

Kindergarten Readiness In Baltimore City: The Role of Early Care and Education, Barriers to Success, and Levers for Change

Prepared by The Institute for Innovation & Implementation,
University of Maryland School of Social Work for Baltimore's Promise

January 2017



www.baltimorespromise.org
<http://theinstitute.umaryland.edu>



UNIVERSITY of MARYLAND
SCHOOL OF SOCIAL WORK

THE INSTITUTE FOR INNOVATION & IMPLEMENTATION

This paper was produced for Baltimore's Promise, with content review provided by Baltimore's Promise and its partners.

Authors:

Sarah Nadiv, MS, Early Childhood Program Manager

Margo Candelaria, PhD, Research Associate Professor

Tiffany Martoccio, PhD, Clinical Research Manager

Deborah S. Harburger, MSW, Clinical Instructor & Co-Director, MD Center

Additional support was provided by Ashley Hall, Research Analyst, and Kimberly Spriggs, Program Specialist.

Suggested citation:

Nadiv, S., Candelaria, M., Martoccio, T., & Harburger, D.S. (2016). *Kindergarten readiness in Baltimore City: The role of early care and education, barriers to success, and levers for change*. Baltimore, MD: The Institute for Innovation & Implementation, University of Maryland.

For additional information, please visit Baltimore's Promise (www.baltimorespromise.org) or The Institute for Innovation & Implementation (<http://theinstitute.umaryland.edu>).



Baltimore's Promise has a goal that all children are ready to succeed in school by the time they enter kindergarten. This means that all children will be able to demonstrate the foundational knowledge, skills, and behaviors that allow them to fully participate and succeed in the classroom and in school. This paper outlines why early care and education (ECE) matters; pathways that children may take to kindergarten and the associated outcomes; barriers families experience in accessing high-quality, affordable ECE; challenges faced by ECE providers; and the possible levers for change.

The term ECE encompasses a range of programs and settings, including infant care, family- and center-based child care, Head Start, and pre-kindergarten. This paper focuses on the subset of ECE programs referred to as Early Learning and Development Programs (see box).

WHY DOES HIGH-QUALITY EARLY CHILDHOOD EDUCATION MATTER?

A child's brain develops rapidly in the first five years of life. Over the past decade, research has revealed that early experiences have the ability to shape brain development and lay the social, emotional, and cognitive foundations necessary for future outcomes (Shonkoff & Phillips, 2000). High-quality ECE has demonstrated positive effects on both academic and social and emotional gains (Center on the Developing Child, 2007; Yoshikawa et al., 2013) and has also been linked with improving a child's readiness to learn, preventing developmental delays, improving academic attainment and social skills, and reducing special education (Anderson, 2003).

There have been several landmark studies demonstrating the positive effects of ECE including the Abecedarian Project, the Chicago Child-Parent Center Program, and the HighScope Perry Preschool Project. The Abecedarian Project offered high-quality, comprehensive child care and pre-kindergarten programming to children ranging in age from infancy to age five from low-income families in North Carolina, with a particular focus on social and emotional as well as cognitive areas of development, including language. The participants were studied into adulthood and compared to their peers who had been randomly assigned to a separate control group at birth:

Early Learning and Development Programs, a subcategory of ECE programs, are defined as any:

- state-licensed or state-regulated program or provider, regardless of setting or funding source, that provides early care and education for children from birth to kindergarten entry, including, but not limited to, programs operated by child care centers and in family child care homes;
 - preschool programs funded by the federal government, state, or local educational agencies (including Individuals with Disabilities Education Act-funded programs);
 - Early Head Start and Head Start programs; and,
 - any non-relative child care providers not otherwise regulated by the state that regularly care for two or more unrelated children for a fee in a provider setting
- (US Department of Education, nd).





- At age 21, the participants had maintained advantages over their control group peers in intellectual test performance and academic scores, had more years of education, were more likely to be in school or have a skilled job or both, and were less likely to be teen parents or report depressive symptoms.
- At age 30, the participants were more likely to have a bachelor's degree, a job, and delayed parenthood.
- At age 35, the participants were found to have better physical health (see Campbell & Ramey, 1994; Campbell et al., 2001; 2002; 2012; FPG Child Development Institute, and; Masse & Barnett, 2002).

The Chicago Child-Parent Center (CPC) program offered high-quality interventions to children aged three to nine years old from low-income families in Chicago. Interventions included parent support (e.g. workshops and classroom volunteering requirements), healthcare assistance, and food assistance (Reynolds et al., 2001). Similar to the Abecedarian Project, participants were studied into adulthood. Compared to non-participants, CPC participants had significantly higher graduation rates, lower rates of special education services, lower rates of juvenile detention and violent offense arrests, and lower rates of child maltreatment (Rice University Center for Education, 2012). The research demonstrated ongoing economic benefits related to implementing CPC that led to \$2.6 billion in public savings.

From 1962 to 1967, the HighScope Perry Preschool Project (a.k.a. the Perry Project) offered high-quality pre-kindergarten to children at ages three and four from low-income families in Ypsilanti, Michigan, and this project also tracked participants into adulthood. Studies found that participants used fewer special education services and attained higher levels of education with higher rates of graduation, higher monthly incomes, almost half the number of teen pregnancies, and lower rates of government assistance compared to non-participants (Coalition for Evidence-Based Policy, 2015; Schweinhart et al., 2005).

These studies demonstrate that engagement in comprehensive, high-quality ECE before kindergarten has long-term academic, social and emotional, and financial benefits, both for individuals and for society. Yoshikawa and associates (2013, p.13) observed that, "high-quality early childhood education programs are among the most cost-effective educational interventions and are likely to be profitable investments for society as a whole." One estimate shows that ECE investments can earn a 16% rate of financial return (Grunewald & Rolnick, 2005). Nobel Prize-winning economist James Heckman (2012) explained that effective ECE decreases the need for special education services and remediation, and is correlated with reductions in juvenile justice involvement, teen pregnancy, and school dropout rates. Moreover, Cohen and associates found the societal "pay now" costs of supporting healthy prenatal care, sound parental skills, and quality ECE programs were a fraction of the "pay later" costs associated with low birthweight, child abuse and neglect, and dropping out of high school (Cohen et al., 2010).



The Karoly and Bigelow study of 2005 summarized the benefits of pre-kindergarten as:

- A reduction of child maltreatment associated with being in a safe school environment
- A reduction in juvenile justice involvement
- Increased educational attainments and lifetime earnings, which led to increased compensation and tax benefits
- Increased parental abilities to work when provided with safe child care, which in turn led to further economic benefits

They further asserted that a 10% reduction in the costs of high-quality pre-kindergarten could increase mothers' workforce participation rates by 2%, with larger effects for lower-income and single mothers (Karoly & Bigelow, 2005).

This paper has emphasized the effects of high-quality ECE programs on kindergarten readiness, but further research shows that the long-term outcomes of ECE are dependent on the quality of the program. Barnett (2008, p.19) stated that programs with "well-educated, adequately paid teachers, small classes (no more than 20 children), and reasonable staff-child ratios (less than 1:10) have repeatedly produced short- and long-term educational gains." High-quality ECE was found to be a protective factor against behavioral problems in middle childhood, whereas children attending low-quality ECE programs showed elevated behavioral problems by the middle of elementary school (Votruba-Drzal et al., 2010).



QUALITY IN ECE

There are several measures by which Maryland rates ECE programs for quality. The Maryland Accreditation program is one such program, which was designed to support the development of quality early care and education settings. To achieve the Maryland Accreditation standard, “a program voluntarily pursues self-appraisal, program improvement, and external program review to achieve and publicly confirm that they meet state, regional and/or national standards” (Maryland EXCELS, 2014). This program is available to public and private early childhood and school age programs. In addition to the Maryland Accreditation program, Maryland recognizes 11 national accrediting organizations as a measure of quality, such as the National Association for the Education of Young Children Accreditation (NAEYC) and the National Family Child Care Accreditation (NAFCC).

