



MARYLAND  
FAMILY  
NETWORK

# THE **A B C**'s OF EARLY CHILDHOOD

**The Building Blocks of Child Development, Practice, and Policy**



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## THE FIRST FIVE YEARS LAST FOREVER

The single greatest factor determining a child’s success in school and later in life is the quality of his or her experiences from birth to age 5—prior even to entering kindergarten.

The critical importance of early childhood is demonstrated by mounting evidence from two fields of research: neurological studies of early brain development and longitudinal studies of the long-term impact of high-quality preschool programs. This evidence fundamentally changes the context in which we must evaluate the billions of public and private dollars Marylanders spend each year in pursuit of educational excellence, a productive workforce, and safe, thriving communities.

The years from birth to age 5 constitute the most expansive period of brain development and learning.

- 95% of brain growth takes place before the age of six.
- During the years from birth to age 5, children develop the foundational capacities that will set the stage, either fragile or sturdy, for all later learning and functioning.
- Young children need nurturing care and stimulating environments and experiences in order to achieve normal brain growth and to support the explosion of development—cognitive, social/emotional, and physical—that occurs during this time.
- Children who experience abusive or neglectful care are at risk of not experiencing healthy brain development and of failing to acquire necessary skills and abilities.
- Language acquisition, self-regulation, and social competence are among the critical school-readiness skills that children should develop between birth and age 5.

Maryland’s current system of early care and education is not equal to the task of reliably promoting learning, healthy development, and school readiness for all children. (The cost of this failure and the benefits of success are quantified in the “Smart Investments, Lifelong Dividends” section.) The pages that follow indicate why Maryland must do better.


Harvard University’s Center for the Developing Child describes the key developmental concepts of “Brain Architecture,” “Resilience,” and “Executive Function & Self-Regulation.” *From Neurons to Neighborhoods: The Science of Early Childhood Development*, first published in 2000, galvanized the field and examined developmental neuroscience squarely within the context of public policy. Its “Executive Summary” is excerpted on page 10.





Key Concepts

# Brain Architecture



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Early experiences affect the development of **brain architecture**, which provides the foundation for all future learning, behavior, and health. Just as a weak foundation compromises the quality and strength of a house, adverse experiences early in life can impair brain architecture, with negative effects lasting into adulthood.

**Brains are built over time, from the bottom up.** The basic architecture of the brain is constructed through an ongoing process that begins before birth and continues into adulthood. Simpler neural connections and skills form first, followed by more complex circuits and skills. In the first few years of life, more than 1 million new neural connections form every second. After this period of rapid proliferation, connections are reduced through a process called pruning, which allows brain circuits to become more efficient.

**Brain architecture is comprised of billions of connections between individual neurons across different areas of the brain.** These connections enable lightning-fast communication among neurons that specialize in different kinds of brain functions. The early years are the most active period for establishing neural connections, but new connections can form throughout life and unused connections continue to be pruned. Because this dynamic process never stops, it is impossible to determine what percentage of brain development occurs by a certain age. More importantly, the connections that form early provide either a strong or weak foundation for the connections that form later.

**The interactions of genes and experience shape the developing brain.** Although genes provide the blueprint for the formation of brain circuits, these circuits are reinforced by repeated use. A major ingredient in this developmental process is the serve and return interaction between children and their parents and other caregivers in the family or community. In the absence of responsive caregiving—or if responses are unreliable or inappropriate—the brain's architecture does not form as expected, which can lead to disparities in learning and behavior. Ultimately, genes and experiences work together to construct brain architecture.

**Cognitive, emotional, and social capacities are inextricably intertwined throughout the life course.** The brain is a highly integrated organ and its multiple functions operate in coordination with one another. Emotional well-being and social competence provide a strong foundation for emerging cognitive abilities, and together they are the bricks and mortar of brain architecture. The emotional and physical health, social skills, and cognitive-linguistic capacities that emerge in the early years are all important for success in school, the workplace, and in the larger community.

**Toxic stress weakens the architecture of the developing brain, which can lead to lifelong problems in learning, behavior, and physical and mental health.** Experiencing stress is an important part of healthy development. Activation of the stress response produces a wide range of physiological reactions that prepare the body to deal with threat. However, when these responses remain activated at high levels for significant periods of time, without supportive relationships to help calm them, toxic stress results. This can impair the development of neural connections, especially in the areas of the brain dedicated to higher-order skills.



## Key Concepts

# Resilience

Reducing the effects of significant adversity on children's healthy development is essential to the progress and prosperity of any society. Science tells us that some children develop **resilience**, or the ability to overcome serious hardship, while others do not. Understanding why some children do well despite adverse early experiences is crucial, because it can inform more effective policies and programs that help more children reach their full potential.

One way to understand the development of resilience is to visualize a balance scale or seesaw. Protective experiences and coping skills on one side counterbalance significant adversity on the other. Resilience is evident when a child's health and development tips toward positive outcomes — even when a heavy load of factors is stacked on the negative outcome side.

**The single most common factor for children who develop resilience is at least one stable and committed relationship with a supportive parent, caregiver, or other adult.** These relationships provide the personalized responsiveness, scaffolding, and protection that buffer children from developmental disruption. They also build key capacities—such as the ability to plan, monitor, and regulate behavior—that enable children to respond adaptively to adversity and thrive. This combination of supportive relationships, adaptive skill-building, and positive experiences is the foundation of resilience.

**Children who do well in the face of serious hardship typically have a biological resistance to adversity and strong relationships with the important adults in their family and community.** Resilience is the result of a combination of protective factors. Neither individual characteristics nor social environments alone are likely to ensure positive outcomes for children who experience prolonged periods of toxic stress. It is the interaction between biology and environment that builds a child's ability to cope with adversity and overcome threats to healthy development.

**Research has identified a common set of factors that predispose children to positive outcomes in the face of significant adversity.** Individuals who demonstrate resilience in response to one form of adversity may not necessarily do so in response to another. Yet when these positive influences are operating effectively, they “stack the scale” with positive weight and optimize resilience across multiple contexts. These counterbalancing factors include

1. facilitating supportive adult-child relationships;
2. building a sense of self-efficacy and perceived control;
3. providing opportunities to strengthen adaptive skills and self-regulatory capacities; and
4. mobilizing sources of faith, hope, and cultural traditions.

**Learning to cope with manageable threats is critical for the development of resilience.** Not all stress is harmful. There are numerous opportunities in every child's life to experience manageable stress—and with the help of supportive adults, this “positive stress” can be growth-promoting. Over time, we become better able to cope with life's obstacles and hardships, both physically and mentally.

**The capabilities that underlie resilience can be strengthened at any age.** The brain and other biological systems are most adaptable early in life. Yet while their development lays the foundation for a wide range of



resilient behaviors, it is never too late to build resilience. Age-appropriate, health-promoting activities can significantly improve the odds that an individual will recover from stress-inducing experiences. For example, regular physical exercise, stress-reduction practices, and programs that actively build executive function and self-regulation skills can improve the abilities of children and adults to cope with, adapt to, and even prevent adversity in their lives. Adults who strengthen these skills in themselves can better model healthy behaviors for their children, thereby improving the resilience of the next generation.

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Key Concepts

# Executive Function & Self-Regulation

**Executive function and self-regulation** skills are the mental processes that enable us to plan, focus attention, remember instructions, and juggle multiple tasks successfully. Just as an air traffic control system at a busy airport safely manages the arrivals and departures of many aircraft on multiple runways, the brain needs this skill set to filter distractions, prioritize tasks, set and achieve goals, and control impulses.

**When children have opportunities to develop executive function and self-regulation skills, individuals and society experience lifelong benefits.** These skills are crucial for learning and development. They also enable positive behavior and allow us to make healthy choices for ourselves and our families.

**Executive function and self-regulation skills depend on three types of brain function: working memory, mental flexibility, and self-control.** These functions are highly interrelated, and the successful application of executive function skills requires them to operate in coordination with each other.

- **Working memory** governs our ability to retain and manipulate distinct pieces of information over short periods of time.
- **Mental flexibility** helps us to sustain or shift attention in response to different demands or to apply different rules in different settings.
- **Self-control** enables us to set priorities and resist impulsive actions or responses.

**Children aren't born with these skills—they are born with the potential to develop them.** If children do not get what they need from their relationships with adults and the conditions in their environments—or (worse) if those influences are sources of toxic stress—their skill development can be seriously delayed or impaired. Adverse environments resulting from neglect, abuse, and/or violence may expose children to toxic stress, which disrupts brain architecture and impairs the development of executive function.

**Providing the support that children need to build these skills at home, in early care and education programs, and in other settings they experience regularly is one of society's most important responsibilities.** Growth-promoting environments provide children with “scaffolding” that helps them practice necessary skills before they must perform them alone. Adults can facilitate the development of a child's executive function skills by establishing routines, modeling social behavior, and creating and maintaining supportive, reliable relationships. It is also important for children to exercise their developing skills through activities that foster creative play and social connection, teach them how to cope with stress, involve vigorous exercise, and over time, provide opportunities for directing their own actions with decreasing adult supervision.

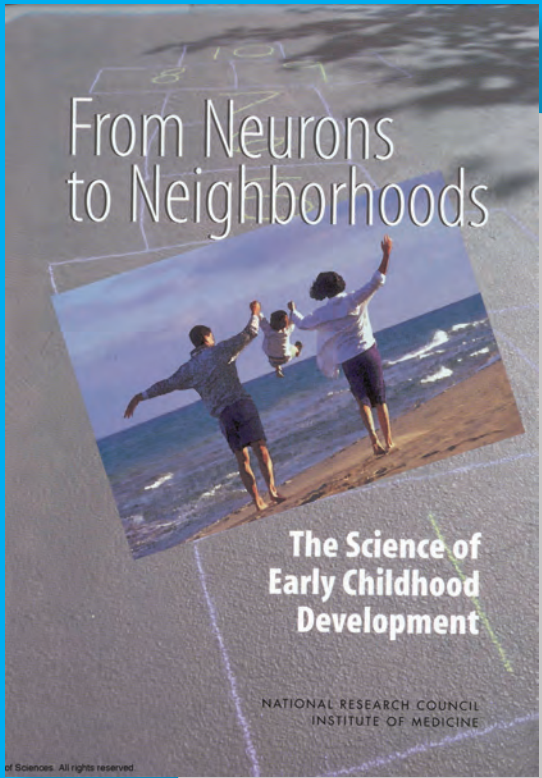
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## Executive Summary

Scientists have had a long-standing fascination with the complexities of the process of human development. Parents have always been captivated by the rapid growth and development that characterize the earliest years of their children's lives. Professional service providers continue to search for new knowledge to inform their work. Consequently, one of the distinctive features of the science of early childhood development is the extent to which it evolves under the anxious and eager eyes of millions of families, policy makers, and service providers who seek authoritative guidance as they address the challenges of promoting the health and well-being of young children.

### PUTTING THE STUDY IN CONTEXT


Two profound changes over the past several decades have coincided to produce a dramatically altered landscape for early childhood policy, service delivery, and childrearing in the United States. First, an explosion of research in the neurobiological, behavioral, and social sciences has led to major advances in understanding the conditions that influence whether children get off to a promising or a worrisome start in life. These scientific gains have generated a much deeper appreciation of: (1) the importance of early life experiences, as well as the inseparable and highly interactive influences of genetics and environment, on the development of the brain and the unfolding of human behavior; (2) the central role of early relationships



as a source of either support and adaptation or risk and dysfunction; (3) the powerful capabilities, complex emotions, and essential social skills that develop during the earliest years of life, and (4) the capacity to increase the odds of favorable developmental outcomes through planned interventions.

Second, the capacity to use this knowledge constructively has been constrained by a number of dramatic transformations in the social and economic circumstances under which families with young children are living in the United States: (1) marked changes in the nature, schedule, and amount of work engaged in by parents of young children and greater difficulty balancing workplace and family responsibilities for parents at all income levels; (2) continuing high levels of economic hardship among families, despite overall increases in maternal education, increased rates of parent employment, and a strong economy; (3) increasing cultural diversity and the persistence of significant racial and ethnic disparities in health and developmental outcomes; (4) growing numbers of young children spending considerable time in child care settings of highly variable quality, starting in infancy; and (5) greater awareness of the negative effects of stress on young children, particularly as a result of serious family problems and adverse community conditions that are detrimental to child well-being. While any given child may be affected by only one or two of these changes, their cumulative effects on the 24 million infants, toddlers, and preschoolers who are now growing up in the United States warrant dedicated attention and thoughtful response.

This convergence of advancing knowledge and changing circumstances calls for a fundamental reexamination of the nation's responses to the needs of young children and their families, many of which were formulated several decades ago and revised only incrementally since then. It demands that scientists, policy makers, business and community leaders, practitioners, and parents work together to identify and sustain policies and practices that are effective, generate new strategies to replace those that are not achieving their objectives, and consider new approaches to address new goals as needed. It is the strong conviction of this committee that the nation has not capitalized sufficiently on the knowledge that has been gained from nearly half a century of considerable public investment in research on children from birth to age 5. In many respects, we have barely begun to use our growing research capabilities to help children and families negotiate the changing demands and possibilities of life in the 21st century.



## EXECUTIVE SUMMARY

### CORE CONCEPTS OF DEVELOPMENT

As the knowledge generated by interdisciplinary developmental science has evolved and been integrated with lessons from program evaluation and professional experience, a number of core concepts, which are elaborated in the report, have come to frame understanding of the nature of early human development.

