Many South Carolinians have long recognized the importance of high-quality early childhood education. The state was among the first to implement both a universal full-day 5K kindergarten and a limited state-funded 4K program.

During the 2010-2011 school year, 51% of South Carolina's four-year-olds attended a publicly-funded 4K program. These offerings are provided at a cost to taxpayers of $135 million through a combination of local, state, and federal sources of funding.¹

The state currently offers several avenues for 4K, including South Carolina's school district-based Half-Day Child Development Program, both public-school and private center-based sites of the Child Development Education Pilot Program (CDEPP), and federally-funded Head Start programs, with the majority of students served through non-CDEPP public 4K (see Figure 1).

**publicly funded 4k programs in south carolina**

- **The Half-Day Child Development Program** was created in 1984 by the South Carolina Education Improvement Act. It seeks to improve school readiness in at-risk four-year-olds through school district based 4K. These 4K programs are required to be at least half-day programs, but many districts have chosen to provide full-day 4K.

- **The Child Development Education Pilot Program (CDEPP)** was created by the South Carolina General Assembly to require full-day prekindergarten in

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¹ South Carolina First Steps (2012). Publicly Funded Pre-Kindergarten in South Carolina: 2010-2011. Note that these figures do not include the ABC voucher program provided by the Department of Social Services, which also benefits four-year-olds by providing funding for childcare and/or wrap-around care outside of 4K hours. The ABC Child Care program also seeks to improve the quality, availability, and affordability of childcare throughout the state. The voucher program is funded both by federal dollars through the Child Care and Development Fund (CCDF) and the Social Services Block Grant (SSBG), and by state dollars.
37 plaintiff districts in response to the 2006 *Abbeville School District v. South Carolina* court decision. Students are served in both school-district based and private center-based CDEPP classrooms, with the majority of four-year-olds in district-based CDEPP classes. Oversight of CDEPP expansion is provided for school districts by the South Carolina Department of Education and for non-school district programs – including private, faith-based and community, and Head Start settings – by South Carolina First Steps to School Readiness (First Steps).

- **Head Start** is a federally-funded school readiness program that serves primarily low-income children ages three to five. The South Carolina Department of Social Services houses the state’s Head Start Collaboration Office, which seeks to encourage partnerships between local agencies and to ensure all low-income children are being served.

For decades, the science of early childhood development has borne out the benefits of such programs, showing that high-quality 4K programs positively impact the academic achievement and social-emotional development of their participating students. While all children certainly benefit from these types of programs, the effects are greatest for children who are considered at-risk for school failure due to factors such as low family income, low parent education level, living in a home where English is not the primary language, and special needs considerations.

Likewise, evaluations of South Carolina’s 4K programs have shown the state’s investment in its youngest learners to be beneficial to their future academic success. A recent study of five state 4K programs showed immediate results in South Carolina children's pre-reading skills as a result of their participation in 4K. Furthermore, as seen in the South Carolina Department of Education’s 2006 report *What is the Penny Buying for South Carolina?*, the

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effects of South Carolina preschool participation continue at least into middle school. In their study, sixth graders who attended preschool at the age of four received higher ELA and math PACT scores, were less likely to take off-grade level tests, and had a smaller achievement gap between Caucasian and non-Caucasian students than comparable at-risk students who did not attend a 4K program.

In the 1960s and 1970s, researchers implemented experimental studies on the effects of two preschool programs, the Perry Preschool Project and the Abecedarian Program. Given their experimental nature and low attrition in longitudinal follow-up studies, they have been used as evidence of the potential for pre-kindergarten programs to close the gap between high-achieving and low-achieving students. Despite differences in program structure and curriculum, both of these programs produced impacts on math, reading, and literacy skills, which were long-lasting and resulted in higher achievement test scores through middle school. Follow-up studies at age 27 and 40 showed economic returns for Perry program participants with higher graduation rates, lower crime and delinquency rates, and higher employment and compensation than non-participants. Another rigorous study of the Chicago Child-Parent Centers (CPC), the most effective large-scale pre-kindergarten implementation to date, found similar outcomes that persisted despite participants living in high-risk environments at later points in their child- and young adulthoods.