In addition to the Maryland Accreditation process, Maryland has a Tiered Quality Rating Improvement System designed to support and improve program quality. This program, Maryland EXCELS (which stands for EXcellence Counts in Early Learning and School-age care), rates program quality on a five-point scale. The overall rating of a program is equal to the lowest score from the five levels resulting in a requirement of 5s in all 5 areas to receive a score of 5. According to the Maryland State Department of Education (MSDE), Maryland EXCELS “gives programs and providers a road map that encourages and rewards those that improve their services offered to children and families, while providing support and incentives to programs that strive to make improvements” (Maryland EXCELS, 2014). Accreditation either by the Maryland Accreditation process or one of the other approved organizations is one of the steps to reaching the highest rating in the Maryland EXCELS program. Maryland EXCELS enables ECE providers to make their rating public so families can search for and select high-quality programs for their child.

As part of Maryland EXCELS, ECE programs can get points in five categories:

- (1) Administrative Policies and Practices;
- (2) Licensing and Compliance;
- (3) Developmentally Appropriate Learning Practice;
- (4) Accreditation and Rating Scale;
- and (5) Staff Qualifications and Professional Development.

While the Maryland Accreditation and MD EXCELS programs are designed for ECE programs, the Maryland Child Care Credential is designed to recognize ECE providers that progress beyond the minimum standard required by the state. The Maryland Child Care Credential accounts for years of experience, training hours, and other activities, and it includes seven staff and four administrative levels. Similar to Maryland Accreditation, the MD Child Care Credentialing program is a highly encouraged but voluntary program.

The goals of the Maryland Child Care Credentialing Program are to: The goals of the Maryland Child Care Credentialing Program are to:

- “Produce a well-qualified workforce; Increase the overall quality of child care programs ensuring that all children enter school ready to succeed;
- Improve the status and increase compensation for child care providers;
- Recognize for-credit and non-credit career preparation; and
- Provide a structure for professional growth through professional competencies.”

*Maryland State Department of Education,
Office of Child Care, Credentialing Branch, 2016*

These rating systems are used to help estimate the number of high-quality slots and help programs improve. However, there is limited and confusing data available regarding the quality of ECE programs in Maryland.

For example, the Maryland EXCELS data includes separate standards for child care centers, family child care homes, and public pre-kindergarten programs. For public programs, EXCELS only provides standards at Levels 4 and 5. Participation in EXCELS is required for private programs receiving Child Care Subsidy (CCS) Program funds but is voluntary for all other programs. Furthermore, programs are not required to publish their EXCELS rating, and as it is a fairly new system, many programs are still figuring out the process and the system statewide.

In their analysis, Workman, Palaich, & Wool (2016) identified that Maryland has a current capacity for 32,651 children to attend public pre-kindergarten or an ECE site that has reached a Level 5 in EXCELS or is accredited (pg. 34). In order to move toward universal pre-k capacity, there would ideally be 80% enrollment available for children of 4 years of age, which is 27,713 slots beyond what is currently

available at this quality level. Thus, there is a clear discrepancy between supply and demand for high-quality ECE programs. As indicated below, although the costs to achieve serving 80% of children are at the highest level, so, too, is the ROI.

Estimated Cost & Benefit of Serving 80% of Four-Year-Olds in High-Quality Pre-kindergarten for Four-Year-Olds

Universal (80%) High-Quality Pre-kindergarten Enrollment (60,364 Four-Year-Olds)

Current System Cost	\$533,723,146
Additional Cost for 80% High-Quality	\$141,164,568
Total Updated System Cost	\$674,887,715
Current System Benefit	\$2,324,647,229
Additional System Benefit	\$1,412,605,113
Total Updated System Benefit	\$3,737,252,342
Current ROI	\$4.36
Updated ROI	\$5.54

SOURCE: WORKMAN, PALAICH, & WOOL (2016) PG. 77

SCHOOL READINESS AS A MEASURE OF QUALITY

In recent years, conceptualizations of school readiness have integrated academic learning as well as social and emotional development, emphasizing their interconnection as an essential component for life success (Denham, 2006; Fantuzzo, Bulotsky-Shearer, McDermott, & McWayne, 2007). Maryland has defined school readiness based on the Maryland College and Career-Ready Standards, specifically those skills and behaviors that children are expected to possess upon entry to kindergarten. These skills and behaviors have been delineated across four domains of learning: language/literacy, mathematics, social foundations, and physical well-being and motor development (MSDE, 2015). Children who enter kindergarten with low levels of school readiness are at greater risk for falling behind in their academic careers through secondary school. High-quality ECE experiences are linked not only to social and emotional, academic, and financial benefits in the long-term for both individuals and society—they are also the “building blocks for children’s long term academic achievement and lifetime success” (Harburger, McNear, Acuña, et al, 2014, p.31).

Thus, another way to measure quality beyond rating and accreditation is to measure kindergarten readiness for those who attend various ECE programs. From this perspective, the issue of quality is analyzed in terms of type of ECE program, rather than at the individual program level. Kindergarten Readiness Assessment (KRA) data shows how well the various types of programs prepare individual students for kindergarten. The 2015-2016 KRA demonstrated that less than half (45%) of children across Maryland entered kindergarten ready (Maryland State Department of Education, 2015). Within Baltimore City, 42% of children in kindergarten demonstrate readiness, and 48% of those enrolled in public pre-kindergarten the year prior to kindergarten demonstrated kindergarten readiness. Public pre-kindergarten programs are a strong factor in addressing the achievement gap because they primarily serve low-income, high-need families. The highest percentage of children demonstrating kindergarten readiness was among those who went to non-public preschool (66% in Maryland, 79% in Baltimore City). Children whose readiness skills and behaviors are “approaching” and/or “emerging” require differentiated instruction, targeted assistance, or interventions to be successful in kindergarten. 55% of children entered kindergarten in Maryland not demonstrating adequate readiness and requiring additional supports (MSDE, 2015).

Demonstrating Readiness scoring range: 270-298	Approaching Readiness scoring range: 258-269	Emerging Readiness scoring range: 202-257
The child demonstrates foundational skills and behaviors that prepare him or her for instruction based on kindergarten standards.	The child demonstrates some foundational skills and behaviors that prepare him or her for instruction based on kindergarten standards.	The child demonstrates minimal foundational skills and behaviors that prepare him or her for instruction based on kindergarten standards.

Source: MSDE (2015). *Readiness Matters: Kindergarten Readiness Assessment Report, 2015-2016*.

Kindergarten Readiness Assessment (KRA) Results, 2014-15 & 2015-16

(Baltimore City & Maryland)

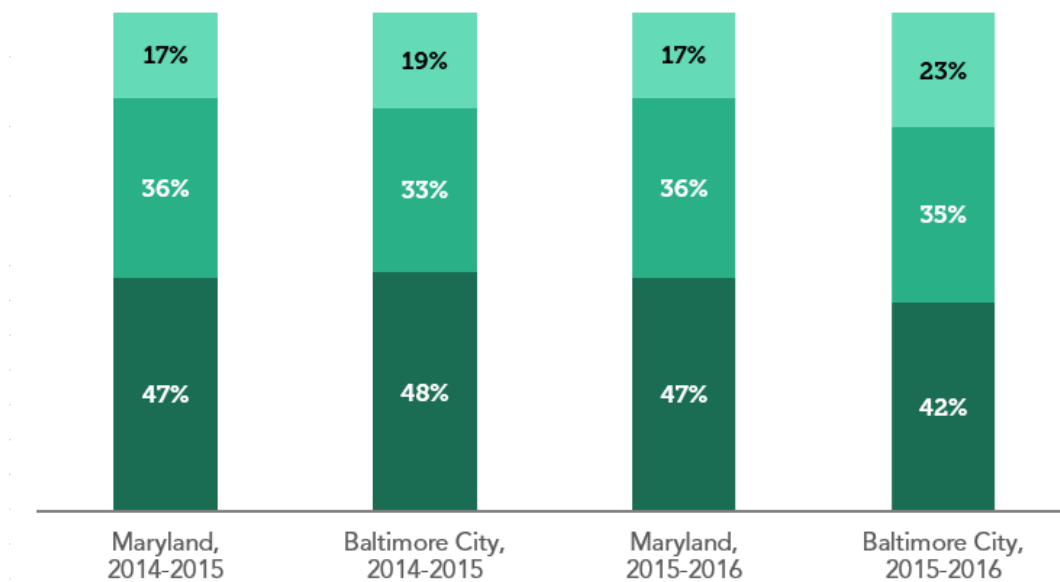


Figure 2: Kindergarten Readiness Assessment (KRA) Results, 2014-2015 & 2015-2016

Source: MSDE (2015). *Readiness Matters: Kindergarten Readiness Assessment Report, 2015-2016*.