1. Human development is shaped by a dynamic and continuous interaction between biology and experience.
2. Culture influences every aspect of human development and is reflected in childrearing beliefs and practices designed to promote healthy adaptation.
3. The growth of self-regulation is a cornerstone of early childhood development that cuts across all domains of behavior.
4. Children are active participants in their own development, reflecting the intrinsic human drive to explore and master one's environment.
5. Human relationships, and the effects of relationships on relationships, are the building blocks of healthy development.
6. The broad range of individual differences among young children often makes it difficult to distinguish normal variations and maturational delays from transient disorders and persistent impairments.
7. The development of children unfolds along individual pathways whose trajectories are characterized by continuities and discontinuities, as well as by a series of significant transitions.
8. Human development is shaped by the ongoing interplay among sources of vulnerability and sources of resilience.
9. The timing of early experiences can matter, but, more often than not, the developing child remains vulnerable to risks and open to protective influences throughout the early years of life and into adulthood.
10. The course of development can be altered in early childhood by effective interventions that change the balance between risk and protection, thereby shifting the odds in favor of more adaptive outcomes.



## POLICY AND PRACTICE

The committee's conclusions and recommendations are derived from a rich and extensive knowledge base and are firmly grounded in the following four overarching themes:

- All children are born wired for feelings and ready to learn.
- Early environments matter and nurturing relationships are essential.
- Society is changing and the needs of young children are not being addressed.
- Interactions among early childhood science, policy, and practice are problematic and demand dramatic rethinking.


### All Children Are Born Wired for Feelings and Ready to Learn

From the time of conception to the first day of kindergarten, development proceeds at a pace exceeding that of any subsequent stage of life. Efforts to understand this process have revealed the myriad and remarkable accomplishments of the early childhood period, as well as the serious problems that confront some young children and their families long before school entry. A fundamental paradox exists and is unavoidable: development in the early years is both highly robust and highly vulnerable. Although there have been long-standing debates about how much the early years really matter in the larger scheme of lifelong development, our conclusion is unequivocal: What happens during the first months and years of life matters a lot, not because this period of development provides an indelible blueprint for adult well-being, but because it sets either a sturdy or fragile stage for what follows.

#### Conclusions

- From birth to age 5, children rapidly develop foundational capabilities on which subsequent development builds. In addition to their remarkable linguistic and cognitive gains, they exhibit dramatic progress in their emotional, social, regulatory, and moral capacities. All of these critical dimensions of early development are intertwined, and each requires focused attention.





## EXECUTIVE SUMMARY

- Striking disparities in what children know and can do are evident well before they enter kindergarten. These differences are strongly associated with social and economic circumstances, and they are predictive of subsequent academic performance. Redressing these disparities is critical, both for the children whose life opportunities are at stake and for a society whose goals demand that children be prepared to begin school, achieve academic success, and ultimately sustain economic independence and engage constructively with others as adult citizens.

- Early child development can be seriously compromised by social, regulatory, and emotional impairments. Indeed, young children are capable of deep and lasting sadness, grief, and disorganization in response to trauma, loss, and early personal rejection. Given the substantial short- and long-term risks that accompany early mental health impairments, the incapacity of many early childhood programs to address these concerns and the severe shortage of early childhood professionals with mental health expertise are urgent problems.

### Early Environments Matter and Nurturing Relationships Are Essential

The scientific evidence on the significant developmental impacts of early experiences, caregiving relationships, and environmental threats is incontrovertible. Virtually every aspect of early human development, from the brain's evolving circuitry to the child's capacity for empathy, is affected by the environments and experiences that are encountered in a cumulative fashion, beginning early in the prenatal period and extending throughout the early childhood years. The science of early development is also clear about the specific importance of parenting and of regular caregiving relationships more generally. The question today is not whether early experience matters, but rather how early experiences shape individual development and contribute to children's continued movement along positive pathways.


### Conclusions

- The long-standing debate about the importance of nature *versus* nurture, considered as independent influences, is overly simplistic and scientifically obsolete. Scientists have shifted their focus to take account of the fact that genetic and environmental influences work together in dynamic ways over the course of development. At any time, both are sources of human potential and growth as well as risk and dysfunction. Both genetically determined characteristics and those that are highly affected by experience are open to intervention. The most important questions now concern how environments influence the expression of genes and how genetic

makeup, combined with children's previous experiences, affects their ongoing interactions with their environments during the early years and beyond.

- Parents and other regular caregivers in children's lives are "active ingredients" of environmental influence during the early childhood period. Children grow and thrive in the context of close and dependable relationships that provide love and nurturance, security, responsive interaction, and encouragement for exploration. Without at least one such relationship, development is disrupted and the consequences can be severe and long-lasting. If provided or restored, however, a sensitive caregiving relationship can foster remarkable recovery.
- Children's early development depends on the health and well-being of their parents. Yet the daily experiences of a significant number of young children are burdened by untreated mental health problems in their families, recurrent exposure to family violence, and the psychological fallout from living in a demoralized and violent neighborhood. Circumstances characterized by multiple, interrelated, and cumulative risk factors impose particularly heavy developmental burdens during early childhood and are the most likely to incur substantial costs to both the individual and society in the future.
- The time is long overdue for society to recognize the significance of out-of-home relationships for young children, to esteem those who care for them when their parents are not available, and to compensate them adequately as a means of supporting stability and quality in these relationships for all children, regardless of their family's income and irrespective of their developmental needs.
- Early experiences clearly affect the development of the brain. Yet the recent focus on "zero to three" as a critical or particularly sensitive period is highly problematic, not because this isn't an important period for the developing brain, but simply because the disproportionate attention to the period from birth to 3 years begins too late and ends too soon.
- Abundant evidence from the behavioral and the neurobiological sciences has documented a wide range of environmental threats to the developing central nervous system. These include poor nutrition, specific infections, environmental toxins, and drug exposures, beginning early in the prenatal period, as well as chronic stress stemming from abuse or neglect throughout the early childhood years and beyond.





## EXECUTIVE SUMMARY

### Society Is Changing and the Needs of Young Children Are Not Being Addressed

Profound social and economic transformations are posing serious challenges to the efforts of parents and others to strike a healthy balance between spending time with their children, securing their economic needs, and protecting them from the many risks beyond the home that may have an adverse impact on their health and development.

#### Conclusions

- Changing parental work patterns are transforming family life. Growing numbers of young children are being raised by working parents whose earnings are inadequate to lift their families out of poverty, whose work entails long and nonstandard hours, and whose economic needs require an early return to work after the birth of a baby. The consequences of the changing context of parental employment for young children are likely to hinge on how it affects the parenting they receive and the quality of the caregiving they experience when they are not with their parents.
- The developmental effects of child care depend on its safety, the opportunities it provides for nurturing and stable relationships, and its provision of linguistically and cognitively rich environments. Yet the child care that is available in the United States today is highly fragmented and characterized by marked variation in quality, ranging from rich, growth-promoting experiences to unstimulating, highly unstable, and sometimes dangerous settings. The burden of poor quality and limited choice rests most heavily on low-income, working families whose financial resources are too high to qualify for subsidies yet too low to afford quality care.
- Young children are the poorest members of society and are more likely to be poor today than they were 25 years ago. Growing up in poverty greatly increases the probability that a child will be exposed to environments and experiences that impose significant burdens on his or her well-being, thereby shifting the odds toward more adverse developmental outcomes. Poverty during the early childhood period may be more damaging than poverty experienced at later ages, particularly with respect to eventual academic attainment. The dual risk of poverty experienced simultaneously in the family and in the surrounding neighborhood, which affects minority children to a much greater extent than other children, increases young children's vulnerability to adverse consequences.



### Interactions Among Early Childhood Science, Policy, and Practice Are Problematic and Demand Dramatic Rethinking

Policies and programs aimed at improving the life chances of young children come in many varieties. Some are home based and others are delivered in centers. Some focus on children alone or in groups, and others work primarily with parents. A variety of services have been designed to address the needs of young children whose future prospects are threatened by socioeconomic disadvantages, family disruptions, and diagnosed disabilities. They all share a belief that early childhood development is susceptible to environmental influences and that wise public investments in young children can increase the odds of favorable developmental outcomes. The scientific evidence resoundingly supports these premises.

#### Conclusions

- The overarching question of whether we can intervene successfully in young children's lives has been answered in the affirmative and should be put to rest. However, interventions that work are rarely simple, inexpensive, or easy to implement. The critical agenda for early childhood intervention is to advance understanding of what it takes to improve the odds of positive outcomes for the nation's most vulnerable young children and to determine the most cost-effective strategies for achieving well-defined goals.
- The scientific knowledge base guiding early childhood policies and programs is seriously constrained by the relatively limited availability of systematic and rigorous evaluations of program implementation; gaps in the documentation of causal relations between specific interventions and specific outcomes and of the underlying mechanisms of change; and infrequent assessments of program costs and benefits.
- Model early childhood programs that deliver carefully designed interventions with well-defined objectives and that include well-designed evaluations have been shown to influence the developmental trajectories of children whose life course is threatened by socioeconomic disadvantage, family disruption, and diagnosed disabilities. Programs that combine child-focused educational activities with explicit attention to parent-child interaction patterns and relationship building appear to have the greatest impacts. In contrast, services that are based on generic family support, often without a clear delineation of intervention strategies matched directly to measurable objectives, and that are funded by more modest budgets, appear to be less effective.

- The elements of early intervention programs that enhance social and emotional development are just as important as the components that enhance linguistic and cognitive competence. Some of the strongest long-term impacts of successful interventions have been documented in the domains of social adjustment, such as reductions in criminal behavior.
- The reconciliation of traditional program formats and strategies—many of which emphasize the importance of active parent involvement and the delivery of services in the home setting—with the economic and social realities of contemporary family life is a pressing concern. Particularly urgent is the need to ensure access to these intervention programs for parents who are employed full-time, those who work nonstandard hours, and those who are making the transition from public assistance to work.
- Early childhood policies and practices are highly fragmented, with complex and confusing points of entry that are particularly problematic for underserved segments of the population and those with special needs. This lack of an integrative early childhood infrastructure makes it difficult to advance prevention-oriented initiatives for all children and to coordinate services for those with complex problems.
- The growing racial, ethnic, linguistic, and cultural diversity of the early childhood population requires that all early childhood programs and medical services periodically reassess their appropriateness and effectiveness for the wide variety of families they are mandated to serve. Poor “take-up” and high rates of program attrition that are common to many early intervention programs, while not at all restricted to specific racial, ethnic, or linguistic groups, nonetheless raise serious questions about whether those who design, implement, and staff early childhood programs fully understand the meaning of “cultural competence” in the delivery of health and human services.
- The general political environment in which research questions are formulated and investigations are conducted has resulted in a highly problematic context for early childhood policy and practice. In many circumstances, the evaluation of intervention impacts is largely a high-stakes activity to determine whether policies and programs should receive continued funding, rather than a more constructive process of continuous knowledge generation and quality improvement.



• As the rapidly evolving science of early child development continues to grow, its complexity will increase and the distance between the working knowledge of service providers and the cutting edge of the science will be staggering. The professional challenges that this raises for the early childhood field are formidable.

### CONCLUDING THOUGHTS

As this report moved to completion, it became increasingly clear to the members of the committee that the science of early childhood development has often been viewed through highly personalized and sharply politicized lenses. In many respects, this is an area in which personal experience allows everyone to claim some level of expertise. Moreover, as a public issue, questions about the care and protection of children confront many of the basic values that have defined our country from its founding—personal responsibility, individual self-reliance, and restrained government involvement in people's lives. In a highly pluralistic society that is experiencing dramatic economic and social change, however, the development of children must be viewed as a matter of intense concern for both their parents and for the nation as a whole.

In this context, and based on the evidence gleaned from a rich and rapidly growing knowledge base, we feel an urgent need to call for a new national dialogue focused on rethinking the meaning of both shared responsibility for children and strategic investment in their future. The time has come to stop blaming parents, communities, business, and government, and to shape a shared agenda to ensure both a rewarding childhood and a promising future for all children.

The charge to this committee was to blend the knowledge and insights of a broad range of disciplines to generate an integrated science of early childhood development. The charge to society is to blend the skepticism of a scientist, the passion of an advocate, the pragmatism of a policy maker, the creativity of a practitioner, and the devotion of a parent—and to use existing knowledge to ensure both a decent quality of life for all of our children and a productive future for the nation.





B

## **B** SMART INVESTMENTS, LIFELONG DIVIDENDS

High-quality early childhood education pays dividends that last a lifetime, and those dividends accrue not just to individuals and families but to society as a whole.

Longitudinal studies show that children, especially but not only those living in poverty and facing other risk factors for school failure, benefit tremendously from high-quality preschool programs. They are more likely to graduate from high school, to earn more (and pay higher taxes) as adults, to own their homes, and to lead healthier lives. Conversely, they are also more likely to avoid costly negative outcomes, such as teen pregnancy, reliance on public assistance, and arrests. Benefits are associated not just with long-term savings; more immediately, children from high-quality preschool programs are also less likely to require special education services or experience grade retention in their school years.

Overall, every dollar invested in high-quality early childhood education brings a return of approximately \$7. Put another way, one widely cited early childhood program yielded a 13% return on investment per child, per year, according to an analysis by Dr. James Heckman, a Nobel Laureate in Economics (see next page).

The evidence is clear and overwhelming: high-quality early childhood education benefits us all. The pages that follow include examples of Dr. Heckman's economic analyses and the Executive Summary of *Investing in Our Future: The Evidence Base on Preschool Education*, an extensive review of rigorous research findings by some of the field's most distinguished authors.





# The Heckman Equation



## Invest in early childhood development: Reduce deficits, strengthen the economy.

James J. Heckman is the Henry Schultz Distinguished Service Professor of Economics at The University of Chicago, a Nobel Laureate in Economics and an expert in the economics of human development.

*“The highest rate of return in early childhood development comes from investing as early as possible, from birth through age five, in disadvantaged families. Starting at age three or four is too little too late, as it fails to recognize that skills beget skills in a complementary and dynamic way. Efforts should focus on the first years for the greatest efficiency and effectiveness. The best investment is in quality early childhood development from birth to five for disadvantaged children and their families.”*

James J. Heckman  
December 7, 2012

### Those seeking to reduce deficits and strengthen the economy should make significant investments in early childhood education.