For decades, the science of early childhood development has borne out benefits of such programs, showing that high-quality 4K programs positively impact the academic achievement and social-emotional development of their participating students.

It should be noted that these model programs were expensive to implement, costing over $8,500 per student per year. Cost-benefit analyses have shown, however, that these programs made good economic sense, with an estimated return on investment of up to $16 for every $1 invested in the program.

When asked about the feasibility of replicating the results of their study on...
a large-scale, authors of the High/Scope Perry Preschool study concluded that “a reasonably similar program is a preschool education program run by teachers with bachelor’s degrees and certification in education, each serving up to eight children living in low income families. The program runs two school years for children who are 3 and 4 years of age with daily classes of two and a half hours or more, uses the High/Scope model or a similar participatory education approach, and has teachers visiting families or scheduling regular parent events at least every two weeks.”  

Similarly, authors of the CPC study suggested that the important aspects of their program included certified teachers, small classes, an adequate number of hours in the program, an emphasis on the development of literacy and social skills, and intensive family involvement.

While studies have shown South Carolina’s preschool initiative to have an impact on student academic achievement, the magnitude of its impact is calculated to be significantly less than these programs – about 25% of the effects of the Perry program. What we have learned in the intervening fifty years is that the magnitude of the impact of state programs is directly related to how closely they follow the intensive models of these programs. South Carolina would do well to consider the extent to which its preschool offerings are in keeping with model program qualities named by the researchers involved:

- Teacher qualifications
- Targeted population
- Program schedule
- Family support component
- Class size
- Duration of program
- Curriculum

Research on the effect of teacher qualifications has shown early childhood teachers with bachelor’s degrees to have a positive effect, albeit a modest one, on child success. The knowledge and experience teachers gain in bachelor degree programs have been shown to influence their interactions in the classroom, with bachelor level teachers showing significantly more sensitivity, engagement, responsiveness, and positive interactions with their students than teachers who do not hold these degrees. These moment-to-moment interactions have been found to affect educational achievement and social-emotional characteristics, with bachelor

11 Schweinhart et al. (2005).
12 Reynolds et al. (2011).
13 Pianta et al. (2009).
level teachers producing better outcomes than less-educated teachers.\(^{14}\)

As such, the National Institute for Early Education Research (NIEER) and the National Association for the Education of Young Children (NAEYC) recommend a minimum of a bachelor's degree with certification in early childhood education for all pre-kindergarten teachers. Likewise, the Perry, Abecedarian, and CPC programs all employed only teachers who held at least a Bachelor's degree.

**Considerations for Decision Makers**

- Currently South Carolina follows guidelines requiring teachers to hold a Bachelor's degree with a certification in early childhood education for public school-based 4K programs. However, teachers in private-center based CDEPP programs are only required to have an associate's degree. Given that these programs are providing the same services and seeking the same outcomes as part of a larger initiative, South Carolina should consider enacting a uniform teacher qualification standard that governs all publicly-funded 4K classrooms regardless of location.

- In order to retain high-quality teachers at all preschool sites, studies indicate that the salaries for preschool teachers should be commensurate with their education and experience and reflect K-12 teacher salary levels regardless of location.\(^ {15}\)

- Furthermore, a study published in *Early Childhood Research Quarterly* indicates that steps must be taken to ensure that preschool teachers holding a bachelor's have the education and training signified by the degree. For instance, teacher prep programs and certification standards should follow evidence-based guidelines with an emphasis on child development, effective teaching strategies, and Developmentally Appropriate Practices (DAP). Once in the classroom, continuing evaluations of teaching quality and classroom experiences in combination with ongoing teacher support and effective professional development can also improve the quality of South Carolina preschool programs.\(^ {16}\)

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Smaller class sizes and lower ratios improve outcomes for students by increasing teacher responsiveness, supportive interactions, individualized attention, and time spent on instruction. Further, smaller class sizes and higher ratios decrease time spent on managing student behavior and other classroom management and organizational tasks. Economic returns on class size reduction policies have been estimated to be as high as $2.79 per dollar invested in early grades.