Note: See Appendices for KRA results, 2015-2016, disaggregated by race/ethnicity, gender, prior care, special education, English Language Learners (ELL), and free and reduced price meals (low-income).

Children with disabilities (19% statewide, 17% in Baltimore City), 21% of English Language Learners (21% statewide, 17% in Baltimore City), and children from low-income families (33% statewide, 40% in Baltimore City) demonstrated readiness for kindergarten at disproportionately lower rates than their peers. Racial and ethnic differences were also noted, with black (41% in Maryland, 42% in Baltimore City) and Hispanic (27% in Maryland and Baltimore City) children requiring more support in kindergarten than their white counterparts (56% in Maryland, 53% in Baltimore City). Kindergarten readiness is not evenly distributed throughout the Maryland early childhood population (MSDE, 2015).

Table 1 below reports kindergarten readiness for children enrolled in publicly funded early education programs across Baltimore (Grigg, Connolly, D’Souza, & Mitchell, 2016). The data originated in a study conducted by Grigg and associates, which included children who took one of three pathways prior to entering kindergarten: (1) Head Start for two consecutive years; (2) pre-kindergarten for one year as a 4-year-old; or (3) Head Start followed by pre-k. Findings were discussed in comparison to participating children’s non-enrolled counterparts.

As shown in Table 1, Grigg and associates found that children who participated in publicly funded ECE programs were more likely to be kindergarten ready than children who did not participate in these programs. These children were also less likely to be chronically absent (or miss more than a month of school) than their nonparticipating counterparts.

Table 1: Kindergarten Readiness in Baltimore City by Participation in Early Education Programs Compared to Children Not Enrolled

Program	Increased odds of being kindergarten ready
Head Start for two years (N = 550)	1.3**
Pre-K as 4-year-old (N = 2,300)	3.0***
Head Start then Pre-K (N = 839)	3.6***

Source: Grigg, Connolly, D’Souza, & Mitchell, 2016 (Total N = 4,715).

* p < 0.05, ** p < 0.01, *** p < 0.001.

AVAILABILITY OF ECE PROGRAMS

There is a need for access to high-quality, affordable ECE programs, and as noted above, there are many types of ECE programs. Even among similar program types (i.e. center-based ECE programs), the length of day and the number of months that programs are active can vary. Some programs tailor their services to meet the needs of families, including alternatives to home visitation.

In 2014, 53% of all children in Baltimore City under the age of 18 were living in households with Supplemental Security Income (SSI), cash public assistance income, or Food Stamp/SNAP benefits (U.S. Census Bureau, 2014). As shown in Table 2 below, across public and private providers, there are currently an estimated 52,908 four year-olds enrolled in pre-kindergarten in Maryland. The jurisdictions with the highest enrollment in pre-kindergarten are Baltimore, Montgomery, Prince George’s Counties, and Baltimore City. This figure includes the four-year olds enrolled in public pre-kindergarten programs and the number of children enrolled at the time of annual inspection site visits for private programs. Both program types include half-day and full-day enrollment.

All seats are assumed filled for public pre-kindergarten programs, in part because Maryland permits districts to make available any additional capacity to four-year olds who exceed the 185% family income limit. The Maryland Pre-Kindergarten Expansion Act, passed in 2014, offers essential resources to ECE providers, which have allowed programs to establish additional pre-kindergarten slots for four-year-old children from families with household incomes at or below 300% of the federal poverty level.

Table 2 also shows pre-kindergarten enrollment, capacity, and utilization rates by jurisdiction in Maryland. In cases where utilization rates are greater than 100%, that means that more than one child shares a single pre-kindergarten slot. For instance, there is a morning class and an afternoon class that represent one full day spot used by two children.

In November 2015, Baltimore’s Promise conducted a survey of all local Head Starts grantees (Baltimore City, Catholic Charities, St. Vincent de Paul, and the Y of Central Maryland). These grantees reported a capacity of 2,619 seats. There were 2,385 children enrolled at the time, of which 852 were four years of age. At the time of surveying, two Head Start locations were closed due to facilities issues, representing 136 seats that were unable to be filled.

TABLE 2 ESTIMATED FOUR-YEAR-OLD PRE-KINDERGARTEN CAPACITY AND ENROLLMENT BY MARYLAND JURISDICTION (DATA COMPILED FROM WORKMAN, PALAICH, & WOOL, 2016).

Jurisdiction	Public Pre-K	Child Care Center Capacity	Child Care Centers Enrollment	Child Care Center Utilization	Family Home Capacity	Family Home Enrollment	Family Home Utilization
Allegany	467	267	258	94%	65	76	116%
Anne Arundel	1,928	1,809	2,012	111%	598	424	71%
Baltimore City	4,597	2,409	1,775	74%	615	378	61%
Baltimore	3,244	3,616	3,229	89%	985	658	67%
Calvert	352	363	296	82%	127	99	78%
Caroline	279	122	177	145%	84	70	84%
Carroll	324	793	783	99%	168	126	75%
Cecil	639	169	164	97%	102	75	74%
Charles	778	589	553	94%	234	155	66%
Dorchester	210	50	40	80%	53	42	79%
Frederick	975	1,038	857	83%	362	268	74%
Garrett	148	32	34	105%	13	16	124%
Harford	724	1,189	1,072	90%	345	238	69%
Howard	858	1,913	1,708	89%	356	214	60%
Kent	136	37	34	91%	21	17	80%
Montgomery	3,311	5,342	4,983	93%	1017	601	59%
Prince George's	4,841	2,611	1,827	70%	977	553	57%
Queen Anne's	222	139	117	84%	88	76	86%
Saint Mary's	771	326	260	80%	193	146	75%
Somerset	193	304	219	72%	35	30	85%
Talbot	230	163	157	96%	59	42	71%
Washington	514	640	566	88%	235	196	83%
Wicomico	532	416	332	80%	130	106	81%
Worcester	358	165	176	107%	46	43	92%
Statewide Total	26,631	24,511	21,629		6,908	4,648	



PATHWAYS TO KINDERGARTEN

As shown above, there are not enough ECE seats for all four year olds in Maryland. However, data suggest that many financially eligible children in Baltimore City are not accessing publicly-funded pre-kindergarten programs (see Figure 3). Thus, many children enter kindergarten with little formal exposure to an education setting.

The Baltimore Education Research Consortium (BERC) formed the Early Education Data Collaborative (EEDC) to gain a better understanding of the ECE pathways for children in Baltimore City, based on the available data. EEDC's report, *Born in Baltimore* (Connolly, Grigg, Cronister, & D'Souza, 2015) followed 9,694 Baltimore City children born between September 2, 2007 and September 1, 2008. The data showed that 6,166 (64%) of families used an early education service such as home visiting, Head Start, or a program of the Baltimore City Public Schools (BCPS). Data was not available on how many children attended Family or Center-based child care. Over half of the children born in Baltimore subsequently enrolled in BCPS for kindergarten. EEDC found that the most common pathway for this cohort of children was to not appear in any of the participating programs' data systems after birth. The next most common pathway was to enroll in pre-kindergarten and then BCPS kindergarten (n=2011).