Professor Heckman's ground-breaking work with a consortium of economists, psychologists, statisticians and neuroscientists shows that early childhood development directly influences economic, health and social outcomes for individuals and society. Adverse early environments create deficits in skills and abilities that drive down productivity and increase social costs—thereby adding to financial deficits borne by the public.

### Early childhood development drives success in school and life.

A critical time to shape productivity is from birth to age five, when the brain develops rapidly to build the foundation of cognitive and character skills necessary for success in school, health, career and life. Early childhood education fosters cognitive skills along with attentiveness, motivation, self-control and sociability—the character skills that turn knowledge into know-how and people into productive citizens.

### Investing in early childhood education for at-risk children is an effective strategy for reducing social costs.

Every child needs effective early childhood supports—and at-risk children from disadvantaged environments are least likely to get them. They come from families who lack the education, social and economic resources to provide the early developmental stimulation that is so helpful for success in school, college, career and life. Poor health, dropout rates, poverty and crime—we can address these problems and substantially reduce their costs to taxpayers by investing in developmental opportunities for at-risk children.

### Investing in early childhood education is a cost-effective strategy for promoting economic growth.

Our economic future depends on providing the tools for upward mobility and building a highly educated, skilled workforce. Early childhood education is the most efficient way to accomplish these goals:

- Professor Heckman's analysis of the Perry Preschool program shows a 7% to 10% per year return on investment based on increased school and career achievement as well as reduced costs in remedial education, health and criminal justice system expenditures.
- Professor Heckman's most recent research analyzed Abecedarian/CARE's comprehensive, high-quality, birth-to-five early childhood programs for disadvantaged children, which yielded a 13% return on investment per child, per annum through better education, economic, health, and social outcomes.

[www.heckmanequation.org](http://www.heckmanequation.org)



# The Heckman Equation

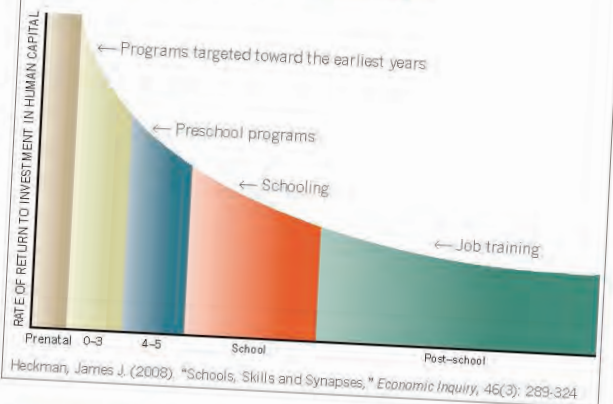
Make greater investments in young children to see greater returns in education, health and productivity.

Keep these principles in mind to make efficient and effective public investments that reduce deficits and strengthen the economy:

- **Investing in early childhood education is a cost-effective strategy—even during a budget crisis.** Deficit reduction will only come from wiser investment of public and private dollars. Data shows that one of the most effective strategies for economic growth is investing in the developmental growth of at-risk young children. Short-term costs are more than offset by the immediate and long-term benefits through reduction in the need for special education and remediation, better health outcomes, reduced need for social services, lower criminal justice costs and increased self-sufficiency and productivity among families.
- **Prioritize investment in quality early childhood education for at-risk children.** All families are under increasing strain; disadvantaged families are strained to the limit. They have fewer resources to invest in effective early development. Without resources such as “parent-coaching” and early childhood education programs, many at-risk children miss the developmental growth that is the foundation for success. They will suffer for the rest of their lives—and all of us will pay the price in higher social costs and declining economic fortunes.
- **Develop cognitive AND character skills early.** Invest in the “whole child.” Effective early childhood education packages cognitive skills with character skills such as attentiveness, impulse control, persistence and teamwork. Together, cognition and character drive education, career and life success—with character development often being the most important factor.

- **Provide developmental resources to children AND their families.** Direct investment in the child’s early development is complemented by investment in parents and family environments. Quality early childhood education from birth to age five, coupled with parent-coaching, such as home visitation programs for parents and teen mothers, has proven to be effective and warrants more investment.
- **Invest, develop and sustain to produce gain.** Invest in developmental resources for at-risk children. Develop their cognitive and character skills from birth to age five, when it matters most. Sustain gains in early development with effective education through to adulthood. Gain more capable, productive and valuable citizens who pay dividends for generations to come.

Returns to a Unit Dollar Invested



Early childhood education is an efficient and effective investment for economic and workforce development. The earlier the investment, the greater the return on investment.

[www.heckmanequation.org](http://www.heckmanequation.org)

The Heckman Equation project is made possible with support from the Pritzker Children's Initiative.





# The Heckman Equation



## Early Childhood Education: Quality and Access Pay Off

**James J. Heckman** is the Henry Schultz Distinguished Service Professor of Economics at the University of Chicago, a Nobel laureate in economics and an expert in the economics of human development.

*Professor Heckman's comprehensive new study, **Early Childhood Education**, addresses two important issues in the debate over early childhood education programs: are they effective and should they be subsidized by the government. Heckman and co-authors Sneha Elango, Jorge Luis García and Andrés Hojman, find that disadvantaged children benefit the most from a variety of early childhood interventions and society receives a higher return from targeted investments. As a result, policy makers would be wise to use means-testing rather than universal subsidies for all children.*

### **Making sense of multiple studies.**

The variety of early childhood programs and their evaluations often leads to confusion about the overall effectiveness of public investment. *Early Childhood Education* makes sense of it all by gathering in one place the effectiveness of a wide range of means-tested and universal programs—including Head Start, state preschool programs, and demonstration programs such as the Perry Preschool Program and the Carolina Abecedarian Project. The study analyzes data from randomized controlled trials and less rigorous evaluations to compare treatments, treated populations and findings across programs. The results consistently show program effectiveness and the economic value of providing disadvantaged children with access to quality early childhood programs.

### **Programs work for the disadvantaged.**

Heckman finds that effectiveness depends on program quality, the characteristics of those being served and their access to alternative programs. Government programs that provide disadvantaged families with access to high quality center-based care are better and more effective alternatives

than no formal care. Affluent families who can afford higher quality center-based and in-home care are more likely to do better with those alternatives, calling into question the economic effectiveness of influencing their choices with government subsidies.

### **Quality matters.**

High quality programs produce high quality outcomes. The Perry Preschool Program and Abecedarian Preschool Project—long considered the quality gold standards—delivered better education, health-related behavior, social and economic outcomes for disadvantaged children who received treatment versus those who received none. Abecedarian, a comprehensive birth to age five program, had lasting effects on IQ, boosted academic and economic achievement and helped prevent the incidence of chronic disease and obesity in adulthood. Despite their costs, they more than pay for themselves in increased productivity and reduced social spending. However, the study also shows that less intensive programs such as Head Start still have significant short- and long-term positive effects for disadvantaged children and society.

[www.heckmanequation.org](http://www.heckmanequation.org)



# The Heckman Equation

## Head Start works.

Imperfections in the frequently cited Head Start Impact Study (HSIS) cloud the evidence of the program's effectiveness. HSIS does not address the lack of uniform quality across Head Start, control contamination in the evaluation and the lack of long-term follow-up. Heckman analyzes the work of three independent research groups that used HSIS data to assign participants into three distinct experiences: those who attended Head Start, those who received other center-based care and those who had home-based care. They found that Head Start had significant beneficial effects, was as good as other available center-based alternatives and was much better than what disadvantaged children would have received at home or with a relative. While HSIS lacks long-term follow up data, other studies have found Head Start to be effective when judged on multiple outcomes rather than just short-term cognitive gains. Across a number of different studies, positive effects were found on behavioral outcomes such as grade repetition and special education, as well as on health behaviors. Long-term, Head Start reduced obesity at ages 12 and 13, depression and obesity at ages 16 and 17, and crime at ages 20 and 21.

## Lasting effects, not fadeout.

Quality early childhood education provides persistent boosts in socio-emotional skills even if the effects on cognitive skills diminish in the shortrun. The current obsession with cognitive fadeout obscures the important fact that socio-emotional skills have greater effects on later-life

outcomes than cognitive skills. For example, data from the Perry Preschool Program shows that increased academic motivation creates 30% of the effects on achievement and 40% on employment for females. Reduced externalizing behavior creates a 65% reduction in lifetime violent crime, 40% reduction in lifetime arrests and 20% reduction in unemployment. Positive later-life effects are consistent across other programs with long-term follow up and speak to the need to invest in programs that develop the whole child with a full range of skills.

## Policy makers should invest in quality and access.

It makes dollars and sense to target disadvantaged children with quality early childhood programs rather than subsidize low quality universal programs. Investing public dollars in quality early childhood education for disadvantaged children will provide significant social and economic outcomes in the short- and long-term. However, disadvantage in early childhood is not just income based but also depends on the quality time parents can spend with their children and the parenting resources they can allocate for early development. Today's economic pressures force poor and middle-income parents alike to spend more time away from their children to make ends meet. The need for quality early childhood education is intensifying, the costs are increasing and many more parents will find themselves without the means to provide it. Every child needs quality early childhood education. Those most in need should receive the most help from policy makers. Those with means do best on their own—and that is best for everyone.

Elango, Sneha, Andrés Hojman, Jorge Luis García, and James J. Heckman. (2016). "Early Childhood Education." Forthcoming, in Moffitt, Robert (ed.), Means-Tested Transfer Programs in the United States II. Chicago: University of Chicago Press.

[www.heckmanequation.org](http://www.heckmanequation.org)

The Heckman Equation project is made possible with support from the Pritzker Children's Initiative.





# Investing in Our Future: The Evidence Base on Preschool Education

Hirokazu Yoshikawa, Christina Weiland, Jeanne Brooks-Gunn, Margaret R. Burchinal, Linda M. Espinosa, William T. Gormley, Jens Ludwig, Katherine A. Magnuson, Deborah Phillips, Martha J. Zaslow



EXECUTIVE SUMMARY

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Society for Research in Child Development

FOUNDATIONFORCHILDDEVELOPMENT



# Executive Summary


**Large-scale public preschool programs can have substantial impacts on children's early learning.** Scientific evidence on the impacts of early childhood education has progressed well beyond exclusive reliance on the Perry Preschool and Abecedarian programs. A recent analysis integrating evaluations of 84 preschool programs concluded that, on average, children gain about a third of a year of additional learning across language, reading, and math skills. At-scale preschool systems in Tulsa and Boston have produced larger gains of between a half and a full year of additional learning in reading and math. Benefits to children's socio-emotional development and health have been documented in programs that focus intensively on these areas.

**Quality preschool education is a profitable investment.** Rigorous efforts to estimate whether the economic benefits of early childhood education outweigh the costs of providing these educational opportunities indicate that they are a wise financial investment. Available benefit-cost estimates based on older, intensive interventions, such as the Perry Preschool Program, as well as contemporary, large-scale public preschool programs, such as the Chicago Child-Parent Centers and Tulsa's preschool program, range from three to seven dollars saved for every dollar spent.

**The most important aspects of quality in preschool education are stimulating and supportive interactions between teachers and children and effective use of curricula.** Children benefit most when teachers engage in stimulating interactions that support learning *and* are emotionally supportive. Interactions that help children acquire new knowledge and skills provide input to children, elicit verbal responses and reactions from them, and foster engagement in and enjoyment of learning. Recent evaluations tell us that effective use of curricula focused on such specific aspects of learning as language and literacy, math, or socio-emotional development provide a substantial boost to children's learning. Guidelines about the number of children in a classroom, the ratio of teachers and children, and staff qualifications help to increase the likelihood of—but do not assure—supportive and stimulating interactions. Importantly, in existing large-scale studies, only a minority of preschool programs are observed to provide excellent quality and levels of instructional support are especially low.

**Supporting teachers in their implementation of instructional approaches through coaching or mentoring can yield important benefits for children.** Coaching or mentoring that provides support to the teacher on how to implement content-rich and engaging curricula shows substantial promise in helping to assure that such instruction is being provided. Such coaching or mentoring involves modeling positive instructional approaches and providing feedback on the teacher's implementation in a way that sets goals but is also supportive. This can occur either directly in the classroom or through web-based exchange of video clips.





**Quality preschool education can benefit middle-class children as well as disadvantaged children; typically developing children as well as children with special needs; and dual language learners as well as native speakers.** Although early research focused only on programs for low-income children, more recent research focusing on universal preschool programs provides the opportunity to ask if preschool can benefit children from middle-income as well as low-income families. The evidence is clear that middle-class children can benefit substantially, and that benefits outweigh costs for children from middle-income as well as those from low-income families. However, children from low-income backgrounds benefit more. Children with special needs who attended Tulsa's preschool program showed comparable improvements in reading and pre-writing skills as typically developing children. Further, at the end of first grade, children with special needs who had attended Head Start as 3-year-olds showed stronger gains in math and social-emotional development than children with special needs who had not attended Head Start. Studies of both Head Start and public preschool programs suggest that dual language learners benefit as much as, and in some cases more than, their native speaker counterparts.

**A second year of preschool shows additional benefits.** The available studies, which focus on disadvantaged children, show further benefits from a second year of preschool. However, the gains are not always as large as from the first year of preschool. This may be because children who attend two years of preschool are not experiencing a sequential building of instruction from the first to the second year.

**Long-term benefits occur despite convergence of test scores.** As children from low-income families in preschool evaluation studies are followed into elementary school, differences between those who received preschool and those who did not on tests of academic achievement are reduced. However, evidence from long-term evaluations of both small-scale, intensive interventions and Head Start suggest that there are long-term effects on important societal outcomes such as high-school graduation, years of education completed, earnings, and reduced crime and teen pregnancy, even after test-score effects decline to zero. Research is now underway focusing on why these long-term effects occur even when test scores converge.

