigation evaluated cost of the early intervention, both ESDM and typically available "community" early intervention services, both in combination with traditional autism-specific related services including other forms of ABA, speech therapy, occupational therapy and physical therapy.

After the clinical trial comparing ESDM to community interventions was completed, all children were referred back to the community and parents were free to seek services for their child. During this post-intervention period, children in the ESDM group were found to receive fewer hours of service per month than the children who received early intervention services typically-available in the community (168 vs. 257). This difference is spread across many different services, but is concentrated in the use of special education services and individual therapies,

including speech and language therapy, physical therapy and occupational therapy. On the other hand, the ESDM group received many more hours in typical education settings than the group of children who previously received typically available early intervention services.

ESDM is the first early intervention for toddlers with ASD to undergo controlled clinical study of intensive early intervention and has demonstrated both improvement of social skills and brain responses to social stimuli. These optimal outcomes include increased IQ, increased adaptive and social behaviors as well as promoting the normal development of the brain and behavior that optimizes a child's potential to participate meaningfully in the community into their adult years.

"It is very promising to see that children who received two years of ESDM intervention required fewer hours of therapy and special education services through the remainder of their preschool years," said Geraldine Dawson, Ph.D., Autism Speaks chief science officer. "Not only do the young children who receive ESDM benefit in the short term with respect to improved IQ and social skills, and brain functioning, we see that through their remaining preschool years these children require fewer special education supports."

This findings compare 21 children who underwent ESDM to 18 children who received community early intervention during the two years they received these early intervention services and then for four years as they were followed by Principal Investigator Annette Mercer Estes, Ph.D., Research Associate Professor of Speech and Hearing Sciences and Research Affiliate, in the Center on Human Development and Disability at University of Washington. Dr. Estes compiled all of the services the children continued to receive post intervention. Dr. Mandell then converted them to 9 categories of therapy and calculated the cost of each category by multiplying the number of hours of each type of service received by the common cost units based on public reimbursement

models in U.S. and U.K.

While ESDM frontloads costs and is more expensive to deliver in those first two years of early intervention, the end of elementary schools by the time children entered high school, ESDM showed a positive return on investment ,by the time children will enter high school" explained Dr. Mandell. "Based on the data we had available, the cost effectiveness of ESDM over a relatively short period of time is clear, even when only examining this narrow group of services. Given what we know about service use as children with autism age, it is quite likely that the long-term cost savings will be even greater," he continued.

During the two years of delivery, ESDM, including all related services, had an average monthly cost of approximately \$10,000/child. The average monthly cost of ESDM alone is \$5,560/child. Children in the control group, who were receiving standard community-based early intervention, had an average monthly cost of about \$5,200/child.

In the four years post [early intervention](#), during which these children were tracked, the ESDM cohort required on average approximately \$4,450 in related services – speech therapy, physical therapy, occupational therapy and ABA. The community intervention children, on average, required approximately \$5,550 in related services.

Dr. Mandell believes this is provocative research. "We used a very narrow definition of cost for this study, including only autism-specific services, such as physical, occupational and speech therapies as well as ABA," he explained, "I believe the cost efficiencies would become even more pronounced if there had been an evaluation on health costs and overall family economics such as the ability of both parents to continue to work and earn income while their child received services."

ESDM, which combines applied behavioral analysis (ABA) teaching

methods with developmental 'relationship-based' approaches, was previously demonstrated to achieve significant gains in cognitive, language and daily living skills compared to [children](#) with ASD who received commonly available community interventions. On average, the preschoolers receiving ESDM for two years improved 17.5 points in IQ compared with 7.0 points in the community intervention comparison group.

"This work creates an important framework, such that validated treatments and interventions should be assessed over the long term," concluded Dr. Mandell. "These metrics, the number of functional services and hours of services of support an individual continues to receive, are important measures to demonstrate efficacy."

Provided by Autism Speaks

Citation: ASD early intervention found cost effective through school years (2013, May 1)
retrieved 26 April 2024 from

<https://medicalxpress.com/news/2013-05-asd-early-intervention-effective-school.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--