Many children entered kindergarten without enrolling in pre-kindergarten, and many who were financially qualified for priority enrollment in pre-kindergarten did not enroll. Connolly and associates (2015, p.11) stated, "While the seats for both programs [Head Start and City Schools pre-kindergarten] are limited, every year non-priority children enroll in available seats in pre-k." They found that compared to those children who attended these programs, mothers of children who were eligible but not enrolled were more likely to be young, black (83% compared to 68%), receive Medicaid/MCHP (84% compared to 67%), not hold a high school diploma at their child's birth (43% compared to 27% overall), and were more likely to live in specific neighborhoods of Baltimore City.

In an earlier study, Connolly and Olson (2012) examined all children starting kindergarten in a Baltimore City School between September 2007 and September 2008. They found that students had a variety of prior school placements. Most had participated in a BCPS pre-kindergarten program (44%), Head Start (13%), a non-public nursery school (11%), daycare (5%), or home care (15%). A small group attended both Head Start and pre-kindergarten through BCPS (4%). Their findings indicate those who were at home and not exposed to a school setting before entering pre-kindergarten underperformed on standardized tests between kindergarten and 3rd grade.

CHALLENGES TO ENSURING AVAILABILITY AND ACCESSIBILITY OF HIGH-QUALITY, AFFORDABLE ECE PROGRAMS

The above discussion has shown that there are clear differences in the kindergarten readiness and achievement levels of children based on participation in high-quality ECE and that, even though there are multiple pathways children can take from birth to five, there are not enough high-quality ECE seats available or accessible across all program types to serve all young children.

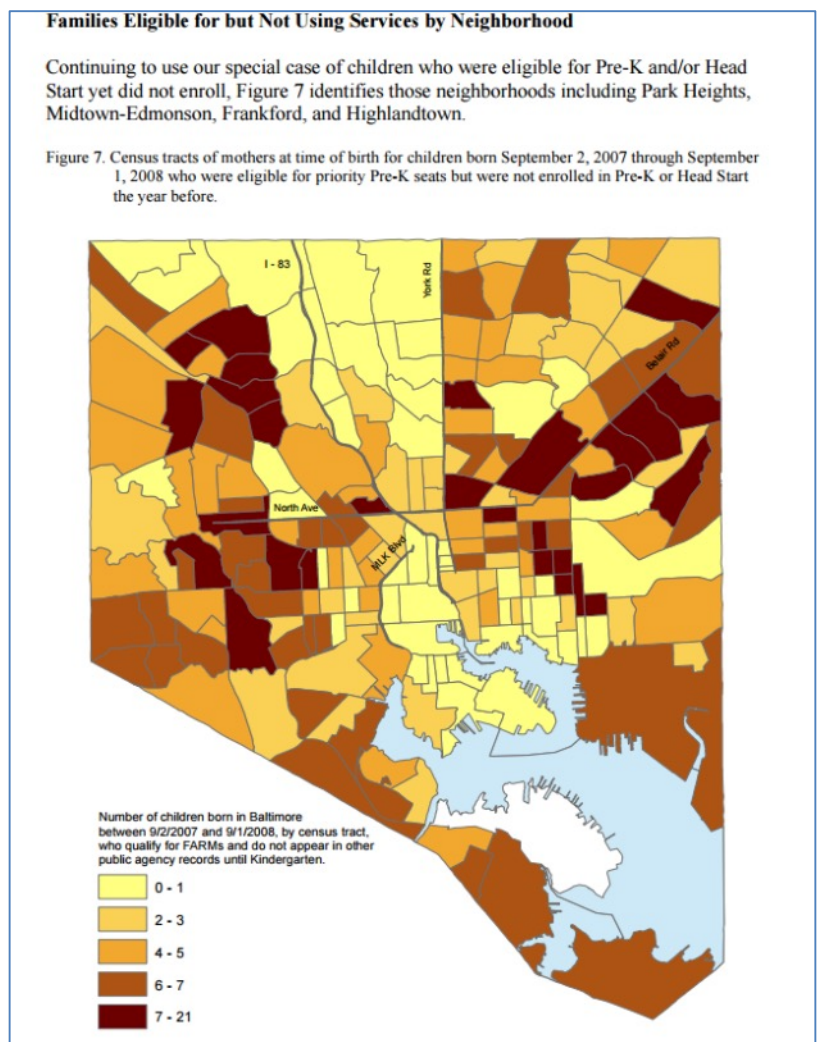


Figure 1: Families Eligible for but Not Using Services by Neighborhood (Connolly, Grigg, Cronister, & D'Souza, 2015, p.12)



FUNDING

Nationally, the 2014-2015 school year showed continued improvement in state funded pre-kindergarten with larger increases in enrollment, spending, and quality standards than the previous year (Barnett et al., 2016). Total state funding for pre-kindergarten programs increased to \$6.2 billion, an increase of more than \$573 million across 42 states and the District of Columbia, reflecting a 10% increase. New York accounts for two-thirds of this increase, demonstrating a new commitment to investing in quality pre-kindergarten programs, particularly in New York City. State-funded pre-kindergarten programs served almost 1.4 million children in 2014-2015, an increase of 37,167 children from the previous year (Barnett et al., 2016). Almost 5% of 3-year-olds and 29% of 4-year-olds were served in state-funded pre-kindergarten. These rates increase to 16% and 41% respectively with all public programs, special education, and Head Start combined. Enrollment has grown by just approximately 1% in recent years due to unstable funding in many states. While some states, such as New York, have expanded funding and enrollment, other states have reduced funding and enrollment. Therefore, a growth of 1% reflects both increases and reductions across the country. While this growth demonstrates an investment in ECE, state funding for pre-kindergarten programs still lag behind the \$68 billion that states spent on K-12 education last year (Committee for Education Funding, 2016).



Maryland is ranked 14th in the country for access to pre-kindergarten for 4-year-olds but only 31st based on State Spending and 36th when examining “All Reported Spending” (state spending combined with local and federal funding). This reflects a statewide decrease in funding per child from the 2013-2014 academic year to the 2014-2015 year. Maryland decreased the amount of spending per child by \$996 to \$3,572, and total spending reduced by \$26,365,319 to \$108,517,116.



In Baltimore City, there was a 5.2% increase in Early Education and Child Care spending from State Fiscal Year 2013 to State Fiscal Year 2015. At the same time, there was a 2.1% decrease in spending on K-12 Education, including pre-kindergarten spending, in Baltimore City Public Schools. (McNear, 2016). A broader analysis of spending to support kindergarten readiness incorporates spending in health, schools, and social services, among other costs. Many of the ECE programs described above that achieved significant and lasting results were comprehensive programs that supported the whole child and family. Total kindergarten readiness investments (local, state, federal, and philanthropic) in Baltimore City decreased from State Fiscal Year 2011 (when federal American Recovery and Reinvestment Act funding peaked) to State Fiscal Year 2017 (estimated) (McNear, 2016).



COST OF CARE & CHILD CARE SUBSIDIES

The average cost of child care in Baltimore City is \$16,486. The median household income in Baltimore City is \$57,077. Thus, the median household in Baltimore City would have to spend 29% of its income on child care (Maryland Family Network, 2016a). As noted above, however, 53% of households in Baltimore City with children under 6 years old receive at least one form of public assistance (US Census Bureau, 2014).

One form of public assistance that is available to families throughout the state are Child Care Subsidies, which provide financial assistance with child care costs to eligible families. That eligibility is determined by income and need. The Child Care Subsidy Program serves about 18,000 low-income

children statewide and will cost \$97.5 million in fiscal 2017 through a combination of federal and state funds (Maryland Family Network, 2016). Families can use their subsidy voucher at any provider they choose as long as that provider is participating in the Maryland EXCELS program. According to the Maryland Family Network, 1,084 child care centers, 1,300 family child care providers, and 414 informal child care providers were serving more than 14,000 children through the Child Care Subsidy Program as of March 2016.

However, some significant challenges exist with Child Care Subsidies. One challenge is changes made in the federal Reauthorization of the Child Care Development Block Grant, which was finalized in September 2016. This reauthorization created a shift toward an “emphasis on promoting positive child development through greater child care quality, safety, and access requirements” (Department of Legislative Services, 2016). This brings several new requirements, including the family eligibility period, and exit requirements, that will require the state to make several hard decisions about spending and compliance.