South Carolina currently follows NIEER and NAEYC class size guidelines for all 4K classrooms with a maximum of 20 students per class and a teacher-student ratio of 1:10. Recognizing the increase in cost as class sizes decrease, NIEER recommends a maximum class size of twenty students as the most cost-effective standard. However, they also acknowledge that reducing class sizes to an average of fifteen students has been shown to increase outcomes by as much as 50%, as seen in Tennessee’s Project STAR program. The impact of reducing class sizes to below 15 students is especially seen for disadvantaged and younger students.

As previously discussed, the Perry and Abecedarian programs had maximum class sizes of 13 and 12 respectively. While these studies alone cannot prove the effectiveness of such small classes, it is significant that studies with larger class sizes have not shown the same level of benefits.

Considerations for Decision Makers

- Given the accrued evidence, an experimental evaluation of the benefits and costs of smaller South Carolina class size could provide information about the potential long-term impact of reducing class sizes in 4K to a maximum of 15 students.

(targeted population)

In 2011, South Carolina served over half of its four-year-olds in some form of publicly-funded 4K programs. With only 48.95% of four-year-olds qualifying for free and reduced-price lunches, South Carolina has been lauded as one of only a handful of states to be serving more four-year-olds than it has living in federally-defined poverty. One might conclude from these statistics that South Carolina has achieved universal access for low-income students. South Carolina, however, does not currently include an income requirement for entry to its 4K programs, and as many as one in five participating children do not qualify for free or reduced-price lunch. As presented in a recent brief by First Steps, these reports “raise

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20 Finn, J.D., Gerber, S.B., Achilles, C.M., & Boyd-Zaharias, J. (2001). The enduring effects of small classes. Teachers College Record, 103, 45-83. Note: While most of the studies on class size reduction begin their interventions with kindergarten classes, the evidence suggests that the earlier students begin learning in small classes, the higher the return on investment. See Aos & Pennucci (2013) for further discussion of the costs and benefits of reducing class sizes.  
22 Building a Foundation for Success by Getting Every Child Ready for School, Southern Regional Education Board, 2005.  
the possibility that students who might otherwise be considered a low priority for taxpayer intervention (some of whom might readily access 4K in the private sector) are filling spaces more appropriately devoted to others.”24

The research is clear that while all children can benefit from early education, children who are from low-income backgrounds reap the greatest benefits.25 With limited funding available and recent budget crises reducing the funding for pre-kindergarten even further, South Carolina is faced with the necessity of choosing how to direct existing 4K dollars.

Considerations for Decision Makers

• South Carolina does not have a statewide definition of eligibility, instead leaving it to individual districts to determine which children qualify for their 4K programs. Determining the extent to which the current 4K population matches program goals by examining current enrollment procedures and eligibility guidelines will allow the state to more specifically target intended populations, including its highest-priority children.

• In light of limited funding, one question local and state policy makers might consider is whether South Carolina should focus its efforts on providing the highest quality program possible for a targeted population versus expanding scope to provide universal access to interested families.

(duration)

It remains notable that all of the effective programs worked with economically disadvantaged students for at least two years prior to starting school. In the Chicago Child-Parent Center study, 55% of children attended for two years beginning at 3 years old, and the remaining 45% attended for their four-year-old year. Findings from this study showed that attending CPC for two years did produce modest improvements in outcomes over single-year participation.26 Despite the evidence of an increase in outcomes with an increase in program duration, however, cost-benefit analyses have found a single year of preschool participation to be the most cost-effective method.27

24 Ibid.
27 Reynolds et al. (2011).
Considerations for Decision Makers

For the vast majority of South Carolina’s preschool participants, funding is only available for their four-year-old year. Instead of extending program access to younger ages, policy makers may wish to consider 4K policies within the broader context of a comprehensive system of support for child development and school readiness from birth to age five. The Institute for Child Success supports such movement toward evidence-based systemic changes to promote the success of all children.

