For decades, researchers have debated the long-term impact of early childhood education, sharing evidence that while some children experience positive long-term outcomes, others see initial benefits fade out — or even experience detrimental outcomes.

Now, a new study is adding to a growing body of research indicating that high-quality early care and learning programs can positively impact children for years into the future. But there is one caveat: Children need to be enrolled early, in infancy or early toddlerhood, to reap these benefits.

Beginning in 2010, researchers in Tulsa, Oklahoma, followed a cohort of 37 children who were 19 months or younger when they enrolled in Tulsa Educare, a high-quality early learning program. A team from the Early Childhood Education Institute at the University of Oklahoma, Tulsa, regularly evaluated the children’s academic outcomes and executive function through the end of third grade. These outcomes were then compared to a cohort of 38 children, serving as a control group, who were unable to get a spot at Tulsa Educare. (Children in the control group were cared for by relatives or family friends, enrolled in family child care homes or attended a public school preschool program or local Head Start program.)
The study, which was published late last year in Education Sciences and released more widely last week, found that children who attended Tulsa’s Educare program, all of whom live below the poverty line, experienced positive effects that lasted well into elementary school. The Educare cohort, who attended the program for an average of 37 months, performed better on all academic measures than their peers who did not attend the program. Parents of the Tulsa Educare cohort also reported fewer behavior problems. (There were no statistically significant differences in social-emotional development or executive functioning skills between the cohorts.) Students from both cohorts experienced similar classroom environments once they entered K-3, but by the end of third grade, the Educare cohort still outperformed the control group and scored at the national average for oral comprehension, math and vocabulary, performing on par with more affluent peers nationwide.

“To me, the results show the importance of starting early if you want to have large and sustained effects from high quality early childhood programs,” said Diane Horm, the founding director of the Early Childhood Education Institute at the University of Oklahoma at Tulsa and a George Kaiser Family Foundation Endowed Chair of Early Childhood Education. A “sustained and large dose” of a high-quality early childhood program prior to kindergarten, Horm said, seems to be key to the lasting, positive results. “If we start early, we can prevent the achievement gap from forming.”

The Educare model, which is considered to be an “enhanced” Early Head Start program, has some unique aspects that make it high quality. Educare, which receives federal Head Start funding in addition to philanthropic and state funds, meets Early Head Start performance standards that require child screenings and assessments, a research-based curriculum and family involvement. Lead teachers at Educare have bachelor’s degrees, the schools offer regular professional development and staff-to-child ratios are kept low.

Educare also offers family support programs and health resources, full-day, year-round child care and partners with researchers who frequently evaluate each site. Previous research has found certain aspects of the Educare model, such as keeping children with the same teachers for several years in a row, may have positive benefits, helping children improve self-control and form stronger attachments with caregivers.

The infant and toddler classes at Educare are crafted to give each child ample attention and plenty of sensitive, responsive interactions, Horm said. The program keeps a ratio of three teachers to eight children and focuses on individual or small-group interactions as children actively engage with materials in their classroom. The program is a contrast to other early childhood programs that Horm said she has seen, where infants are restrained in car seats, children are largely left to play on their own or there is a “harried, overworked adult” caring for many children, she said. “To me, that picture just contrasts the two extremes. You can make sure babies are safe, or you can make sure you’re enhancing development,”
Horm added. “That’s what the teachers at Educare and other good infant toddler programs do. They take their charge of being promotors of development very seriously.”

The findings of the new study echo one of early childhood’s most notable studies, the Abecedarian Project, which found positive, long-term effects of high quality early care and education for children who received full-time, high-quality early childhood experiences as infants up to age 5. Together, these studies suggest that focusing on early access to high-quality programs is critical for long-term positive outcomes.

Previous proposals from the federal government aimed at improving access to high-quality early learning opportunities have focused on universal access to preschool. Many states have poured resources into building and expanding high-quality pre-K programs, rather than emphasizing the quality of care in the first few years of life. Researchers involved with the Educare study say expanding access to federally-funded Early Head Start programs, which currently serve only 10 percent of eligible children, could help expand the number of high-quality early learning programs, such as the Educare model, and benefit more infants and toddlers.

Researchers say the age of enrollment in early learning matters. When children start young, they can reap the benefits of a high-quality program at a time when their brains are growing at a rapid pace. An infant’s brain doubles in size before age 1. During this time and the toddler years that follow, interactions between young children and their caregivers have a profound impact on the brain’s development and wiring. “The infant-toddler period is increasingly recognized as a unique developmental stage that really does set the path for all that follows,” Horm said.

A previous study of Educare children underscored the fact that infants and toddlers are influenced greatly by the type of caregiving they experience. That study, which was released in 2015, found children who entered high-quality early childhood programs earlier, and stayed longer, had better outcomes on language and social-emotional skill outcomes. “Entering Educare as an infant appeared to prevent the early decline in language scores often associated with poverty,” researchers wrote in that study. “In contrast, for children entering at age 3, language scores were already well below the national average.”

Researchers caution there are some limitations to the new study. The sample size was relatively small and several children in the non-Educare group attended some of Tulsa’s respected early childhood education programs. Still, Horm said the results point to a possible antidote to the ever-present, stubborn achievement gap that has plagued America’s education system for generations. “If you are able to enroll children in a high-quality program near birth, they never experience that gap that then has to be made up.”