Additionally, the requirement that families may only use the subsidies on programs that participate in Maryland EXCELS has limited the number of programs that are available to subsidy families. Maryland Family Network (2016b) reported that there was a decrease of providers who accept subsidy vouchers after Maryland implemented the regulation requiring that subsidy providers participate in Maryland EXCELS. According to testimony provided to the Joint Committee on Children, Youth, and Families, “Maryland’s neediest families [have] less options on finding care that fits their needs [and are] often greatly impacted by transportation, location and non-standard hours” (Service Employees International Union Testimony, 2016, p. 2). In addition, providers report that, while more demands are being placed on them to ensure quality, compensation has not increased. In a survey conducted by Service Employee International Union Local 500, they found that of “family child care providers in the State of Maryland, 26% said that the EXCELS program made them less likely to serve subsidy families, and 18% said the requirement made them drop out of the subsidy program all together” (Service Employees International Union Testimony, 2016, p. 1).

Finally, subsidy rates to providers in Maryland are kept low to serve more families with the available funds. In 2016-17, provider rates are at the 9th percentile of the market (percentiles based on a weighted average of rates across all ages and provider types) (MSDE, 2016). The federal benchmark recommends that rates be set at the 75th percentile of market rate survey. These low rates further impact the number of providers willing to accept subsidy rates, the quality of those programs, and the ability of those programs to compensate workers adequately (MSDE, 2016).

COMPENSATION OF THE WORKFORCE

The majority of costs for an ECE program are payroll and payroll-related expenses. However, while the cost of child care is too high for many parents, “child care providers are among the lowest paid workers in the country, primarily because salaries are limited by the tuition rates parents can afford to pay... Poverty-level wages and a lack of benefits result in employee stress and high turnover, which can have detrimental effects on children in care” (Maryland Family Network, 2016b, p.9). Both nationally and in Maryland, the turnover rate for child care providers in centers hovers around 30% (Maryland Family Network, 2016b). The Center for the Study of Child Care Employment (2016) found that 40% of Maryland’s child care workers’ families participate in one or more public assistance programs (i.e. Earned Income Tax Credit, Food Stamps/SNAP, Medicaid, TANF).

In the Economic Policy Institute brief titled “Child care workers aren’t paid enough to make ends meet”, it is noted that most child care employees do not receive benefits and “have a harder time making ends meet than workers in other occupations” (Gould, 2015, p.3). Furthermore, the report asserted, “many preschool and child care workers cannot afford child care for their own children!”

The Maryland Family Network notes the following with regard to the issue of low compensation for child care providers:

Maryland has addressed the compensation issue with annual bonuses of \$600 to \$1,000 for providers who participate in the Maryland Child Care Credential at Level 4+ and higher, and a limited number of scholarships for providers to attain higher education degrees. Child care programs that participate in the Maryland EXCELS quality rating and improvement system are also eligible for tiered reimbursement from the Child Care Subsidy Program that can be used to supplement staff compensation. But as State programs encourage providers to earn degrees that meet the requirements for teaching in public schools, and as the stark salary inequality between child care and public school teachers remains in place, it becomes increasingly difficult to retain teachers in child care programs that cannot compensate them for the value of the work they do (2016b, p.10).

Low staff-to-child ratios are a large factor in understanding the economic reality of workforce compensation. Each state determines its own set of regulations. Table 3 shows the staff to child ratios for both center-based and family child care programs in Maryland.

Table 3: Maryland Staff to Child Ratios for Center Based and Family Child Care Programs

Age Range	Ratios for Center Based Care in Maryland State
Infants	(1:3)
Young toddlers	(1:3)
2 years	(1:6)
Preschool	(1:10)
School age	(1:15)
Mixed age group	Varies by age
Age Range	Ratios for Family Child Care in Maryland State
All ages	(1:8) no more than 2 children under age 2

Maryland requires low staff to child ratios to ensure high quality and safety. Staff-to-child ratios are an important quality indicator. These ratios do mean that staff costs are higher; however lowering the number of staff required has an impact on quality nurturing care, safety, and creates a stressful work environment for those caring for young children.

ILLEGAL CARE PROVIDERS

The demands being placed on low-wage earning child care workers and the high costs for parents have resulted in the presence of numerous illegal child care providers. Maryland Family Network reports that at least 13 Maryland children died in unlicensed care from 2010 to 2014 and the number of complaints of illegal child care increased from 265 to 330 during this same period of time. However, many parents who choose unlicensed care may be unaware of the licensing laws or cannot afford the costs of legal child care. In 2016, Maryland passed a new law (HB329/SB312) that requires a child care entity to include its license number when advertising its services. The law also improves the ability of the Office of Child Care and the state fire marshal to issue citations and conduct inspections when illegal providers persistently violate the law (Maryland Family Network, 2016b).

The inability of families to access affordable care also forces parents to choose unstable or inconsistent family, friend, or neighbor care, including babysitters, that do not offer quality child development activities for the young children in their care. Relying on this type of care can make it difficult for families to consistently attend work or school, while at the same time does not support the child’s development and readiness for school (Bernal & Keane, 2011; Loeb et al., 2007; Magnuson, Ruhm & Waldfogel, 2007).

LEVERS FOR CHANGE

This paper highlights the importance of early care and education in Baltimore City to support children being ready to learn when they enter kindergarten. Maryland has many significant strengths, including numerous research, advocacy, public policy, and trade organizations working to improve early childhood education. However, there are challenges facing Baltimore City and Maryland at large, each interwoven with one another. The issue of quality is critical and yet the push for new standards and qualifications can result in increased cost to providers and decreasing availability of providers. The cost of child care is very high and yet child care providers often are very low paid and many require public assistance. Child care subsidies offer a critical support to families but low provider reimbursement rates condemn subsidy seekers to the lowest cost and poorest quality care. These economic levers push and pull against one another and against the priorities that families and policymakers have for Baltimore’s children and force difficult decisions.

Looking ahead into 2017, there are two key areas that can be pursued to move toward the collective goal that children enter kindergarten ready to learn:

1. Access to Affordable, Accessible Professional Development: Providers need access to training and support programs that are low cost and available in multiple formats, such as electronically. Providers benefit from mentoring, coaching, technical assistance, and other forms of one-on-one support in order to receive guidance on implementing best practices. Many training and support programs have been created in partnership with local universities, while at the same time much of the staffing and resources provided through the statewide network of Child Care Resource Centers ended with the conclusion of federal Race to the Top Funds at the end of 2015. Replacing these valuable services and expanding outreach and access will be critical for providers and programs that would like to enhance skills and participate in the various quality initiatives that are available. Furthermore, additional work is needed to provide more opportunities for credentialing, such as offering easier access to attaining the national Child Development Associate credential, or supporting high schools in improving the quality of Child Care Career Technical Education pathways. Many of these recommendations and more were made in the recent State Report on Developing a Master Plan on Professional Development for Teachers and Providers of Early Childhood Education (Maryland State Board of Education, 2016).

2. ECE Provider Compensation & Affordability of Care: Child care providers need to receive a living wage, whether directly through payroll or through supplemental income and incentives or tax credits, so the field can attract and retain skilled workers. State, local, and private partners will need to come together to identify mechanisms to support ECE programs to pay their workforce higher wages without raising the total cost to families. At the same time, there may be opportunities for businesses to be encouraged to provide child care benefits to their employees to assist with offsetting the cost of care. There is no single answer to this challenge, but it cannot be ignored.

The positive impact of high-quality ECE programs has been found to be extensive and long-lasting. Children in Maryland who participate in ECE programs are more prepared for kindergarten and have better attendance and test scores over time. Families who access stable ECE for their young children allow parents to work and/or attend school.

Maryland has made a significant investment in the development and implementation of quality initiatives for ECE programs. However, there is a significant discrepancy between the established need in Maryland and the number of available high-quality ECE spots. Additionally, costs for child care are very high, yet child care workers receive low compensation.

