



READINESS MATTERS

Equity Matters

The 2017-2018 Kindergarten Readiness Assessment Report, January 2018



The 2017-2018 Kindergarten Readiness Assessment Report data indicate some successes to celebrate, but it also points to where more work must be done. As the data show, there are many school readiness challenges that must be addressed head-on if we are to close the achievement gap.

The Maryland State Department of Education is taking proactive measures to focus on research-based strategies that work: supporting the expansion of Prekindergarten, enhancing teacher and program quality, developing instructional and assessment resources for districts and child care programs, improving access to first-rate early education opportunities in all early education settings, and strengthening family engagement.

I hope you will join me in moving forward to help all students achieve and thrive, regardless of socioeconomic status, gender, ethnic background, immigration status, English proficiency, disability, or family background.

KAREN B. SALMON, PH.D., STATE SUPERINTENDENT OF SCHOOLS



Readiness Matters

Our brains develop over time, beginning before birth and continuing into adulthood. The years from birth to age five are the most crucial period of brain development in a child's life. In fact, during these early years, more than 1 million new neural connections are formed every second in response to the stimulation a child receives.

We know from decades of research that children who enter kindergarten not demonstrating the socialemotional, cognitive, and physical skills needed for success will continue to struggle academically throughout their school years. The early experiences lay the groundwork for a child's lifelong success.

Equity Matters

Maryland is charged with providing an equitable education and ensuring that personal or social circumstances – such as immigration status, ethnic background, socioeconomic status, English proficiency, or disability – are not barriers or obstacles to academic success.¹ Equity is achieved when all students have the resources they need, such as exceptional teachers or high-quality early childhood programming, to thrive and be successful.² Unfortunately, children from disadvantaged environments are the least likely to get the supports they need.³

Investing in educational equity, the research shows, yields academic gains and significant returns on investments. The highest rate of return comes from investing as early as possible. For example, high-quality birth-to-five programs for disadvantaged children can deliver a 13% per year return on investment. These economically significant returns are realized through better outcomes, including increased school and career achievement, more high school graduates, reduced costs of remedial education, lower health and criminal justice expenditures, and higher adult employment and incomes.⁴

Among Maryland's youngest children, many face significant barriers to academic success: 43% of kindergarteners live in low-income households, 16% are English learners, and 8% have identified disabilities. When these factors, among others, are not addressed, the result may be insufficient school readiness. For example, 31% of kindergarteners from low-income households, as indicated by Free and Reduced-priced Meals (FaRMs) or Direct-Certified status, demonstrate kindergarten readiness, compared with 56% of children from mid- to high-income households.

The readiness disparities indicate that Maryland's communities, early education programs, and schools are grappling with the challenges associated with educational equity. The stakes are high and our progress is not sufficient. We must do more to ensure that all of our State's 367,000 young children under age 5 have access to and receive the resources needed for success in school and life. Investments in educational equity pay for themselves many times over.

Patte Barth, "Educational Equity. What Does It Mean? How Do We Know When We Reach It?" (Center for Public Education, January 2016).
 "Race for Results: Building a Path to Opportunity for All Children," 2017 Policy Report, Kids Count (The Annie E. Casey Foundation, 2017).
 James J. Heckman, "Invest in early childhood development: Reduce deficits, strengthen the economy" (The Heckman Equation, n.d.).
 James J. Heckman, "There's more to gain by taking a comprehensive approach to early childhood development" (The Heckman Equation, 2016).

MARYLAND'S KINDERGARTEN READINESS ASSESSMENT

Assessments Matter

READY FOR KINDERGARTEN

Ready for Kindergarten (R4K) is Maryland's comprehensive early childhood assessment system.