**There are important benefits of comprehensive services when these added services are carefully chosen and targeted.** When early education provides comprehensive services, it is important that these extensions of the program target services and practices that show benefits to children and families. Early education programs that have focused in a targeted way on health outcomes (e.g., connecting children to a regular medical home; integrating comprehensive screening; requiring immunizations) have shown such benefits as an increase in receipt of primary medical care and dental care. In addition, a parenting focus can augment the effects of preschool on children's skill development, but only if it provides parents with modeling of positive interactions or opportunities for practice with feedback. Simply providing information through classes or workshops is not associated with further improvements in children's skills.









## **C** EARLY CHILDHOOD BY THE NUMBERS

Rounding slightly, there are 365,000 children under the age of 5 in Maryland. That equates to nearly 73,000 children in each year's age cohort (i.e., 73,000 from birth to 12 months, 73,000 from age 1 up to age 2, etc.). And of the 960,000 children under age 12 in Maryland, 79% have mothers in the workforce. A subsequent section of this document discusses "Where the Children Are When They're Not at Home." In the meantime, the numbers themselves tell interesting stories.

For example, in every Maryland county, the cost of child care ranks among the top three household expenses, along with housing and taxes. In Baltimore City, child care is the highest household expense. While child care is very expensive—an annual average of \$14,612 statewide for a child under age 2 in a center—child care workers are among the most poorly paid in the workforce. A child care center teacher earns on average \$25,203 for a 12-month year, compared to the average annual salary of \$68,357 for a public school teacher working 10 months. Nationally, child care workers are paid on par with parking lot attendants and dry cleaning workers.

To help policymakers and the public understand such figures and consider their implications, Maryland Family Network annually publishes *Child Care Demographics*, a compilation of data related to young children and their families. Among the focuses are child care supply and demand, household income, the cost of care, housing information, and more. Data are presented for Maryland as a whole and for each of the State's 24 local jurisdictions. The reports can be accessed online at <http://www.marylandfamilynetwork.org/demographics/>, and hard copies are available for policymakers on request. The pages that follow include the 2018 *Child Care Demographics* composite data for Maryland.







**MARYLAND  
FAMILY  
NETWORK**

Maryland Child Care Resource Network

# Child Care Demographics 2018

## Maryland Report

Maryland is at the center of the BostonAtlanta Corridor on the Atlantic seaboard, and borders Washington, D.C., the nation's capital. Among the 50 states Maryland ranks 42nd in size and 19th in population with a diversified economy rooted in high technology, biosciences and services, as well as revitalized manufacturing and international trade. Ranking third among the states in educational attainment with 39.3 % of Maryland's population aged 25 and older hold a bachelor's degree or higher.

The state has a diversified economy rooted in high technology, biosciences and services, as well as revitalized manufacturing and international trade. Major federal facilities based in Maryland are the National Institutes of Health, National Institute of Standards and Technology, National Security Agency, Social Security Administration, Food and Drug Administration, Department of Homeland Security, and Census Bureau. Professional and technical workers constitute 27.2 percent of the state's work force – the second highest concentration among states. Maryland's 168,000 businesses employ over 2.1 million workers. 3,370 businesses have 100 or more workers. Significant companies headquartered in Maryland include Lockheed Martin, Marriott International, Host Hotels & Resorts, McCormick & Company, T. Rowe Price, Under Armour, W. R. Grace, Legg Mason, GEICO, MedImmune, Emergent Biosolutions, United Therapeutics, Colfax, Tessco Technologies, Broadsoft, Coastal Sunbelt and Phillips Seafood.

Source: Maryland Department of Commerce, Brief Economic Facts, 2017.

*Maryland Family Network, Inc. (MFN), as operator of the Statewide Child Care Resource Network, has prepared the Child Care Demographics Maryland Report series for those interested in child care trends across the state. The series includes reports for the State, for each of Maryland's 23 counties and the City of Baltimore.*

This publication was produced as a work for hire for the benefit of, and with funds from, the Maryland State Department of Education.

### Number of Maryland Children under 12 with Mothers in the Work Force<sup>1</sup>

756,829– 78.9%<sup>2</sup> of total 2016 child population under 12 (959,226).

<sup>1</sup>Source: MFN/LOCATE: Child Care. <sup>2</sup>Percent based on 2010 census data. Total population number based on Geolytics, Inc. report, 2016.

### Child Population 2010

Age Group	Number in age group
0-1	143,558
2-4	220,930
5-9	366,868
10-11	151,023
Total	882,379

Source: Maryland Department of Planning (MDP), 2010 Census Summary File 1.

### Child Care Costs as Compared to Other Major Household Expenses

County	Estimated Child Care Cost <sup>1</sup>	Median Family Income <sup>2</sup>	% of Median Income Spent On Child Care	Child Care Cost Ranked w/Other Major Household Exp <sup>3</sup>
Allegany	\$11,877	\$54,253	21.89%	2
Anne Arundel	\$21,561	\$106,159	20.31%	3
Baltimore County	\$20,263	\$86,724	23.36%	3
Calvert	\$18,768	\$110,552	16.98%	3
Caroline	\$12,774	\$71,951	17.75%	3
Carroll	\$19,823	\$102,826	19.28%	3
Cecil	\$16,636	\$81,244	20.48%	3
Charles	\$19,067	\$104,391	18.27%	3
Dorchester	\$12,526	\$59,959	20.89%	3
Frederick	\$20,747	\$104,230	19.91%	3
Garrett	\$11,451	\$58,737	19.50%	3
Harford	\$21,319	\$94,290	22.61%	3
Howard	\$26,408	\$131,412	20.10%	3
Kent	\$14,205	\$66,486	21.37%	3
Montgomery	\$27,962	\$126,275	22.14%	3
Prince George's	\$20,063	\$89,156	22.50%	3
Queen Anne's	\$17,445	\$100,129	17.42%	3
St. Mary's	\$17,932	\$98,662	18.18%	3
Somerset	\$11,602	\$52,866	21.95%	2
Talbot	\$16,488	\$86,013	19.17%	3
Washington	\$14,331	\$69,918	20.50%	3
Wicomico	\$13,696	\$66,748	20.52%	3
Worcester	\$15,023	\$74,857	20.07%	3
Baltimore City	\$17,295	\$57,548	30.05%	1

NOTE: Child Care and other household expenses are based on a family of 4 that included a couple and two children ages 1-2 and 3-5 years. The household expenses considered include housing, income taxes, and food. <sup>1</sup>Combined average of full-time care for an infant in a family child care home and a preschooler in a child care center (LOCATE, 2017). <sup>2</sup>Current income as shown in the Geolytics Report dated October 2017. This data cannot be compared to previous data. <sup>3</sup>Housing costs based on U.S. Bureau of the Census 2010 median selected owner costs with a mortgage; included mortgage, taxes, insurance and utilities. Taxes based on maximum federal, state, and local income taxes, Medicare, and FICA taxes per smartasset.com. Taxes do not reflect Earned Income Credit.



### Population Information

#### Child Population<sup>1</sup>

	2000	2010
0-3 years	209,218	217,560
3-4 years	144,175	146,928
5 years	74,546	72,700
6-9 years	316,772	294,168
10-11 years	162,481	151,023
Total	907,192	882,379

Source: U.S. Bureau of the Census, 2000, 2010.

#### Total Population

	Maryland
2010	5,773,552
2000	5,296,486
1995	5,046,079
1990	4,780,753
1980	4,216,975

Source: U.S. Bureau of the Census, 2010, 2000, 1990, 1980.

#### Female Population (selected ages)

Age Group	2000	2010
20-24	157,643	193,775
25-29	176,396	199,325
30-34	209,334	189,215
Total	543,373	582,315

Source: U.S. Bureau of the Census, 2000, 2010.

#### Male Population (selected ages)

Age Group	2000	2010
20-24	156,486	199,923
25-29	166,474	194,223
30-34	196,317	179,279
Total	519,277	573,425

Source: U.S. Bureau of the Census, 2000, 2010.

#### Work Force Information

##### Total Population Ages 16+ in Work Force

	Maryland
2010	
Female	1,570,193
Male	1,623,215
2000	
Female	1,351,034
Male	1,418,491
Change	
Female	16.2% (+)
Male	14.4% (+)

Source: U.S. Bureau of the Census, 2000, 2010 American Community Survey (ACS).

#### Households

	2000	2010
Total household population	5,162,430	5,635,177
Total # of households	1,980,859	2,156,411
Average household size	2.61	2.61

Source: U.S. Bureau of the Census, 2000, 2010.

#### Females (16+) with Children

Age Group	2000	2010	Change
Total females (16+) with children under 6	160,214	419,077	N/A*
Total females (16+) with children under 6 in the work force	112,065	N/A*	N/A*
Total females (16+) with children 6-17	383,095	865,139	N/A*
Total females (16+) with children 6-17 in the work force	304,898	N/A*	N/A*

Source: U.S. Bureau of the Census, 2010 ACS  
\* Comparable data not available for 2010 census.



## Census Information

### Families and Poverty

	2000	%	2010	%	%Change
All Families	1,359,318	100%	1,447,002	100%	6.5%(+)
Families Below Poverty Level	83,232	6.1%	95,502	6.6%	14.7%(+)
All Families w/Children Under 6**	150,011	N/A*	144,836	100%	N/A*
Families w/Children Under 5 Below Poverty Level	30,328	N/A*	N/A*	10.6%	N/A*
All Families w/Children Under 18	662,172	100%	651,028	100%	1.7%(-)
Families w/Children Under 18 Below Poverty Level	64,063	9.7%	67,056	10.3%	4.7%(+)

Source: U.S. Bureau of the Census, 2000, 2010. Prepared by MDP.  
\*Comparable data not available from 2010 Census.

### Educational Attainment

	Maryland	% Adult pop. over 25 Yrs
High School Grad or Higher	3,410,847	88.1%
Bachelor's Degree or Higher	1,396,843	36.1%

Source: U.S. Bureau of the Census, 2010 ACS

### Children and Poverty

	2000	%	2010	%	%Change
Total Related Children Under 18	1,194,489	100%	1,170,334	100%	2.0%(-)
Total Children Under 18 Below Poverty Level	141,877	11.9%	148,632	12.7%	4.8%(+)
Total Children Under 5 Below Poverty Level	40,331	13.3%	N/A*	15.4%	N/A*
Total Children 5-17 Below Poverty Level	101,546	11.4%	N/A*	11.7%	N/A*

Source: U.S. Bureau of the Census, 2000, 2010. Prepared by MDP.  
\*Comparable data not available from 2010 Census.

### Families

#### Maryland

	Total	Total # of All Families With Related Children Under Age 6	Total # of All Families With Related Children Under Age 18
2000	1,359,318	150,011	662,172
2010	1,447,002	170,870	728,045
Change	6.5%(+)	13.9%(+)	9.9%(+)

Source: U.S. Bureau of the Census, 2000, 2010. Prepared by MDP.

### Income, Unemployment and Housing Information

#### Annual Wage Rate Information

Public School Teacher Salary Average (MD)	\$68,357
Nonpublic School Teacher Average (Maryland)	\$56,962
Family Child Care Provider (Maryland)	\$38,790
Child Care Center Director (Maryland)	\$40,766
Center Senior Staff/Teacher (Maryland)	\$25,203
Center Aide (Maryland)	\$17,265

Sources: MSDE, Sept 2017; Association of Independent Maryland Schools (AIMS), 2017-18 school year, and MFN's 2017 Statewide Survey of Family Child Care Providers and Child Care Centers.

#### Family Income

<b>Median Family Income, 2010 Census</b>	
Maryland	\$83,137

Source: U.S. Bureau of the Census, 2010 ACS

#### Median Household Income<sup>1</sup>:

Maryland	\$74,551
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#### Income Distribution

	Percent Households
under \$25,000	14.9%
\$25,000 to \$49,999	17.6%
\$50,000 - \$74,999	16.9%
\$75,000 +	50.6%

Source: <sup>1</sup>Sources: MSDE, October 2016. LOCATE: Child Care, 2017. Data is not directly comparable to 2010 or earlier reports.  
NOTE: Percentages may not total 100% because of rounding.

#### Average Weekly Cost of Full-time Child Care

Programs	Family Child Care	Child Care Centers
Maryland		
0-23 months	\$200.75	\$281.35
2-4 years	\$170.38	\$197.48
5 years <sup>1</sup>	\$158.01	\$188.57
School Age Full <sup>2</sup>	\$144.86	\$164.48
School Age B/A <sup>3</sup>	\$100.31	\$109.42

Source: MFN/LOCATE: Child Care, 6/17.

<sup>1</sup>Average cost of full time care for a 5 year old. Defined as child being in full time child care or being in kindergarten and out-of-school child care, i.e., holidays, school closures and summers. <sup>2</sup>Average cost of full time care for a 6+ school age child (out-of-school child care, i.e., holidays, school closures and summers). <sup>3</sup>Average cost of before and after school child care.

#### Unemployment Rate

Maryland	
2000	
2001	3.4%
2002	4.0%
2003	3.9%
2004	4.1%
2005	3.9%
2006	3.9%
2007	3.7%
2008	3.6%
2009	4.5%
2010	7.1%
2011	7.3%
2012	7.2%
2013	6.5%
2014	6.2%
2015	5.6%
2016	5.0%
2017	4.5%
	4.3%

Maryland Department of Labor, Licensing and Regulation (DLLR) 2017.

#### Housing Information

	Maryland
Owner-Occupied housing	1,426,267 (67%)
Renter-Occupied housing	701,172 (33%)

Note: Percentage is based on total occupied housing units.