Despite these challenges, it is clear that investments in high-quality ECE programs for children from birth to age five yield high returns. Research shows that for every dollar invested today, savings range from \$2.50 to as much as \$17 in the years ahead (Institute for a Competitive Workforce, 2011).

High-quality ECE programs are not a silver bullet, nor are they a substitute for a safe home, adequate and balanced nutrition, strong attachment to caregivers, or any of the other aspects that are so critical to early childhood. However, high-quality ECE programs that develop and enhance social and emotional skills, build language, and nurture children can be a critical piece of the puzzle that is kindergarten readiness, helping children to fulfill their potential and enter the workforce and adulthood successfully.



WORKS CITED

- Anderson, L. M., Shinn, C., Fullilove, M. T., Scrimshaw, S. C., Fielding, J. E., Normand, J., et al. (2003). The effectiveness of early childhood development programs: A systematic review. *American Journal of Preventative Medicine*, 24(3), 32-46.
- Baltimore Education Research Consortium. (2016). *Informing policy and practice to benefit Baltimore's children*. Baltimore, MD: BEREC. Retrieved from: <http://baltimore-berc.org/>
- Barnett, W. S., Friedman-Krauss, A. H., Gomez, R. E., Horowitz, M., Weisenfeld, G. G., Clarke Brown, K., et al. (2016). *The State of Preschool: 2015 State Preschool Yearbook*. New Brunswick, NJ: National Institute for Early Education Research.
- Bernal, R., & Keane, M. P. (2011). Child care choices and children's cognitive achievement: The case of single mothers. *Journal of Labor Economics*, 29(3), 459-512.
- Campbell, F., Pungello, E., Burchinal, M., Kainz, K., Pan, Y., Wasik, B., et al. (2012). Adult outcomes as a function of an early childhood educational program: An Abecedarian Project follow-up. *Developmental Psychology*, 48(4), 1033-1043.
- Campbell, F., Pungello, E., Miller-Johnson, S., Burchinal, M., & Ramey, C. (2001). The development of cognitive and academic abilities: Growth curves from an early childhood educational experiment. *Developmental Psychology*, 37(2), 231-242.
- Campbell, F., & Ramey, C. (1994). Effects of early intervention on intellectual and academic achievement: A follow-up study of children from low-income families. *Child Development*, 65, 684-698.
- Campbell, F., Ramey, C., Pungello, E., Sparling, J., & Miller-Johnson, S. (2002). Early childhood education: Young adult outcomes from the Abecedarian Project. *Applied Developmental Science*, 6(1), 42-57.
- Center for the Study of Child Care Employment University of California, Berkeley. (2016). *Early Childhood Workforce Index 2016*. Retrieved from <http://csce.berkeley.edu/files/2016/Index-2016-Maryland.pdf>
- Center on the Developing Child at Harvard University. (2007). *Early Childhood Program Effectiveness* (InBrief). Cambridge, MA: The President and Fellows of Harvard College. Retrieved from: <http://developingchild.harvard.edu/resources/inbrief-early-childhood-program-effectiveness/>
- Coalition for Evidence-Based Policy. (2015). *Social programs that work: Perry Preschool Project*. Retrieved from: <http://evidencebasedprograms.org/1366-2/65-2>
- Cohen, S., Janicki-Deverts, D., Chen, E., & Matthews, K. A. (2010). Childhood socioeconomic status and adult health. *Annals of the New York Academy of Sciences*, 1186, 37-55.
- Connolly, F., & Olson, L. S. (2012). *Early elementary performance and attendance in Baltimore City schools' pre-kindergarten and kindergarten*. Baltimore, MD: Baltimore Education Research Consortium.
- Connolly, F., Grigg, J., Cronister, C., & D'Souza, S. (2015). *Born in Baltimore*. Baltimore, MD: Baltimore Education Research Consortium.
- Denham, S. A. (2006) Social-emotional competence as support for school readiness: What is it and how do we assess it? *Early Education and Development*, 17(1), 57-89.
- Department of Legislative Services. (2016). *Maryland's Child Care Subsidy Program*. Presentation to the Joint Committee on Children, Youth and Families, October 2016.
- Fantuzzo, J., Bulotsky-Shearer, R., McDermott, P. A., McWayne, C., Frye, D., & Perlman, S. (2007). Investigation of dimensions of social-emotional classroom behavior and school readiness for low-income urban preschool children. *School Psychology Review*, 36(1), 44-62.
- FPG Child Development Institute, University of North Carolina. (nd). *The Carolina Abecedarian Project*. Retrieved from <http://abc.fpg.unc.edu/groundbreaking-follow-studies>.
- Grigg, J., Connolly, F., D'Souza, S., & Mitchell, C. (2016, March). *Kindergarten attendance and readiness for Baltimore's class of 2027*. Baltimore, MD: Baltimore Education Research Consortium. Retrieved from: http://baltimore-berc.org/wp-content/uploads/2016/03/EEDC_KRAandAttendanceMarch2016.pdf
- Gould, E. (2015, November). Child care workers aren't paid enough to make ends meet, Issue Brief #405. Washington, DC: Economic Policy Institute. Retrieved from: <http://www.epi.org/files/2015/child-care-workers-final.pdf>
- Grunewald, R., & Rolnick, A. (2005). *A proposal for achieving high returns on early childhood development*. Minneapolis, MN: Federal Reserve Bank of Minneapolis.

- Harburger, D.S., McNear, D., Acuña, R., Nadiv, S., Greeno, E., Uretsky, M., & Zabel, M. (2014). *Baltimore City's Investments in Children and Families: A Review of Outcomes, Best Practices, and Financing for Baltimore's Promise*. Baltimore, MD: University of Maryland School of Social Work, The Institute for Innovation & Implementation.
- Heckman, J. J. (2012). *Invest in early childhood development: Reduce deficits and strengthen the economy, the Heckman Equation*. Retrieved from: <http://www.heckmanequation.org/content/resource/reduce-deficits-and-strengtheneconomy-invest-early-childhood-development>
- Institute for a Competitive Workforce (2011, February). *Why businesses should support early childhood education*. U.S. Chamber of Commerce. Retrieved from: http://www.smartbeginnings.org/Portals/5/PDFs/Research/ICW_EarlyChildhoodReport_2010.pdf
- Karoly, L., & Bigelow, J. (2005). *The economics of investing in universal preschool education in California*. RAND Corporation.
- Loeb, S., Bridges, M., Bassok, D., Fuller, B., & Rumberger, R. (2007). How much is too much? The influence of preschool centers on children's social and cognitive development. *Economics of Education Review*, 26(1), 52-66.
- Magnuson, K. A., Ruhm, C., & Waldfogel, J. (2007). Does prekindergarten improve school preparation and performance? *Economics of Education Review*, 26(1), 33-51.
- Maryland EXCELS. (2014). *Maryland EXCELS check for quality early childhood and school-age programs: Guidebook for family, center-based, and school-age programs*. Baltimore, MD: Maryland State Department of Education. Retrieved from: <http://marylandexcels.org/>
- Maryland Family Network. (2016a). *Child Care Demographics Maryland Report*. Baltimore, MD: Maryland Family Network, Inc. Retrieved from: <http://www.marylandfamilynetwork.org/wp-content/uploads/2015/01/Maryland-1.pdf>
- Maryland Family Network. (2016b). *Public Policy Handbook 2016-2017*. Retrieved from <http://www.marylandfamilynetwork.org/wp-content/uploads/2014/09/MFN-Public-Policy-Handbook-2016.pdf>
- Maryland State Board of Education (2016, December). Report of Developing a Master Plan on Professional Development for Teachers and Providers of Early Childhood Education. Baltimore, MD: Maryland State Board of Education.
- Maryland State Department of Education (2015, May). *Readiness Matters!: The 2015-2016 Kindergarten Readiness Assessment Report*. Baltimore, MD: Maryland State Department of Education. Retrieved from: <http://www.readyatfive.org/>
- Maryland State Department of Education. (2016). *Child Care Subsidy Program*. Presentation to the Joint Committee on Children, Youth and Families, October 2016.
- Masse, L., & Barnett, S. (2002). *A benefit-cost analysis of the Abecedarian Early Childhood Intervention*. New Brunswick, NJ: National Institute for Early Education Research (NIEER). Retrieved from: <http://nieer.org/resources/research/AbecedarianStudy.pdf>
- McNear, D. (2015). Unpublished notes to Baltimore's Promise on early childhood compensation and parity. Provided by Baltimore's Promise.
- McNear, D. (2016). *Cradle-to-Career Investments in Baltimore City*. Baltimore, MD: Baltimore's Promise.
- Office of Child Care - Credentialing Branch. (2016). *The Maryland Child Care Credential Program*. Baltimore, MD: Maryland State Department of Education. Retrieved from: <http://earlychildhood.marylandpublicschools.org/system/files/filedepot/3/msdeiichildcare090215.pdf>
- Reynolds, A., Temple, J., Robertson, D., & Mann, E. (2001, June). *Age 21 cost-benefit analysis of the Title I Chicago Child-Parent Center Program: Executive Summary*. Retrieved from: <http://www.waisman.wisc.edu/clscbaexecsum4.html>
- Rice University Center for Education. (2012). *School literacy and culture: Chicago Child Parent Center*. Houston, TX: Rice University. Retrieved from: <http://centerforeducation.rice.edu/slc/LS/CCPC.html>
- Rothenberg, L., Goldhagen, S., Harbin, V., & Forry, N. (2013, July). Maryland child care choices study: Child care decision-making process and child care choices among applicants for temporary cash assistance. *Child Trends Publication # 2013-28*. Retrieved from: <http://www.childtrends.org/wp-content/uploads/2013/07/2013-28ChildCareChoicesDecisionMaking.pdf>
- Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M. (2005). *Lifetime effects: The High/Scope Perry Preschool Study through age 40*. Ypsilanti, MI: High/Scope Press.
- Shonkoff, J. (2009). *The Science of Early Childhood Development and the Foundations of Prosperity*. Presented at the Pennsylvania Business Leader Summit on Early Childhood Investment, Harrisburg, PA.

