

# Leaving no child behind with Early Intervention



One in six children in the U.S faces a developmental disability or a disabling behavioral problem. These range from targeted skills such as speech development and physical motor skills, to social skills such as behavioral and emotional issues. Children may have one or a combination of these disabilities; a sample of 457 children found 11% required the services of three or more Early Intervention (EI) professionals<sup>1</sup>.

## What is early intervention and why is it so important?

Early intervention refers to services provided to children between birth and the age of three who are not achieving developmental milestones. The Infants and Toddlers with Disabilities Program (Part C) of the Individuals with Disabilities Education Act (IDEA) was enacted in 1986 to fund the nationwide delivery of these services and mitigate developmental delays that put children at risk of poor physical, social or emotional development. These services are delivered by a variety of professional care providers, such as speech pathologists and occupational or physical therapists. They work with children and families directly, developing Individualized Family Services Plans (IFSPs) that map out the services required and the intended child-centric outcomes of heightened social and targeted skills. Outcomes should include educating the parent or caregiver about their child's needs and rights and helping them build support systems and access community programs.

Early intervention programs aim to identify the children in need, intervene quickly and help them accelerate their development by providing additional care and support so that they reach the same milestones as their peers before they go to pre-school or the K12 system. Early intervention also has significant impact on children with lifelong disabilities, for example

Down Syndrome or autism. While they may not ever reach the same milestones as their peers, having access to the right care plan and providers helps affected parents and children achieve the highest quality of life possible.

There is extensive research indicating the significance of the first three years for a child's brain development. Before the age of three the brain's neural circuits, which form the foundation of learning and behavior, are the most elastic and therefore are more responsive to change. This means that developmental services are likely to be more effective and less costly the earlier they begin. In this paper, we explore the long-term and far-reaching impacts of successfully implementing early intervention services that reach every child who needs them.

## The butterfly effect of early intervention

We must examine how early intervention achieves its targeted outcomes in terms of overcoming developmental delays. One in three infants and toddlers who received early intervention services did not later require

special education in kindergarten and beyond. This signifies how defining the first three years of life can be for a child. Investing in early intervention can reduce the demand for services by qualified professionals and the associated cost of service delivery, as well as the emotional strain put on families with children with developmental needs, by a third.

While early intervention services are limited to the first three years of age, the benefits long outlive the services. On average, children that receive EI with a speech-language pathologist achieve average speech and language scores by age five<sup>2</sup>. Another study showed that children who received EI achieved standard language, reading and writing scores by the age of 17, despite discontinuing care services in later years<sup>3</sup>.

It is evident that risk of developmental disability is not an insurmountable obstacle for a child to overcome if they have the right services at the right time. EI services are proven to effectively combat early developmental issues and ensure the children affected reach key development milestones in line with their peers.

**Support services also become more expensive as the individual in need gets older.** A study of the cumulative costs of special education from birth to 18 years of age found that intervention starting at birth resulted in lower expenditures over the course of childhood. **Total costs of services begun at birth were approximately \$37,000, compared with a total of \$53,000 if services were not started until the age of six<sup>4</sup>.**

Beyond the immediate developmental domains, early intervention services have a number of benefits. Not only do children retain the targeted skills, but successful care plan achievement and positive experiences in early years builds a foundation for long-term success in education, the workplace and the community.

## Educational impact

Neglecting to provide care for young children with developmental disabilities can have a profound negative impact on their later educational advancement. If by the time they reach kindergarten they are behind their peers developmentally, they may feel isolated and frustrated, which further impedes learning and can lead to increased behavioral issues.



This can make them less likely to succeed within the school environment and may mean that they require additional support services while in the K12 system, which are both more expensive and less effective. The longer a child is behind, the more difficult it becomes to catch up. Even with K12 services, they may still struggle to achieve the critical thinking and intellectual

development necessary to graduate high school or continue with post-secondary education.

A study investigated the long-term effects of an early intervention preschool class. 70% of individuals who received EI services at preschool were enrolled in higher education or held skilled jobs, compared to only 40% who did not receive EI services beyond preschool level. Furthermore, those who had early intervention were three times more likely to enroll in a college or university<sup>5</sup>.

## Workplace impact

With one in six children affected by a developmental disability, this paints a disconcerting economic picture of a state's future without the requisite investment into early intervention.

Even if they don't require expensive social services as adults, a limited education makes it less likely that they will be meaningfully or fully employed. The economy is overall stronger the more an individual can contribute to it; states can't afford to have such a dearth of well-educated professionals in the workforce.

Intervening early to provide care services to those who need it is a clear step to helping many people reach middle class by middle age. As access to services is lower among

lower income groups – an issue of inequity that we will look at later in this paper – this perpetuates generational poverty. If a child is from a disadvantaged background, has developmental disabilities and doesn't receive early intervention services, they are inhibited from achieving success and it becomes harder to break out of the cycle of poverty.

## Community impact

Developmental disabilities affect social skills, as well as targeted skills. Many early intervention services focus on children with emotional or behavioral issues. Due to the brain's adaptability, behavioral issues can be much more effectively dealt with at a young age, before patterns of behavior are fully established. Equally, if parents or caregivers are educated about their child's needs and how to manage them, it's easier to provide an environment in which the child will thrive.

As a result, compounded by the improved education and employment opportunities, early intervention services are linked to reduced crime and delinquency rates and reduced Social Safety Net program use. This builds a healthier, happier state for all.