	Maryland
Mean value of Owner-Occupied Housing	\$301,400
Median Selected Monthly Owner Costs With a Mortgage	\$2,016
Median Gross Residential Monthly Rent	\$1,131

Source: U.S. Bureau of the Census, 2010 ACS.



## Supply of Regulated Early Childhood Programs and Education

### Children's Programs by Type with Capacity/Enrollment

	# of Programs	Capacity
Family Child Care Providers	5,938	45,317
*OCC Licensed Group Programs	2,679	162,702
8-12 Hour Child Care Centers	1,569	102,951
Infant/Toddler	835	11,598
Part-Day	348	N/A
Before/after School (School & Center-Based)	1,772	N/A
Employer-Sponsored Centers	49	3,969
Youth Camps	596	N/A
Nursery Schools	577	N/A
Private Kindergarten	267	N/A
**Head Start	201	enrollment: 9,205
***Public Pre-Kindergarten Sites	592	

\*Note: Numbers do not total because facilities may have more than one type of program. Unless otherwise indicated, all programs are privately funded.

\*\* Federally funded programs which include Head Start, Early Head Start and Home-based Head Start.

\*\*\*State funded.

Source: MFN/LOCATE Child Care, 7/17; Maryland State Department of Education, Department of Health and Mental Hygiene.

### Education

#### Public and Private Schools (Elementary and Middle)

	Public	Private*
Elementary Schools	787	59
Middle Schools	212	5
Combined	93	353

#### Elementary School Enrollment

	Public	Private*
Pre-Kindergarten	30,945	26,778
Kindergarten	64,472	6,995
Grades 1 - 6	405,420	38,906
Total	500,837	72,679

Source: MSDE, 2016-17 school year. Enrollment figures are for September 30, 2016. Private schools include MSDE approved schools and those operated by a tax-exempt religious organization which hold a letter of exemption from approval in accordance with State law.

\*Self reported data from Maryland Nonpublic Schools as reported to MSDE.

### Density of Family Providers and Center Programs by Jurisdiction

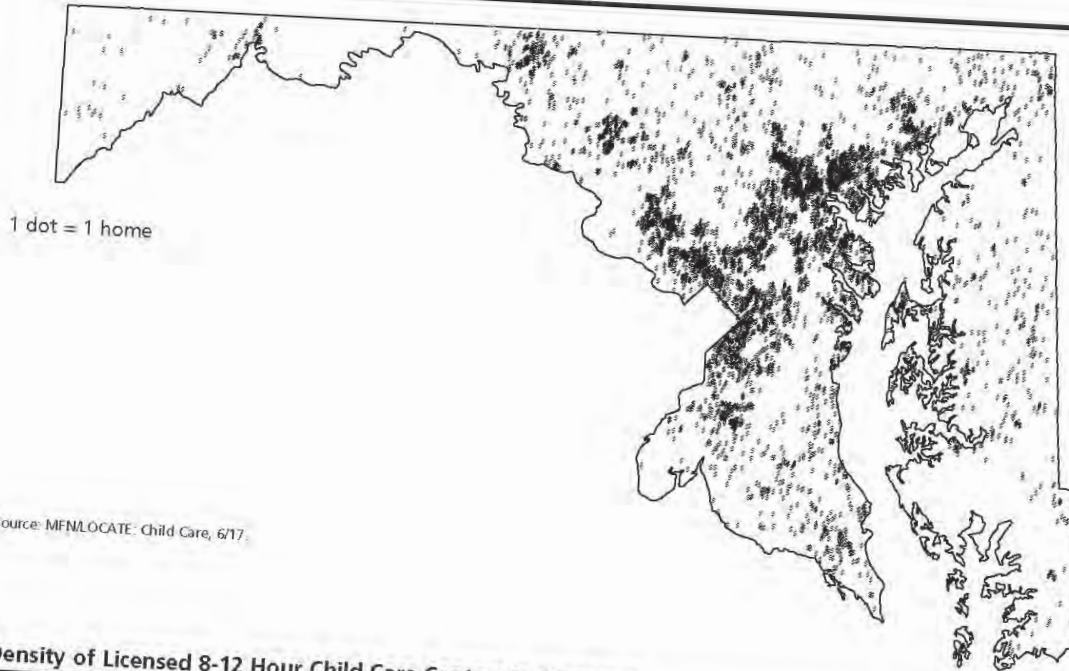
The following chart shows the number of registered family child care providers and licensed full-day child care centers in Maryland as of July 1, 2017.

Jurisdiction	Family Providers	Capacity	8-12 Hour Centers	Capacity
Allegany	55	429	15	1127
Anne Arundel	494	3760	120	8860
Baltimore City	553	4238	210	8706
Baltimore County	831	6266	221	13505
Calvert	103	789	33	1710
Caroline	76	578	3	214
Carroll	140	1040	48	3397
Cecil	92	725	17	921
Charles	210	1555	40	2802
Dorchester	50	384	10	235
Frederick	335	2557	57	4655
Garrett	19	139	11	425
Harford	288	2235	43	3602
Howard	335	2534	93	7869
Kent	16	130	2	120
Montgomery	877	6708	285	22482
Prince Georges	821	6409	251	14857
Queen Anne's	80	558	9	600
St. Mary's	186	1388	24	1254
Somerset	25	189	8	298
Talbot	40	308	8	612
Washington	180	1395	23	2189
Wicomico	100	757	26	1886
Worcester	32	246	12	625
Totals	5,938	45,317	1,569	102,951

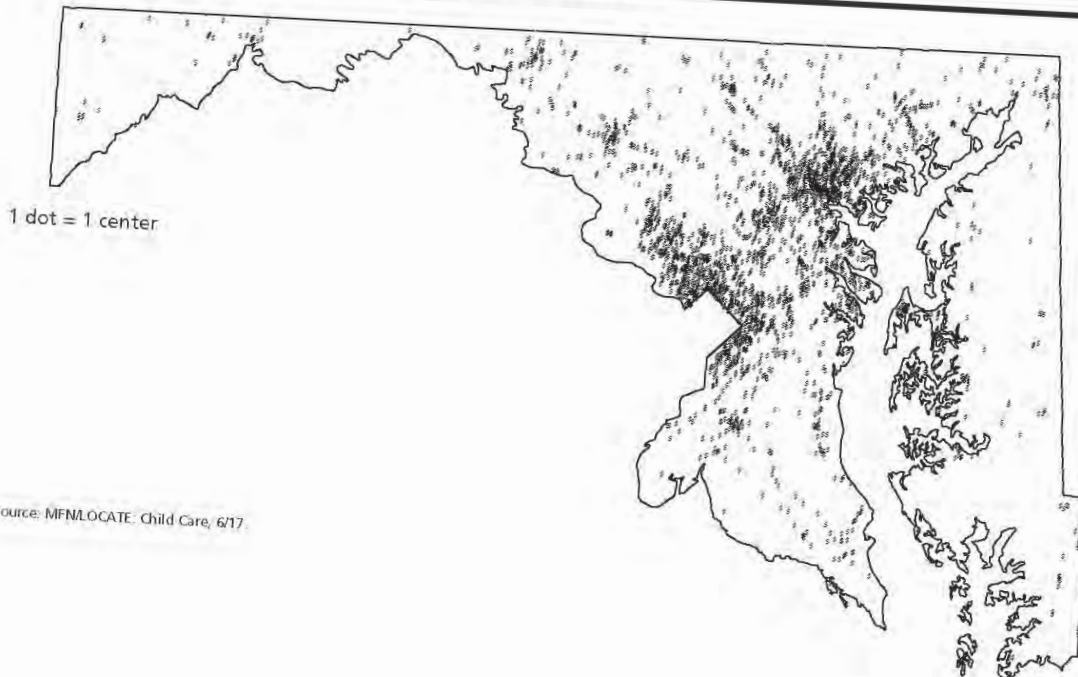
Source: MFN/LOCATE: Child Care, 6/17.

### Supply of Regulated Child Care

#### Density of Regulated Family Child Care Homes in Maryland



#### Density of Licensed 8-12 Hour Child Care Centers in Maryland



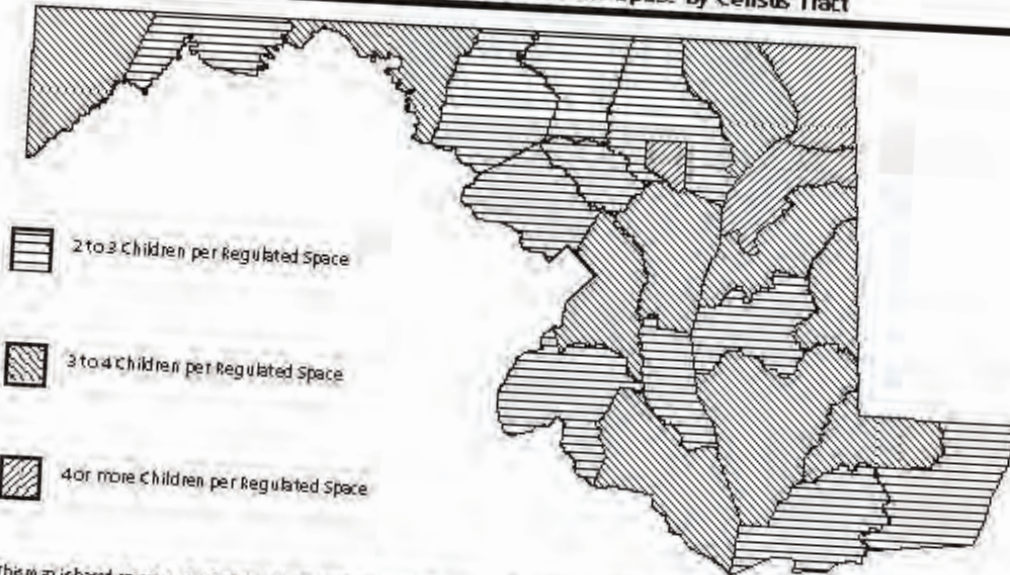


# Maryland

## Child Care Demographics

### Supply of Regulated Child Care

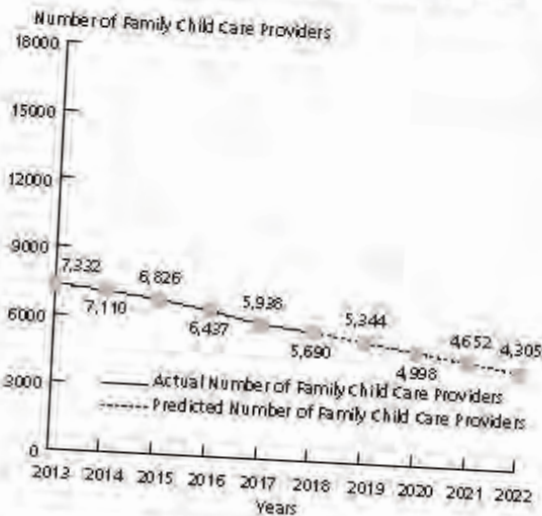
**Number of Children 0-5 Years Per Regulated Child Care Space by Census Tract**



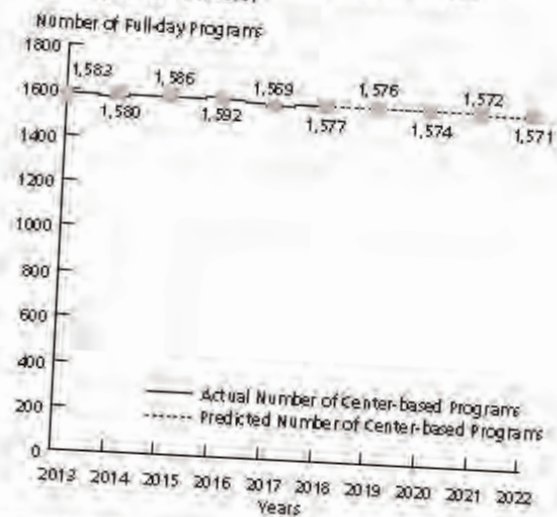
The map is based on census tracts defined by the U.S. Bureau of the Census. It does not accurately delineate land/water boundaries in some census tracts.  
Sources: U.S. Bureau of the Census 2010. MRNLOCATE Child Care, 6/17.

### Past and Anticipated Growth Patterns for Family/Center Providers

**Family Child Care Providers in Maryland 2013-2022**



**Center-based Programs in Maryland 2013-2022 Full-day (8 to 12 hours)**

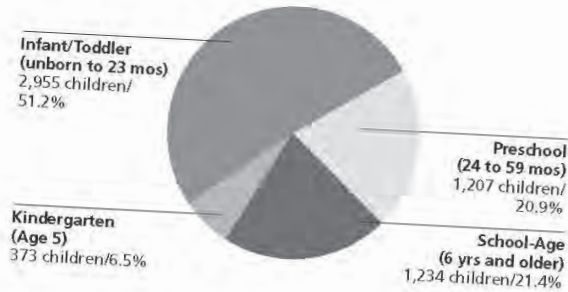


These predictions were generated with the use of the Multiple Regression Analysis and Forecasting template. The predictions generated by the Model do not reflect the effects of current changes to social programs affecting child care.  
Source: MRNLOCATE Child Care, 6/17.

### Demand for Child Care

#### Children Served by Age

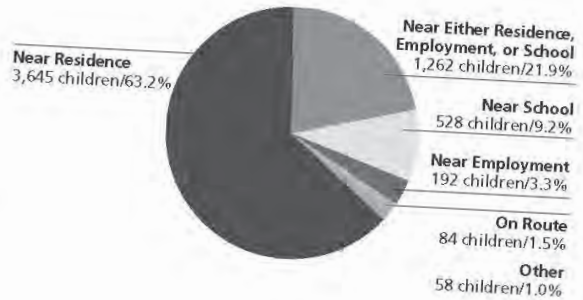
N=5,769



Source: LOCATE: Child Care at Maryland Family Network, Baltimore (7/1/16-6/30/17).  
NOTE: Percentages may not total 100% because of rounding.