Shonkoff, J. P., & Phillips, D. A. (Eds.) (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: National Academy Press.

U.S. Department of Education. (n.d.). *Definitions*. Retrieved from: <http://www.ed.gov/early-learning/elc-draft-summary/definitions>

U.S. Census Bureau. (2014). *2010-2014 American Community Survey 5-Year Estimate*. Retrieved from <http://factfinder.census.gov>.

Votruba-Drzal, E., Coley, R.L., Maldonado-Carreño, C., Li-Grining, C., & Chase-Lansdale, P.L. (2010). Child care and the development of behavior problems among economically disadvantaged children in middle childhood. *Child Development, 81*(5), 1460-1475. doi:10.1111/j.1467-8624.2010.01485.x

Workman, S., Palaich, R., & Wool, S. (2016, January). *A comprehensive analysis of pre-kindergarten in Maryland*. Denver, CO: Augenblick, Palaich & Associates.

Yoshikawa, H., Weiland, C., Brooks-Gunn, J., Burchinal, M., Espinosa, L. M., Gormley, W. T., et al. (2013). *Investing in our future: The evidence base on preschool education*. New York, NY: Foundation for Child Development



APPENDICES

Appendix 1: Additional Key Resources

A Comprehensive Analysis of Prekindergarten in Maryland

Prepared for Maryland State Department of Education

By Simon Workman, Bob Palaich, and Sarah Wool, APA Consulting

<http://apaconsulting.net/wp-content/uploads/2016/01/MD-PreK-1.13.16-FINAL.pdf>

Adequacy Study: Final Draft Report

Prepared by APA Consulting for the Maryland State Department of Education

<http://apaconsulting.net/wp-content/uploads/2016/01/MD-PreK-1.13.16-FINAL.pdf>

The 2015-2016 Kindergarten Readiness Assessment Report

Maryland State Department of Education

http://earlychildhood.marylandpublicschools.org/system/files/filedepot/4/kindergarten_readiness_assessment_final_report_2015-16.pdf

Public Policy Handbook 2016-2017

Maryland Family Network

<http://www.marylandfamilynetwork.org/wp-content/uploads/2014/09/MFN-Public-Policy-Handbook-2016.pdf>

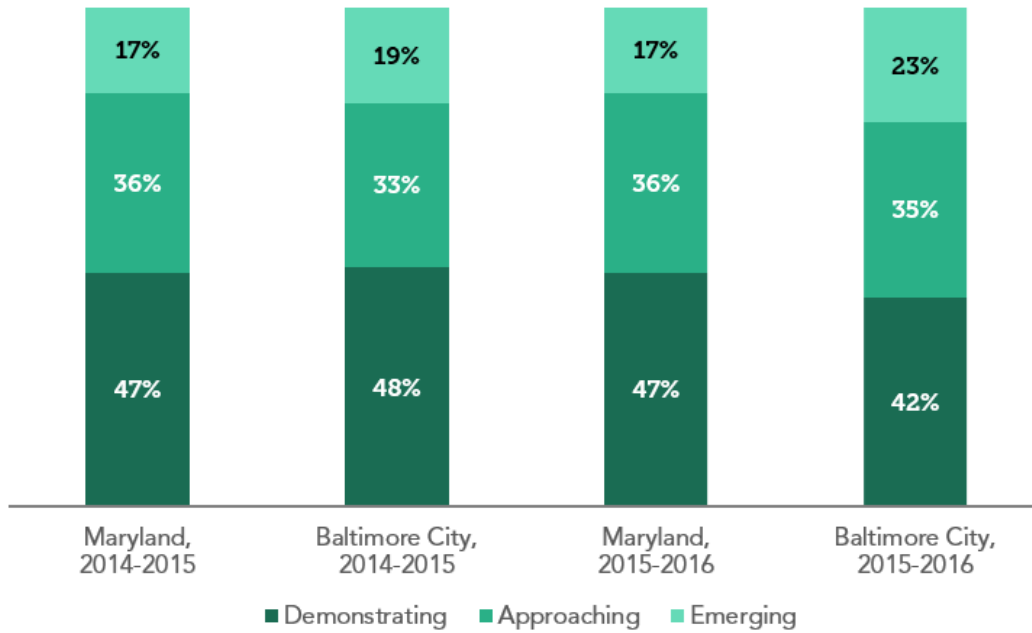
Appendix 2

Kindergarten Readiness Assessment—Additional Detail

All data is excerpted from The Maryland State Department of Education's *2015-2016 Kindergarten Readiness Assessment Report*

Kindergarten Readiness Assessment (KRA) Results, 2014-15 & 2015-16

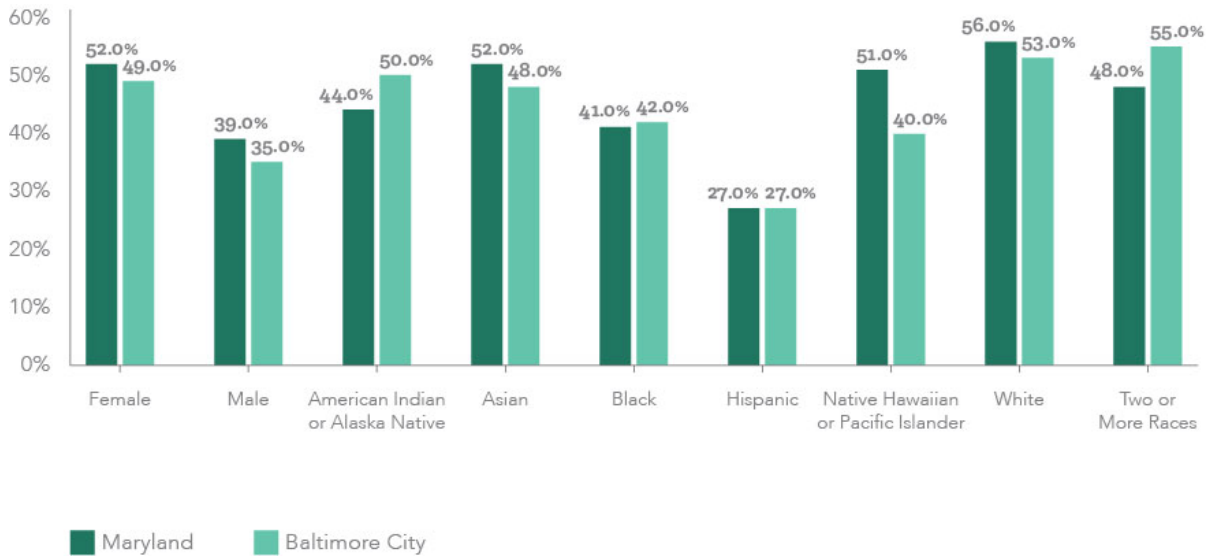
(Baltimore City & Maryland)



Source: MSDE (2015). *Readiness Matters: Kindergarten Readiness Assessment Report, 2015-2016*.