Preschool programs throughout the nation vary in format, ranging from two-and-a-half to six-and-a-half hours of educational programming per day and from following a school calendar to extended year-long schedules. Some states require full-day 4K programs, while others leave it up to individual districts or program sites to determine the length of the school day. Research is not clear on whether full-day and half-day programs produce equal outcomes or if characteristics of families who choose each type of program influence effectiveness. Moreover, model preschool programs varied from the 2.5-hour day, 30 week format of the Perry program to the 8-hour day, 50 week format of the Abecedarian program with significant positive outcomes for both.

While the research is not clear about the impact of program schedules on school achievement, it is clear about the impact of 4K programs on maternal employment and lifetime earnings and suggests that the program’s schedule can influence family self-sustainment. Full-day programs have been shown to have a significant positive effect on maternal education, employment, and lifetime earnings. Conversely, half-day programs can be less conducive to working families’ needs, requiring more transportation to and from programs and locating additional sources of childcare.

Considerations for Decision Makers

Despite the evidence suggesting that half-day and full-day preschool programs, if implemented effectively, can both yield positive outcomes for children, South Carolina policymakers should also consider the larger needs of the families supporting young children. If serving a population of mostly low-income families, a program needs to match working parents’ schedules. While all CDEPP classrooms operate as full-day programs, non-CDEPP School District 4K leaves scheduling decisions to individual district discretion. At a state-wide level, additional research is needed to better understand the impact of access to half-day and full-day programs.

on South Carolina's families.

- More exploration is needed regarding policies providing a continuum of care for children of working parents, including providing wrap-around care in schools or utilizing existing community-based providers as preschool sites.

(curriculum)

Research into curriculum models has found that many approaches are effective in achieving preschool goals, including the teacher-directed approach of the Abecedarian program and the child-led approach of the Perry program.\(^\text{31}\) By and large though, effective pre-kindergarten programs focus on developmentally appropriate literacy, language learning, and school readiness skills while addressing the needs of the whole child. These programs also have responsive learning environments that encourage growth across all developmental domains – cognitive, social-emotional, and physical. The curriculum must provide consistent learning objectives but be flexible enough for teachers to meet the needs of their students.\(^\text{32}\)

Considerations for Decision Makers

- South Carolina should continue to ensure that only high-quality curricula are utilized in publicly funded 4K programs. Currently the state requires all public-school 4K programs to utilize its Good Start, Grow Smart Early Learning Standards in curriculum development and assessment, and all CDEPP programs are offered a choice of evidence-based curricula from which to choose.\(^\text{33}\) In addition to more traditional types of curricula, many South Carolina 4K classrooms are utilizing Montessori methods, which have been found to produce strong academic gains, specially among disadvantaged students.\(^\text{34}\)

(family-support component)

All of the preschool program characteristics discussed thus far focus on the experiences of children during school hours. However, research has long shown that the home environment plays a significant role in cognitive development and school readiness.\(^\text{35}\) Many of the children participating in South Carolina 4K live in home environments that have been shown to be detrimental to optimal development, including poverty, low parent education, teenage parents, and housing instability.\(^\text{36}\) This reality makes an intensive family-support component essential to preschool success as the only aspect of pre-kindergarten interventions spanning the gap between a child's two learning environments.