R4K aligns with the State's rigorous PreK-12 College and Career-Ready Standards and articulates what we expect young children to know and do upon kindergarten entry in order to be on the path toward academic success. R4K has two components:

1. The Early Learning Assessment (ELA) measures the progress of learning in young children, 36 to 72 months (3 to 6 years), across nine levels in seven domains. The ELA allows early educators, teachers, and families to look at a child's knowledge, skills, and behavior and to create individualized learning opportunities and plan interventions, if needed, to ensure that each child is making progress in his or her learning. This assessment can be administered in child care programs, Head Start programs, public PreK, and kindergarten classrooms. This is a voluntary formative assessment available at no cost for all Maryland programs.

2. The Kindergarten Readiness Assessment (KRA) is a developmentally appropriate assessment tool that measures the school readiness of incoming public-school kindergarteners across four learning domains. Administered by kindergarten teachers at the start of each school year, the KRA looks at the knowledge, skills, and behaviors necessary to be successful in kindergarten. Kindergarten teachers use this information to better understand the needs of their students and align classroom instruction. The results give teachers the information they need to provide individualized learning and appropriate supports for individual students, as well as promote better communication with families about their child's strengths and needs.

ABOUT THE KRA

Maryland is one of more than 40 states using Kindergarten Readiness Assessments (KRA) to measure children's readiness to do kindergarten work. The KRA is a developmentally appropriate observational and assessment tool that relies on performance tasks and observations of children's work and play to measure specific skills and determine what each entering kindergartener knows and is able to do across four domains: social foundations, language & literacy, mathematics, and physical well-being & motor development. It measures the knowledge, skills, and behaviors that children bring with them to school and should be able to demonstrate at the start of kindergarten.

A child assessed with the KRA is identified as:

- **Demonstrating Readiness** a child demonstrates the foundational skills and behaviors that prepare him/her for curriculum based on the kindergarten standards.
- **Approaching Readiness** a child exhibits some of the foundational skills and behaviors that prepare him/her for curriculum based on the kindergarten standards.
- Emerging Readiness a child displays minimal foundational skills and behaviors that prepare him/her for curriculum based on the kindergarten standards.

The compiled statewide and jurisdictional KRA data released annually by the Maryland State Department of Education (MSDE) indicate overall kindergarten readiness, as well as readiness levels in each domain and by specific subgroups, including: gender, race/ ethnicity, disability status, English proficiency status, Free and Reduced-price Meals status, and prior care setting. Every child assessed with the KRA receives an Individual Student Report (ISR), which describes for family members the child's skills, abilities, and kindergarten readiness and provides suggestions for what families can do at home to improve school success.

AN INVALUABLE TOOL

The data is an invaluable source of information and insight for kindergarten teachers, early educators, school administrators, legislators, business leaders, families, and other stakeholders for continuing to strengthen the school readiness of Maryland's young children.

Schools use the KRA data to meet the needs of incoming students, guide professional development opportunities for teachers, inform strategic planning, target resources and supports, and successfully help children make the transition from early education settings to kindergarten classrooms. Community, jurisdictional, and statelevel stakeholders rely on the KRA data to make well-informed programmatic, policy, and funding decisions. Local boards of education and individual schools choose to administer the KRA in one of the following ways:

- **Census Administration.** Administering the KRA to all incoming kindergarteners, assessing each student's knowledge, skills, and abilities.
- **Representative Sample Administration.** Administering the KRA to an identified sample of students in each classroom to ensure an accurate representation of the kindergarten population.

The administration type dictates how teachers, families, early childhood professionals, schools, community leaders, and policy makers can use the KRA data. The table below provides more detailed information.

Recognizing the benefits of assessing all entering kindergarteners, half of Maryland's jurisdictions (12) chose to conduct a census administration, up from 8 jurisdictions last year.

For the 12 jurisdictions that elected to administer the KRA to a sample of students, MSDE determined the minimum sample size (i.e. number of students to assess) per jurisdiction to ensure the accuracy and reliability of the data. Five of these jurisdictions (Charles, Frederick, Howard, Montgomery, and Prince George's Counties) assessed additional cohorts of kindergarteners, including students from Title I and/or Judy Center schools, to better identify the individual needs of students with significant academic risk factors.