2015-16 KRA Results by Race/Ethnicity

(Baltimore City & Maryland)



Source: MSDE (2015). *Readiness Matters: Kindergarten Readiness Assessment Report, 2015-2016*.

2015-16 Percent of Students Demonstrating Readiness by Prior Care Setting

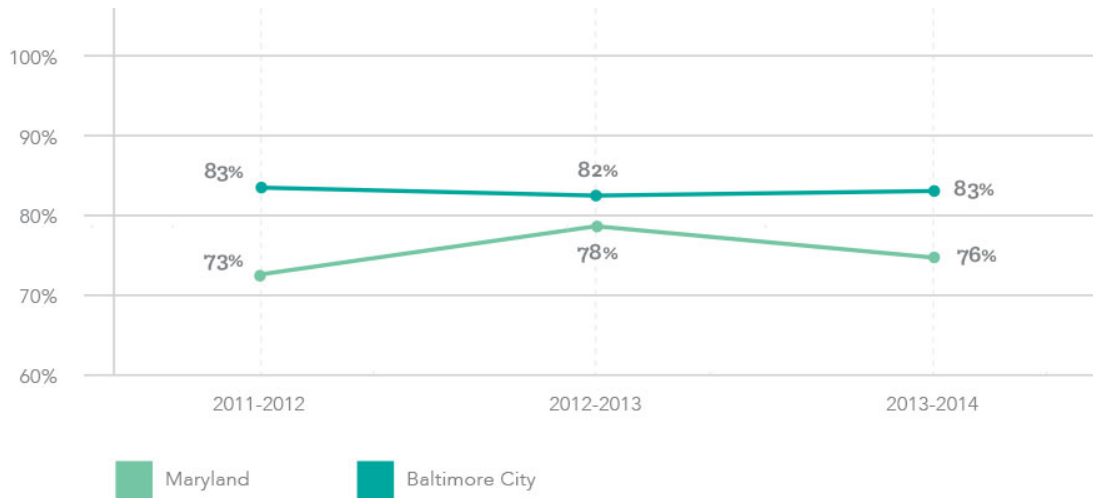
(Baltimore City & Maryland)



Source: MSDE (2015). *Readiness Matters: Kindergarten Readiness Assessment Report, 2015-2016*.

2011-2014 MMSR: Assessment Results

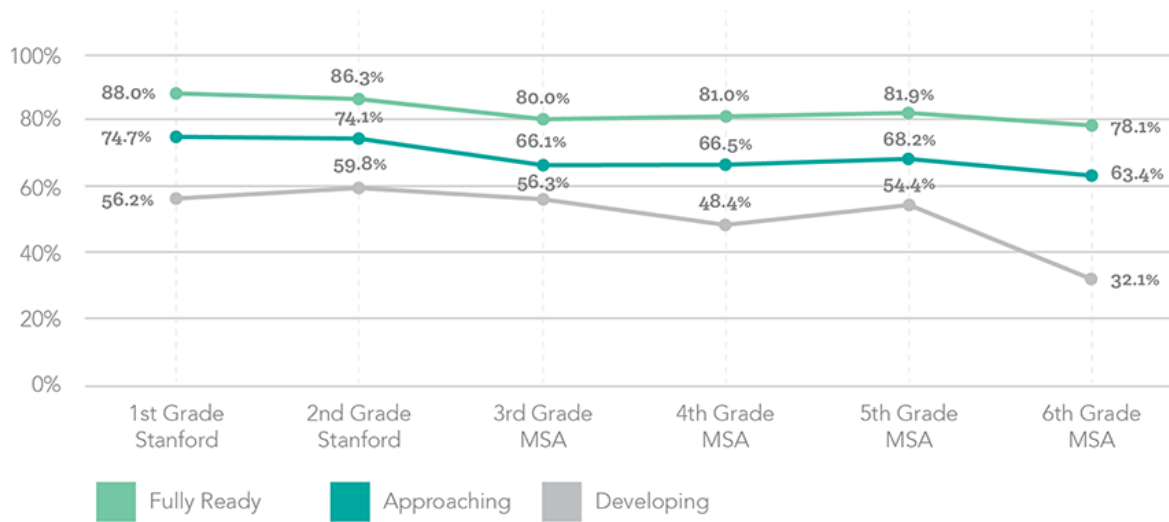
(Baltimore City & Maryland)



Source: BCPS (2014). MMSR FY 2013-2014 Results Presentation.

Reading Performance for Students who Started Kindergarten in 2007*

(First through Sixth Grade)

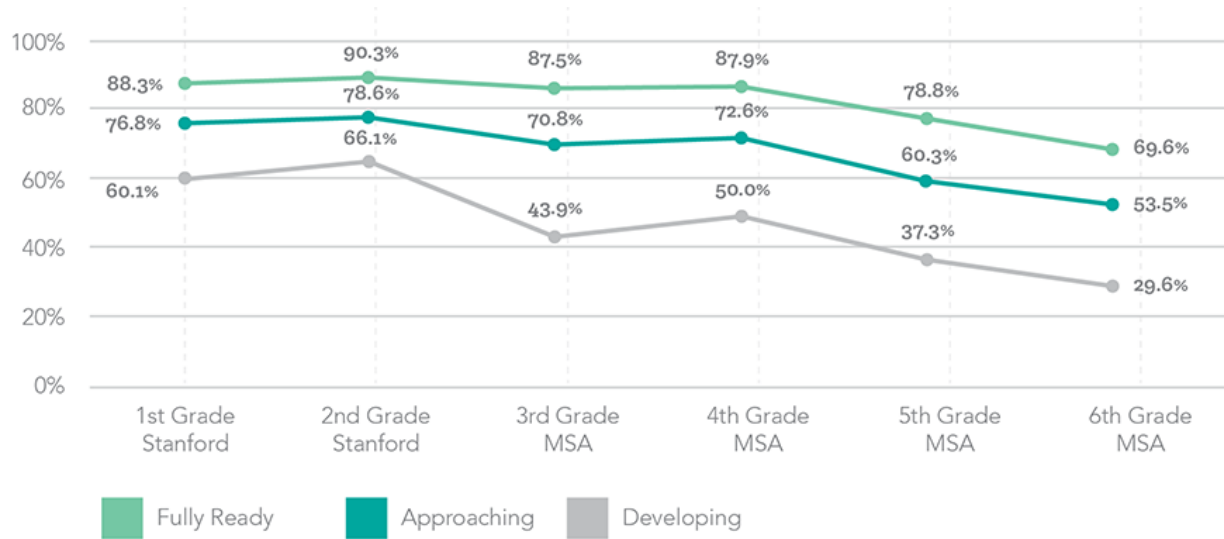


*Gauge readiness based on MMSR assessment

Source: BCPS (2014). MMSR FY 2013-2014 Results Presentation.

Math Performance for Students who Started Kindergarten in 2007*

(First through Sixth Grade)



*Gauge readiness based on MMSR assessment

Source: BCPS (2014). MMSR FY 2013-2014 Results Presentation.