## The inequity of early intervention services

Early intervention services have an enormous impact on both the directly affected children and families, and the wider community as a whole. EI services are far more effective in both cost and outcome than services provided at a later age.

They build a strong foundation, elevating the state as a whole and ensuring that every child is given the opportunity to succeed. Yet there is a large disparity between service demand



and supply. In 2020, the United States provided early intervention services to 437,234 children<sup>6</sup>; however, this is only 3.7% of children under age 3, when approximately 15% of children would benefit from obtaining services<sup>7</sup>.

Within this disparity, there are a number of social factors that contribute to the inequity of services. Studies show that children in rural areas, lower-income children, and children of color all receive early intervention services at significantly lower rates than other children. This can be a result of structural factors such as service deserts, common in rural areas where it's difficult to attract and retain the required professionals. If there's insufficient oversight of service uptake and distribution the most disadvantaged children can easily fall through the cracks, further perpetuating poverty in those areas.

Inequity also stems from a lack of education and access. Many parents don't know the signs of developmental disabilities or are unaware of the services that may help their child and how to obtain them. They may not have the time or resources to research their options or undergo time-consuming application processes. Distrust of the healthcare system can be another barrier to certain groups seeking out services before their child enters the school system.

## The answer: family-centric, modern EI solutions

Today, delivery of early intervention services is hindered by fragmented and inefficient agency systems. Early intervention systems must support three key groups: families, case managers and service providers. If the family portal, case management system and service provider portal aren't interconnected, data becomes siloed and it's difficult to obtain a

holistic view of how and where services are being delivered and with what outcomes. Many systems are made up of a patchwork of processes that simply provide the basic services, such as eligibility determination and invoice management.

In order to effectively deliver early intervention services, states need to invest in comprehensive, modern solutions that are capable of holistically tracking a child's progress, evaluating and measuring the services' success and outcomes, and supporting the child's transition either out of special education or to the next services.

Research shows that the family being closely involved throughout the service delivery increases their commitment to the services and helps secure better outcomes for the child. Modern EI solutions should be family and child-centric, designed to follow the child and family's journey from education to outcomes, while providing service coordinators and providers with the tools and analytics they need to work productively.

Family-centric features could include: a 24/7 virtual assistant to help families find the correct resources; ability to conduct self-referrals and eligibility checks; E-sign consent forms; ability to schedule appointments and access IFSPs; clear evaluation of outcomes and next steps.

Having a modern solution also helps agencies recognize and overcome inequity of services in a number of ways:

- Holistic built-in analytics to identify the demand for services, availability of care providers, and success of outcomes
- User-friendly, human-centric design and multi-channel access to remove any technology barriers to access
- Multilingual and ADA compliant for non-English speaking or visually impaired parents
- Automation of labor-intensive tasks empowers service coordinators and providers to spend more time on higher-value work

## Conclusion

There is no doubt that early intervention services are critical to the healthy development of children. Providing care services when the developing brain is most capable of change means services are far more effective in achieving their targeted outcomes, thereby also making them more cost-efficient than services provided in later life. They can eliminate the

need for further special education and have widespread social and economic benefits for children and families.

The indisputable importance of these services is demonstrated in the government's federal funding of Part C of IDEA. Yet many agencies are struggling with legacy systems that hinder productivity and equitable service delivery. Without comprehensive systems in place, it's easy for children to fall through the cracks – and the state not even know about it. Solutions should be centered around the child and family outcomes, facilitating a seamless experience at every stage. Transforming EI systems is about much more than just modern technology; it's about enriching lives and optimizing every child's chance to succeed.

Investing in a modern EI solution is investing in your state's future. Find out more about TCS' early intervention solution accelerator [here](#).

<sup>1</sup>Khetani, M. A., Richardson, Z., & McManus, B. M. (2017). Social disparities in early intervention service use and provider-reported outcomes. *Journal of Developmental and Behavioral Pediatrics*, 38(7), 501-509. <http://dx.doi.org/10.1097/DBP.0000000000000474>

<sup>2</sup>Girolametto, L., Wiigs, M., Smyth, R., Weitzman, E., & Pearce, P. S. (2001). Children with a history of expressive vocabulary delay: Outcomes at 5 years of age. *American Journal of Speech-Language Pathology*, 10(4), 358-369. [http://dx.doi.org/10.1044/1058-0360\(2001\)030](http://dx.doi.org/10.1044/1058-0360(2001)030)

<sup>3</sup>Rescorla, L. (2009). Age 17 language and reading outcomes in late-talking toddlers: Support for a dimensional perspective on language delay. *Journal of Speech, Language, and Hearing Research*, 52(1), 16-30. [http://dx.doi.org/10.1044/1092-4388\(2008\)07-0171](http://dx.doi.org/10.1044/1092-4388(2008)07-0171)

<sup>4</sup>Zero to Three publications, <https://www.zerotothree.org/resources/zero-to-three-journal/>

<sup>5</sup>Ramey, C. T., & Ramey, S. L. (2007). In Ladd G. W. (Ed.), *Early learning and school readiness: Can early intervention make a difference?* Wayne State University Press, Detroit, MI

<sup>6</sup>Early Childhood Technical Assistance Center, 2021, <https://ectacenter.org/partc/partcdata.asp>

<sup>7</sup>World Health Organization & United Nations Children's Fund (UNICEF). (2012). *Early childhood development and disability: a discussion paper*. World Health Organization. <https://iris.who.int/handle/10665/75355>

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