#### Children Served by Locational Preferences for Care

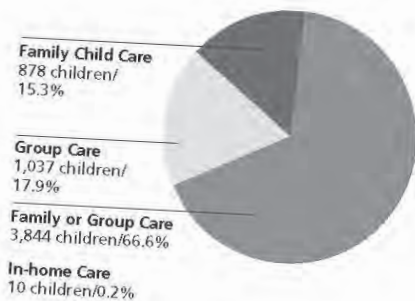
N=5,769



Source: LOCATE: Child Care at Maryland Family Network, Baltimore (7/1/16-6/30/17).  
NOTE: Percentages may not total 100% because of rounding.

#### Children Served by Type of Care Preferred

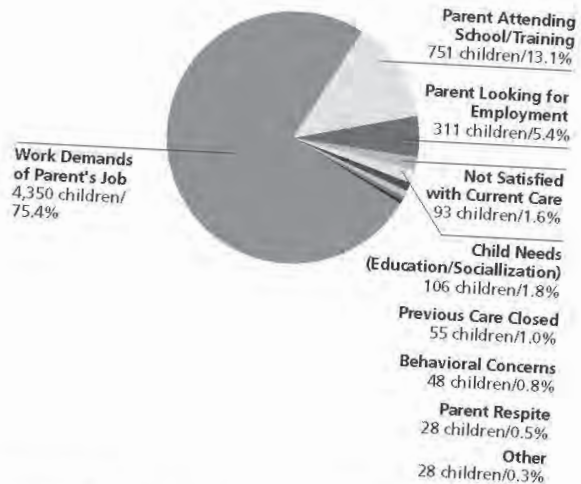
N=5,769



Source: LOCATE: Child Care at Maryland Family Network, Baltimore (7/1/16-6/30/17).  
NOTE: Percentages may not total 100% because of rounding.

#### Reason Child Care is Needed

N=5,769



Source: LOCATE: Child Care at Maryland Family Network, Baltimore (7/1/16-6/30/17).  
NOTE: Percentages may not total 100% because of rounding.



## Demand for Child Care

**Number of Children Served by LOCATE: Child Care**  
5,769 children (7/1/16-6/30/17)

**Full-time or Part-time Care Needs of Children Served** N=5,769

Full-time: 3,854 children (66.8%)
Part-time: 1,774 children (30.8%)
Other*: 141 children (2.4%)

\* Includes requests for sick, backup and temporary care.  
Source: LOCATE: Child Care at Maryland Family Network, Baltimore (7/1/16-6/30/17).

**Child Care Subsidy Program (formerly POC)**  
LOCATE Calls received from parents with children eligible for or receiving Purchase of Care Subsidy  
2,844 (49.3%)

Note: The Child Care Subsidy is a statewide subsidy program funded with federal and state dollars and administered by the Maryland State Department of Education through the local Department of Social Services. The Working Parents Assistance Program is a separate county-wide child care subsidy program funded and administered by Montgomery County Government for eligible working families.  
Source: LOCATE: Child Care at Maryland Family Network, Baltimore (7/1/16-6/30/17).

### Major Reasons Parents Could Not Find Child Care in Maryland

Reason	Count
Cost	117
Other	38
Location	22
No vacancies for infant	16
Combination of ages	14
No vacancies for school age	14
Quality of care	13
Operating hours/part time	12
Special needs	12
No accreditation	5
No vacancies for Head Start/EHS	5
Transportation/Escort	4
No vacancies for preschool	2

Source: LOCATE: Child Care at Maryland Family Network, Baltimore (7/1/16-6/30/17).

### Major Factors Important to Parents Who Found Child Care in Maryland

Reason	Count
Only program/provider with vacancy	591
Nearby transportation	570
Escort	552
Educational program	460
Hours of operation/part time	430
Environment	413
Proximity to home, school, work	389
Caregiver	378
Cost	348

Source: LOCATE: Child Care at Maryland Family Network, Baltimore (7/1/16-6/30/17).

## Supply of Child Care

### Child Care Subsidy Program

**Family Child Care Providers willing to care for CCS children in Maryland**  
1,207 (20.3% of total family child care providers)

**Child Care Centers willing to care for CCS children in Maryland**  
642 (40.9% of total child care centers)

LOCATE: Child Care at Maryland Family Network Baltimore, June 2017.

**Maryland FY18 Projected Allocation**  
\$100,764,073 = 13,343 full-time children  
Source: Maryland State Department of Education, Office of Child Care.

### Special Needs Child Care

**Family providers who serve/have served children with special needs**  
3,528 (59.4% of total family child care providers in Maryland)

**Centers who serve/have served children with special needs**  
1,086 (69.2% of total child care centers in Maryland)

Source: LOCATE: Child Care at Maryland Family Network, Baltimore (7/1/16-6/30/17).

### Definitions

**Before/After-School Care:** School-Age child care offers care to children enrolled in Kindergarten or above. Care is provided before and/or after school and during school holidays/vacations. Programs are licensed by the Office of Child Care. Programs may operate from a school building or other licensed facility.

**Census of Population and Housing:** There are two versions of the Census questionnaire: a short form which asks a limited number of population and housing questions of all households, and a long form questionnaire which asks additional social and economic questions of a sample of all households. The user should note that data obtained from a sample are subject to sampling variability, and that there are limitations to many of these data.

**Child Care:** The care or supervision of a child when the child's parent has given the child's care over to another for some portion of a 24-hour-day as a supplement to the parent's primary care of the child. (OCC)

**Child Care Center:** Child care provided in a facility that, for part or all of the day, provides care to children in the absence of the parent. Centers are licensed by the Office of Child Care.

**Child Care Subsidy Program (formerly POC):** Provides financial assistance to eligible families in securing care for their children in registered family child care homes or licensed child care centers while parents/guardians are attending school, working, or in job training.

**Children with Special Needs:** Children who, because of a disability or other special educational, developmental, physical, emotional, behavioral, or medical condition, require additional care, or whose activities are restricted by a certain condition. (OCC)

**Current Median Family Income:** Current median family income is the value shown in a Geolytics report dated Dec 2017.

**Current Population Estimates:** Current population estimates are based on GeoLytics, Inc. Reports.

**Educational Attainment:** The highest level of school completed or the highest degree received. Educational attainment figures were used for persons over 25 years of age. (U.S. Bureau of the Census)

**Employer-Sponsored Centers:** A child care center located on-site or off-site which is sponsored by a corporation, business, or other employer. Employees are given priority for enrollment slots.

**Family Child Care:** The care given to a child younger than 13 years old or to a developmentally disabled person younger than 21 years old, in place of parental care for less than 24 hours a day, in a residence other than the child's residence and for which the provider is paid. Regulations allow a family child care provider to care for as many as eight children at any time. (OCC)

**Family Household Income:** Family includes a householder and one or more persons living in the same household who are related to the householder by birth, marriage, or adoption. A household can contain only one family for purposes of census tabulations. (U.S. Bureau of the Census)

**Head Start:** Project Head Start provides comprehensive developmental services for children from low-income families. Head Start is comprised of four components including Education, Health, Parent Involvement, and Social Services. Head Start Centers serve children from age 3 to school entry age from income eligible families.

**Infant/Toddler:** In the State of Maryland, "infant" means a child under 18 months old. "Toddler" means a child 18 months old or older but younger than 2 years old. (OCC) MFN reports "infant" as a child birth through 23 months of age.

**Kindergarten:** An instructional program for children who are 5 years old by September 1st of each academic year. Programs may be operated by a private or public school. Kindergarten is the year of school which precedes entrance to first grade.

**Nursery Schools:** An instructional program approved or exempted by the Maryland State Department of Education for children who are two through four years old. The maximum length of the program is 6 hours per day, however most operate only a few hours per day and may meet only two or three times per week for a nine month period.

**Owner Costs with Mortgage (Selected Monthly):** The sum of payments for mortgages, deeds of trust, contracts to purchase, or similar debts on the property; real estate taxes; fire hazard, and flood insurance on the property; utilities; and fuels. It also includes, where appropriate, the monthly condominium fees or mobile home costs. A housing unit is owner-occupied if the owner or co-owner lives in the unit even if it is mortgaged or not fully paid for. (U.S. Bureau of the Census)



# Maryland

## Child Care Demographics

### Definitions

**Part Day:** A program regulated by OCC with an educational focus for children one or two years before entering kindergarten. These programs are usually 2-3 hrs/day, 2-3 days/week, nine months/year.

**Pre-Kindergarten:** These are publicly funded pre-kindergarten programs for eligible 4-year-old children administered by local boards of education or qualified vendors. The programs have the overall goal of providing learning experiences to help children develop and maintain school readiness skills necessary for successful school performance. Local school systems shall enroll all 4-year-old applicants from economically disadvantaged or homeless families.

**Poverty Level:** The poverty guideline for a family of four persons was \$24,600 in 2017. (U.S. Department of Health and Human Services, JAN 2017)

**Renter Occupied Gross Monthly Rent:** Monthly contract rent plus the estimated average monthly cost of utilities and fuels, if these are paid by the renter. All occupied housing units which are not owner-occupied, whether they are rented for cash rent or occupied without payment of cash rent, are classified as renter-occupied. (U.S. Bureau of the Census)

**Unemployment Rate:** Civilians 16 years old and over are classified unemployed if they (1) were neither "at work" nor "with a job but not at work" during the reference week, and (2) were looking for work during the last four weeks, and (3) were available to accept a job. Also included were civilians who did not work at all during the reference week and were waiting to be called back to a job from which they had been laid off. (U.S. Bureau of the Census)

**Youth Camps (Licensed):** A day camp, residential camp, travel camp, or trip camp licensed by the Department of Health and Mental Hygiene.



For demographic reports on each of Maryland's 23 counties and Baltimore City visit [marylandfamilynetwork.org/demographics](http://marylandfamilynetwork.org/demographics).









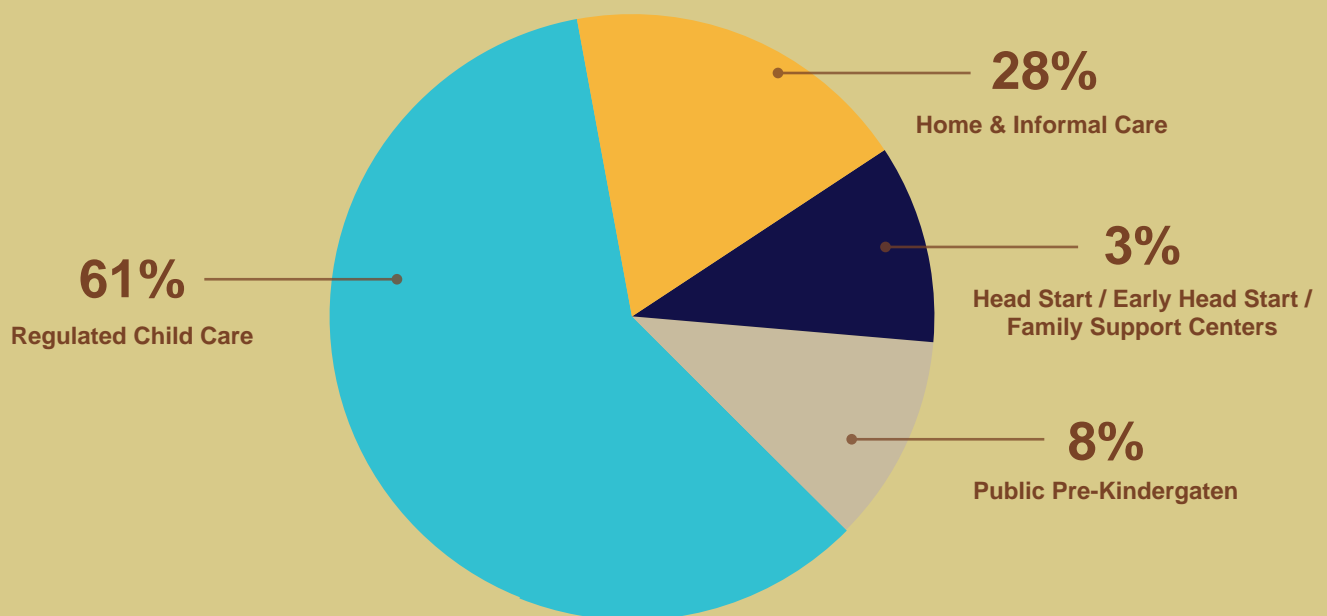
## **D** WHERE THE CHILDREN ARE WHEN THEY'RE NOT AT HOME

Early care and education more closely resembles a patchwork than a system. Maryland's children live, play, and learn in a variety of settings before they reach the age of 5, at which time full-day kindergarten attendance becomes compulsory.

Given the high percentage of working parents, most children spend large amounts of time in the care of unrelated adults outside their homes. In general, when that out-of-home care exceeds 20 hours per month and is provided for payment, it is regulated by the State to ensure the health, safety, and proper supervision of the children. For example, state regulations require that child care providers undergo criminal background checks and receive basic training in such subjects as nutrition, child development, and safe sleep practices. Publicly funded programs such as Head Start and public pre-K are similarly subject to governmental regulations.

As indicated in the chart below, the majority of Maryland children from birth to age 5 are in licensed child care settings—for the most part, either a residence providing care for up to eight children (a “family child care home”) or a larger facility serving many more children (a “child care center”). However, these settings are not necessarily exclusive. Nearly 30% of parents with children under age 5 rely on more than one type of care—public pre-K followed by after-school child care, for example.