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In recognizing the importance of strong relationships between parents and teachers for child success, the Perry program required teachers to make weekly 90-minute long home visits to collaborate with and educate parents on their child’s development. The CPC program emphasized intensive family support components that included group meetings and home visits, as well as opportunities for parents to participate in classroom activities and attend field trips. Recent research has shown parental partnership models that emphasize the relationships between parents, teachers, and students have been shown to be effective in improving student achievement and school readiness.37

Considerations for Decision Makers

• Currently South Carolina requires its 4K family support component to include quarterly contact to report progress to parents and a parent education effort that focuses on improving literacy. All program development and implementation are left to individual schools and providers.38 By these requirements, South Carolina fails to ensure this necessary intensive family support component. In doing so, South Carolina misses a significant opportunity to effect long-lasting change in at-risk children’s home learning environment. 39

• South Carolina’s state requirements could more accurately reflect the purpose and potential of family support programs to improve relationships, build community, and impact child success through intensive partnerships with and support to families.

(looking forward)

In summary, publicly funded South Carolina 4K is proving to be a worthwhile investment in school readiness. However, opportunities still exist to fine-tune policies and practices to ensure high-quality for students most in need of 4K. These opportunities include:


Enacting a coherent **teacher qualification** standard and salary guidelines that govern all publicly-funded 4K classrooms regardless of location;

- Examining the benefits and costs-benefits of **reducing class sizes** in 4K to a maximum of 15 students;

- Examining current enrollment procedures and eligibility guidelines to more specifically prioritize intended populations;

- Considering 4K policies within the broader context of a **comprehensive system** of support for child development, **prenatal to age five**;

- Examining the impact of access to half-day vs. full-day programs on South Carolina’s families.

- Exploring policies further to ensure a **continuum of care for children of working parents**, including providing wrap-around care in schools or utilizing existing **community-based providers** as preschool sites.

- Ensuring that the **parental involvement components** are seen as opportunities to partner and collaborate with parents in achieving shared goals through state requirements that more accurately reflect the purpose and potential of family support programs to improve relationships, build community, and impact child success through intensive partnerships with and support to families.

Meanwhile, due to the benefits seen from the existing 4K programs, many are advocating expansion of South Carolina’s publically-funded 4K system to provide **universal 4K**. Universal 4K can improve overall school achievement by extending its benefits to middle-income students who are also at risk for grade retention and school failure. Expanding 4K access to all interested families may also ameliorate some of the challenges of sustaining a targeted program. Research suggests that targeted programs can suffer from a lower quality than would be acceptable for public education as a whole and can suffer from funding shortfalls given its exclusive focus on a small subset of the population. By engaging families of all income-levels, universal 4K is less likely to lose support among voters than a targeted program and thus more likely to be sustainable long-term.

While recognizing universal 4K to be a laudable goal, it must be cautioned that few programs

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nationwide have come to close to producing effects like the small-scale experiments of the Perry program and Abecedarian program, which speaks to the level of complexity required for scaling preschool initiatives. Furthermore, states that have implemented universal 4K programs have experienced unanticipated difficulties in funding shortfalls, teacher shortages, negative impacts on existing private childcare and preschool providers, and difficulties maintaining quality across communities.42

Absent additional funding allocated toward 4K programs, decisions must be made regarding the priorities of South Carolina 4K in terms of the populations served and the quality of the programs that serve them. The Institute for Child Success currently recommends the state focus current efforts on prioritizing South Carolina’s most at-risk children for participation while continuing to improve its existing system of 4K to more closely follow best practices.

(final considerations for decision makers)

- ICS believes that efforts to strengthen and expand the 4K system in South Carolina should be considered within the context of strengthening and supporting other important early childhood interventions including home visiting, quality childcare, maternal-child health, early literacy, and family support programs.

- ICS believes that efforts to strengthen and expand the 4K system in South Carolina should be accompanied by comprehensive and transparent dialogue among all stakeholders, including all existing 4K providers.

- ICS supports a deliberate and incremental scaling-up of 4K in South Carolina that includes the rigorous inclusion of best-practices, fidelity to best-practices, and prioritizing South Carolina’s most at-risk children for participation.

- A prioritized and incremental 4K expansion that is accompanied by additional early-childhood system reforms will lead to greater returns for our state’s children, families, and taxpayers.