### WHERE ARE MARYLAND'S 365,000 CHILDREN BIRTH TO AGE 5?





It's important to note that not all settings offer early care and education of equal quality. For instance, while all child care centers must meet baseline licensing requirements, many voluntarily exceed those standards and seek accreditation that reflects a higher level of quality. On the other hand, the quality of home and informal (i.e., unregulated) care is highly suspect, as indicated by the comparatively low levels of kindergarten-readiness displayed by children who previously received that type of care. Within this category are children who stay home, who receive care from relatives, or who may be in illegal arrangements with unlicensed providers, putting them at risk not only developmentally but also in some cases physically.

The pages that follow briefly describe a dozen of the major programs and services that address the early care and education needs of young children and their families in Maryland. Please note that these listings are not exhaustive. More information about these and other programs and services are available from several sources, including the Maryland State Department of Education, the Department of Legislative Services (which publishes a Legislative Handbook with a chapter on Early Childhood Development and Education), and Maryland Family Network (MFN). For more information, please contact MFN Director of Public Policy Clinton Macsherry at [cmacsherry@marylandfamilynetwork.org](mailto:cmacsherry@marylandfamilynetwork.org).



## Early Care and Education Program Settings

A **child care center** is a facility that provides non-parental care to children in a group setting for part of the day. The number of children permitted to be in a center's care is determined by several factors, including the facility's size, the ratio of staff to children, and the children's ages. (For example, there must be at least one adult staffer for every three children under age 2.) Child care centers are licensed and regulated by the Office of Child Care (OCC) within the Maryland State Department of Education (MSDE).

A **family child care home** is typically operated by a provider in her own residence. The provider undergoes background checks, a prescribed course of training, and safety inspections prior to being licensed. Group size cannot exceed eight children, with no more than two children under age 2. Family child care homes are also regulated by MSDE's OCC.

MSDE also manages the State's **Child Care Subsidy Program**, designed to help low-income families enter and remain in the workforce by subsidizing the high cost of child care. Eligibility is predicated on family size and income—as of August 1, 2018, a family of four earning up to \$71,525 can receive subsidy. Families are issued subsidy vouchers and assessed co-payments on a sliding scale. Families are also responsible for covering any difference there may be between the subsidy amount and the fees charged by the child care provider. Providers are not required to accept the vouchers or serve families eligible for the program. However, subsidy rates will increase over the next few years with the goal of giving parents access to at least 60 percent of the child care programs in their communities.



Maryland guarantees access to **public pre-kindergarten** (pre-K) for four-year-olds whose families earn up to 185% of the Federal Poverty Guidelines (FPG; \$46,435 for a family of four). Families with incomes up to 300% of FPG (\$75,300 for a family of four) may also be eligible under pre-K expansion grants. Broadening access to high-quality pre-K is a priority for many policymakers and will likely be the subject of legislation and debate in 2019 (see the “What Lies Ahead” section). Pre-K services include either a half-day (2.5 hour) or full-day (6.5 hours) session that meets five days a week during the academic year. Different program models may add or blend together different funding streams to provide a more seamless full-day, full-year option for children.

A critical component of Maryland’s expansion of public pre-K is its “diverse delivery” system, through which the State partners with high-quality, community-based child care programs that meet the same standards as elementary school-based pre-K. This strategy allows the State to enroll more students more quickly, rather than spending enormous sums to construct new pre-K classrooms and purchase fleets of school buses. Many of these community-based settings not only provide high-quality care but also ensure that parents have access to the before- and after-school care that the lengths of their workdays require.

The **Early Head Start** program, funded primarily by the federal government with some supplemental funding by the State, nurtures healthy attachments between caregivers and children and enables parents to move toward self-sufficiency. The program serves pregnant women as well as children younger than age 3 and their families who live at or below 100% FPG (\$25,100 for a family of four). Services are available at Early Head Start centers and in the home. All Early Head Start programs provide a high-quality early learning environment for children while simultaneously assisting families in meeting their goals, such as housing stability, continued education, financial security, and a strong peer support network.



**Head Start**, which is also funded primarily by the federal government with some supplemental funding by the State, promotes school readiness for children under age 5 from families at or below 100% FPG (\$25,100 for a family of four). With education, health promotion, social services, and other program components, Head Start strives to enhance the physical, social, emotional, and cognitive development of children through the provision of comprehensive services to families. The programs are operated by a variety of public and private entities in Maryland.

MFN manages Maryland's network of 25 **Family Support Centers** (FSCs), the original models for Early Head Start. These "two-generation" programs enable parents facing barriers to success to set goals and work toward self-sufficiency while their children are enrolled in a state-of-the-art child care program. Parents work with FSC staff to become better parents, develop job skills, reach their high school or other education goals, receive health and nutrition education and referrals, and find a network of peers to support them in this journey. In addition to child care, infants and toddlers at FSCs receive regular developmental and health screenings to make sure they are meeting milestones. Today, nine of Maryland's FSCs operate as Early Head Start programs.



## Child Care Quality Enhancement Initiatives

Among Maryland's several efforts to elevate the quality of child care, its network of **Child Care Resource Centers** (CCRCs) is the longest standing. Established in 1989 and managed by MFN, the 12 CCRCs serve every region of the State, offering training, capacity building, and technical assistance to child care providers. CCRCs help providers comply with and exceed the standards required for licensing and achieve higher levels of professional development, the better to serve the children in their care. CCRCs conduct approximately 2,000 training sessions with more than 28,000 participants each year.

Training and other professional development activities form the core of the **Maryland Child Care Credential**, a voluntary program that recognizes individual child care providers who exceed the State's minimum licensing requirements. Six credential levels and four administrator levels each recognize a provider's achievement of a specific number of training hours, years of experience, and professional activities, all of which undergird a high-quality child care program. Incentives for participating providers include training vouchers and achievement bonuses.

Child care programs, as distinct from individual providers, can pursue accreditation from MSDE or from national accrediting organizations to demonstrate their attainment of high quality. **Accreditation** standards are often quite rigorous and greatly exceed the State's minimum licensing requirements. Training and technical assistance from CCRCs as well as grants and other supports from MSDE can help child care programs navigate the accreditation process.

Along the parallel path to accreditation, child care programs often participate in **Maryland EXCELS**. Based on nationally recognized quality standards and best practices, EXCELS promotes quality by awarding ratings to child care and public pre-K programs. Programs earn ratings on five progressive levels that form a pathway to excellence. A rating of 1 is awarded to providers and programs that successfully meet initial requirements, while a rating of 5 is awarded to those that have achieved the highest level of quality. (In effect, most programs that become accredited are eligible for an EXCELS 5 rating.) These ratings are made public so that families can make informed choices in the care of their children. Financial incentives and technical assistance are available to programs that choose to participate in EXCELS.



## Other Services for Young Children and Families

**Home visiting programs** team parents with trained professionals to help them learn how to care for their babies and themselves during pregnancy and the child's first five years. By offering access to information about child health and development and by fostering positive parenting skills, home visiting programs promote positive birth outcomes, prevent child abuse and neglect, and foster school readiness. Maryland requires that publicly funded home visiting programs utilize "evidence-based" models, as defined by the federal government, or models in the process of becoming evidence-based. State funding for home visiting flows through MSDE, while the Maryland Department of Health manages the State's federal home visiting grant.





In concert with local jurisdiction lead agencies, MSDE also directs the **Maryland Infants and Toddlers Program**, which provides early intervention services for children under age 5 with developmental delays and disabilities and their families. These services can include (but aren't limited to) audiology, speech pathology, and vision assistance; occupational therapy and physical therapy; health and nursing services; and parent counseling and training. The goal is to enhance the child's potential for growth and development before he or she reaches school age. Children from birth to age 3 receive an Individualized Family Service Plan (IFSP) specifying the early intervention services that can be provided in the child's home or another convenient location, often an early childhood setting. Maryland's innovative Extended IFSP Option offers families the choice to remain on an IFSP beyond their child's third birthday, if their child is determined eligible for preschool special education and related services.

Maryland has utilized **Early Childhood Mental Health Consultation (ECMHC)** as a strategy to promote positive social emotional development and address behavioral concerns in young children for more than a decade. MSDE funds ECMHC programs, which are housed in the State's Child Care Resource Centers and serve early care and education programs statewide. ECMHC aims to support young children's social and emotional development to address challenging behaviors. A majority of ECMHC services are provided in child care centers. The services include observation and assessment of children and classroom environments, along with parent/teacher training and coaching to meet children's social and emotional needs, to employ specific behavior modification skills, and to implement strategies for retaining and serving children with behavioral and other mental health needs. When appropriate, ECMHC specialists make referrals to Maryland's Infants and Toddlers program, Child Find, and other mental health services. Evaluations have shown ECMHC to be highly effective in improving child behaviors and preschool program climates while greatly reducing suspensions and expulsions.

The term **Judy Centers** is a bit of a misnomer in the sense that they serve primarily as service coordinators, rather than bricks-and-mortar facilities providing direct services. Located chiefly in Title I school districts, Maryland's 51 Judy Centers serve children birth through kindergarten and their families, primarily through partnerships with public kindergarten and pre-K programs, the Maryland Infants and Toddlers Program, preschool special education, private child care providers, Family Support Centers, Head Start programs, and other community agencies and organizations that are critical to meeting the needs of families with high needs. Although there are some constants, the services accessed and provided through these partnerships vary to some degree with the needs of individual families and communities. Some partners contribute in unique and creative ways, such as local bookstores that provide venues for story time. Based on Maryland's Kindergarten Readiness Assessment results, children who've been served in a Judy Center partnership consistently demonstrate higher levels of readiness than their peers with no Judy Center experience.







## **E** WHAT'S AHEAD

In the coming years, Maryland will implement dramatic improvements in its Child Care Subsidy Program. Although these improvements have been enacted or announced and are already underway, advocates and supporters within the Administration and the General Assembly will monitor the progress of implementation vigilantly.

Other topical issues, such as paid parental leave and early childhood mental health, will likely command increasing attention.

By any reckoning, however, the recommendations of the Commission on Innovation and Excellence in Education (better known as the Kirwan Commission) and the legislation that those recommendations engender will dominate the 2019 Session of the General Assembly, and quite possibly Sessions in subsequent years.

The Commission is expected to release its final recommendations in late 2018. In the meantime, a Preliminary Report issued in January 2018 offers a preview. The Commission expressed strong support for expanding access to public pre-K for all four-year-olds and to low-income three-year-olds. And while noting that this might be seen as falling outside its explicit charge, the Commission acknowledged “an inescapable obligation” to advocate the strengthening of services for children birth to age 3 and their families.

The pages that follow are taken from the Kirwan Commission’s Preliminary Report and set forth its findings on early childhood education up to that point in time. For policymakers and advocates, this offers a strong and stirring indication of the early childhood advocacy agenda to come.





MARYLAND COMMISSION ON  
INNOVATION &  
EXCELLENCE IN  
EDUCATION



Preliminary Report  
January 2018



The Commission believes strongly that Maryland must consider these recommendations as a package, not individual options.

This chapter is divided into five sections, representing the five broad areas of policy on which the Commission is making preliminary recommendations: (1) early childhood education; (2) highly qualified and diverse teachers and leaders; (3) college and career readiness pathways; (4) more resources for at-risk students; and (5) governance and accountability. For each policy area, a summary of the gap analysis is provided documenting the differences between policies and practices in Maryland and those in top-performing systems. The full gap analysis is available in Volume II of this preliminary report. The gap analysis is a primary basis for the preliminary recommendations that the Commission has determined Maryland needs to implement in order for its students to receive a globally competitive education. Each of these policy areas and accompanying preliminary recommendations are inextricably interrelated. The Commission believes strongly that Maryland must consider them as a package, not individual options, in order to develop a preK-12 system that performs at the level of the world's best systems.

## Early Childhood Education

Provide Strong Supports for Children and Their Families Before Students Arrive at School

### *Support for Families with Young Children in the Top-performing Countries*


Most of the top-performing countries provide government support for families with young children that, in breadth and depth, far exceeds the support provided by any state in the United States. This often includes a family allowance, paid family leave for the mother or father (often for a year or more), free medical care, health screening services, home visits by nurses, prenatal services, maternal care services, wellness care, and parent education.

Singapore, for example, provides a one-time "baby bonus" equivalent to \$5,737 for each of the first two children and \$7,172 for each additional child. They also open a Child Development Account that can be used to fund child care and many other educational services and put \$2,141 in the account at birth and up to \$2,141 in the account in matching contributions each year thereafter. Finland provides a monthly allowance of the equivalent of \$103 for each child through the age of 17, with monthly supplements for single parents of an additional \$53 per child. These subsidies are in addition to all the other services just described.

These service packages are typically designed to enable one or both parents to stay at home and bond with their newborns for their first few months to two years or more, with no sacrifice in income. After that, these countries provide highly subsidized, high-quality child care on a schedule that enables the parents to work a full day without worrying about the welfare of their children. Increasingly, the responsibility for the availability and quality of child care services is lodged in the Ministries of Education, so that the provision of these services can be coordinated with the early childhood

Chapter 5: Summary of Gap Analysis





education system and the system for formal schooling, and so there is a smooth progression in the design and operation of these services as the child develops.

All of the countries benchmarked as top performers offer free or very low-cost, high-quality early childhood education for all three- to five-year-olds (compulsory schooling typically begins at age six). In some of these countries the universal programs serving pre-compulsory school-age children are called prekindergarten and in others preschool. In many of these countries, early childhood education is provided by both government and private providers, and the private providers are generally held accountable for their use of public funds. These countries are raising their standards for the quality of preschool faculty. Finland, for example, makes sure that at least one-third of the child care workers as well as the lead teacher in every preschool program have a bachelor's degree. All of the teachers in their pre-primary school are required to have a master's degree and a teacher certification if they are based in a school setting.

In Ontario, all teachers of four- and five-year-olds must have full certification as regular teachers. Full-day kindergarten is free for all four- and five-year-olds in Ontario. Almost all five-year-olds are enrolled. Fifty percent of the four-year-olds are enrolled and that proportion is growing quickly.

#### *The Gap between Maryland and the Top Performers*

No U.S. state provides the quality or range of services just described. None offers family allowances or the kind of paid family leave just described or free medical care or the range of services to new mothers that characterize the standard offering in many of the top-performing countries. That includes Maryland.

In the United States, Maryland is one of only a few states that has begun to offer a full suite of wrap-around social services to families with young children before they enter school, although it is inadequate to meet the actual demand for such services. One important source of such services is Maryland's Family Support Centers. They are open to all families with children under four years old, regardless of income level. They offer parenting education, workforce programs, home visitation programs, infant and toddler education programs, and connect families with other services like Head Start. There are, however, only 25 such centers around the State, serving less than 3% of the cohort.

Maryland is also home to the Judith P. Hoyer Early Childhood Care and Family Education Centers, known as "Judy Centers," which coordinate services for children from the time they are born until they enter kindergarten. Serving 57 elementary schools, which are nearly all Title I schools, they pull together from community resources a combination of early childhood education, family activities, health care, adult education, identification of special needs and early intervention, child care, parenting classes, and family literacy. These centers in Maryland have been admired and copied in a growing number of other states.



Maryland's child care subsidies for low-income families are notably lower than those provided in the comparison states and the benchmark countries and, in fact, among the very lowest in the country.

The average salary for child care workers in Maryland is half of the average statewide wage for all workers, whereas, in the benchmark countries, it is typically 60% to 70% of the average jurisdiction wage. The minimum qualifications for serving in the child care industry are higher in the benchmark countries than in Maryland and they are rising rapidly.

Maryland's child care subsidies for low-income families are notably lower than those provided in the comparison states and the benchmark countries and, in fact, among the very lowest in the country. Maryland's income eligibility to receive a subsidy for child care is \$31,000 or less – an eligibility level that is among the country's very lowest – while it is about \$60,000 in the benchmark states (New Jersey, New Hampshire, and Massachusetts). Although Ontario's subsidy is comparable to Maryland's, Singapore has universal subsidies for all families with additional supplements for families with incomes under the equivalent of \$64,000 and Finland subsidizes at incomes under \$71,000.

Maryland is widely regarded as a leader in early childhood education in the United States. It is one of only 8 states plus Washington, D.C., with compulsory kindergarten starting at the age of five (only 15 states require kindergarten attendance at all) and one of only 13 states (plus the District of Columbia) that require districts to offer full-day kindergarten. The State also requires districts to offer half-day preK for four-year-olds from low-income families. This is more extensive than any of the benchmarked states except New Jersey. Nonetheless, Maryland does not measure up to the 10 or more states that have universal prekindergarten for four-year-olds available to families. Maryland and Massachusetts have aggressively leveraged their early childhood quality rating and improvement system (known as EXCELS in Maryland) to drive improvement in early education in the State. Providers receiving prekindergarten expansion grants for four-year-olds must limit class size to 20 students and achieve EXCELS Level 5, which requires a certified early education teacher and an aide in every classroom. Maryland has adopted a number of important policies and programs designed to improve the quality of its early childhood education program, including tuition reimbursement for prekindergarten teachers, salaries for those teachers comparable to those in the benchmark states, and a fully implemented kindergarten readiness assessment system.

Despite these achievements, however, the benchmark countries provide greater subsidies in their early childhood education programs, set higher standards for early childhood faculty and pay them better, and offer a wider segment of the population access to the system.

#### *Putting Support for Families with Young Children into Perspective*

In other Organisation for Economic Co-operation and Development (OECD) nations the poverty level is similar to the U.S. average. Maryland's poverty level is below the national average, although there are pockets of deep, intergenerational poverty, particularly in Baltimore City but also in other areas of the State. Yet both Maryland



Children of low income parents in the United States arrive at the schoolhouse door behind their peers in numerous ways.


and the United States provide far less general support to families with young children than the countries whose students greatly outperform students in this country. That means that the children of low-income parents in the United States, even though their parents' incomes might be comparable to those of their peers in the top-performing countries, are much more likely to be hungry, homeless, subject to frequent eviction from their homes, sick, in need of dental care, traumatized, or limited by a very small vocabulary. Never having had a quality early learning experience – and more likely to have been cared for at home or in the home of an untrained relative or friend – they arrive at the schoolhouse door behind their peers in numerous ways.

Thus, American schools, kindergartens, and preschool institutions carry a much heavier burden than their counterparts in the top-performing countries. This means it is all the more important for Maryland to significantly increase its investment in early childhood education and address educational deficiencies as early as possible in a child's life rather than let these deficiencies fester and grow worse over time.

### RECOMMENDATIONS

1. Maryland must expand its current early childhood education program so that all four-year-olds, regardless of income, have an opportunity to enroll in a full-day program. This can be accomplished with a “diverse delivery” system composed of both public and private providers. The State should provide more funding for four-year-olds from low-income families, including no charge for students from families at or below 300% of the federal poverty level, while higher income families would be expected to pay a portion of the cost. Three-year-olds from low-income families should also have access to a full-day early childhood education program. Policies designed to support these changes would need to be phased in, with priority going to provision of a full-day program for special education children regardless of family income.
2. Maryland must make sure that all early childhood education programs, irrespective of whether they are provided by public agencies or private providers, are of high quality. To that end, Maryland should:
  - a. Ensure that the standards for approval of program personnel are comparable to those set in the countries with the benchmarked early childhood education systems and, if not, establish a timeline for full implementation of those standards.
  - b. Create a staffing system for approved Maryland early childhood education providers that is fully integrated with the proposed statewide career ladder system described in the section on high-quality teachers and leaders as the career ladder is phased in. The Commission will examine further, and include in its final report, how private providers may participate in the career ladder.
  - c. Strengthen the program of support for the professional development of early childhood teachers to enable them to earn the certificates defined by the new career ladder.



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- d. Require public and private providers to achieve EXCELS Level 5 in order to receive State funding for three- or four-year-old students. Initially, a provider must achieve at least EXCELS Level 3 with a plan approved by the Maryland State Department of Education (MSDE) to achieve Level 5 within five years.
  - e. Maryland, which has already developed standards for children in grades K-12, must expand these to include early childhood education standards for children aged three and four and these standards must apply to all providers.
3. In order to achieve the expansion of programs for four-year-olds and low-income three-year-olds in Recommendation 1, the supply of high-quality providers and early childhood educators based in the community rather than in schools must be increased significantly. The Commission recognizes this will take time, but actions such as increasing incentives for teacher certification (perhaps establishing a bachelor's degree program for educating children with and without disabilities from birth to age eight) and implementing a professional development system with incentives that provides pathways for current and prospective providers to increase their quality are critical. Chapter 377 of 2015 required a workgroup to develop a professional development plan for early childhood education. The workgroup's report, which can be found here <http://bit.ly/MDECEPD>, includes these and other recommendations worthy of consideration.
  4. Maryland must assess the school readiness of every child prior to entering kindergarten from public and private providers, either using the existing instrument (Kindergarten Readiness Assessment [KRA]) or a new instrument developed in collaboration with Maryland's teachers. As a first step, MSDE in collaboration with kindergarten teachers and early childhood experts should evaluate the current KRA, which has been significantly shortened since its first administration, to determine if it is an appropriate assessment for Maryland school readiness. This readiness assessment should be administered by kindergarten teachers prior to the beginning of the school year and be used to align the kindergarten program for each kindergarten student in ways that will enable him or her to get on track and stay on track for college and career readiness.

#### *Support for Families and Children under the Age of Four*

The Commission feels it would be remiss to ignore the impact that a child's first three years can have on the rest of the child's life. Support for families before their children enter preschool is critical, because the condition of the students coming into the public schools has such an important bearing on the capacity of the schools to get all students to high standards of academic accomplishment and because the cost of doing so in the schools is, to a very significant degree, a function of the condition of the young people coming into the schools. The Commission, therefore, has debated at some length the question of how far its recommendations should reach.

The Commission was surprised to learn, and suspects Marylanders will be too, of the very large gap between what our State does for families with young children more generally and what the top performers do for those families. It is impossible not to





conclude that this fundamental difference in social policy not only creates a burden on our schools that schools in other leading countries do not have to bear, but it also makes it less likely than it is in these countries that our public schools can function as our national counterweight to poverty and serve as the route to the American dream for every child.

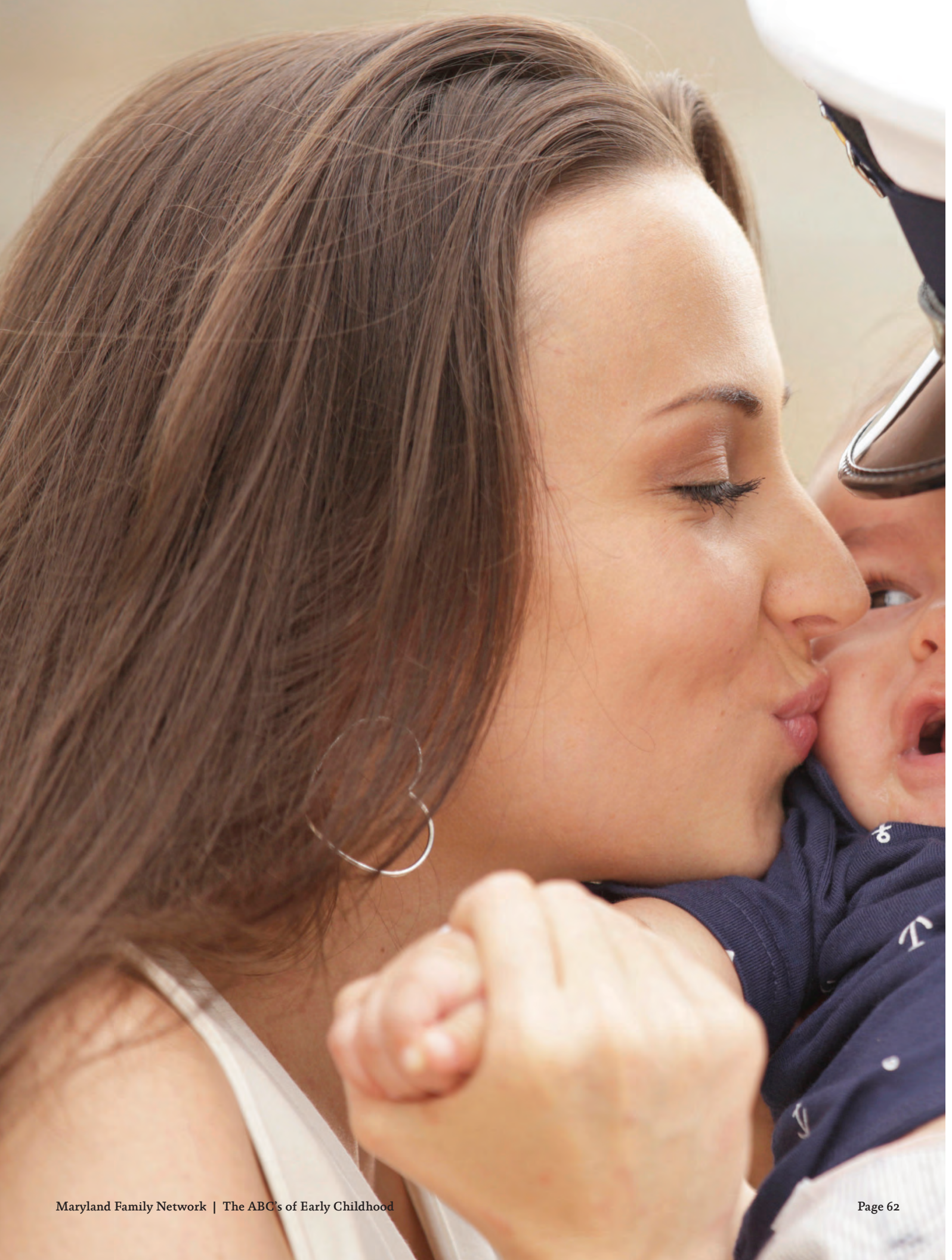
The Commission has concluded that it has an inescapable obligation to make a recommendation designed to strengthen not only the early childhood education system but also the systems that provide other vital services in communities, especially those that serve mainly low-income residents because, in the Commission's view, the health, education, and social service systems, at the least, are inextricably and directly related to the function of the schools and to their capacity to do their job, both in early childhood and throughout students' schooling.

### RECOMMENDATIONS

5. Maryland must adopt policies in early childhood education more like those of the benchmark nations. In particular, we strongly urge that the State significantly expand its network of Judy Centers and Family Support Centers to reach all the low-income families with children who need them, increase child care subsidies so that working families have access to affordable, high-quality child care, and expand the current infant and toddlers program that provides support to families with special needs children.











# MARYLAND FAMILY NETWORK

## **ABOUT MARYLAND FAMILY NETWORK**

Maryland Family Network (MFN) ensures that every child has a strong family, a quality early learning environment, and a champion for their interests.

MFN's 25 Family Support Centers work with thousands of infants and toddlers together with young and expectant parents to promote child development, positive parenting, and family economic self-sufficiency.

MFN's network of 12 Child Care Resource Centers (CCRCs) offers high-quality training, technical assistance, and other support services for child care professionals. In a typical year, CCRCs provide training for more than 31,000 workshop attendees.

Through LOCATE: Child Care, MFN annually helps more than 11,500 parents identify and evaluate child care options that are right for their families.

In Annapolis, MFN serves as a voice for young children, their families, and early childhood educators. With nearly 70 years of experience before the General Assembly, MFN is the leading early childhood advocacy organization in Maryland.

As a part of our mission, MFN provides policymakers with information and analysis about policies and best practices in child care, family support, and early education. For more information, please contact Clinton Macsherry, MFN Director of Public Policy, at [cmacsherry@marylandfamilynetwork.org](mailto:cmacsherry@marylandfamilynetwork.org).

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