Unfortunately, jurisdictions using a sample administration method are not reaping all the benefits of the KRA. These jurisdictions do not have the critical baseline academic information for every child enrolled, severely limiting teachers' knowledge about each child in their classroom and increasing the risk that the learning needs of students are not being met. Moreover, only families of children assessed by the KRA receive an ISR. As a result, not all families are aware of their children's readiness levels and what can be done at home to support their child's learning. The table to the right lists the KRA administration type and sample size for each jurisdiction.



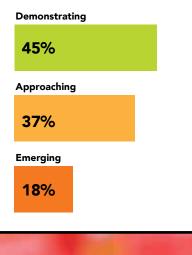
KRA ADMINISTRATION TYPE BY JURISDICTION

CENSUS ADMINISTRATION (100% ASSESSED)	SAMPLE ADMINISTRATION (SAMPLE SIZE)	
Allegany	Anne Arundel (22%)	
Baltimore City	Baltimore County (20%)	
Caroline	Calvert (26%)	
Dorchester	Carroll (32%)	
Garrett	Cecil (30%)	
Kent	Charles (20%)	
Queen Anne's	Frederick (30%)	
Somerset	Harford (30%)	
Talbot	Howard (31%)	
Washington	Montgomery (12%)	
Wicomico	Prince George's (12%)	
Worcester	St. Mary's (32%)	

How can the KRA data be used?	CENSUS ADMINISTRATION	SAMPLE ADMINISTRATION
To Benefit Students: identifies the individual learning needs of every student and determines necessary supports to help each child succeed.	✓	
To Support Classroom Instruction: enables teachers to monitor each student's progress and mastery of kindergarten standards, as well as differentiate instruction to address learning gaps and individual student needs.	✓	
To Inform Families: provides all families with an Individual Student Report (ISR), which gives information about their child's skills, abilities, and development.	✓	
To Offer Early Childhood Programs Feedback: indicates how well-prepared their children are for kindergarten and reveals areas where prior care instructional practices need to be modified to better promote kindergarten readiness.	1	1
To Advise Community Leaders & Policy Makers: offers rich information about kindergarten readiness and promotes well-informed programmatic, policy, and funding decisions.	1	1

THE STATE OF SCHOOL READINESS IN MARYLAND⁵

Maryland Kindergarten Readiness



45%

READINESS

63,151 KINDERGARTENERS

35% KINDERGARTENERS ASSESSED

Progress, but more work to do

At the start of the 2017-2018 school year, more than 63,000 children entered Maryland's kindergarten classrooms, and teachers used the KRA tool to assess 35% of kindergarteners.

This percent represents the total number of kindergarteners assessed in local school systems, including systems administering the KRA to all children and those systems administering it by random sample.

The KRA 2017-2018 data show:

- 45% of Maryland's kindergarteners demonstrate readiness, entering kindergarten classrooms fully prepared to participate in the kindergarten curriculum.
- Maryland experienced a 2-point increase in readiness levels from last year when 43% of kindergarteners demonstrated readiness.
- The majority of kindergarteners (approximately 35,000 children) do not demonstrate the knowledge, skills, and behaviors needed to succeed in school: 37% are "approaching" and 18% are "emerging" readiness. The children identified as emerging readiness are the most vulnerable and display minimal foundational skills, often requiring differentiated instruction, targeted supports or interventions to be successful in kindergarten.

While many jurisdictions have shown increases in school readiness, others – especially those with large numbers of kindergarteners – show stagnant or declining numbers of children demonstrating readiness. Additional work needs to be done if we expect all children to enter kindergarten with the necessary knowledge, skills, and behaviors that will enable them to succeed in school and in life.

⁵ Maryland State Department of Education. KRA data is based on the number of children assessed for reporting (35% of kindergarteners). Totals may not equal 100% due to rounding.

DOMAIN READINESS DOMAIN READI

Ensuring a strong start for the future

The KRA looks at children's readiness in four domains: social foundations, language & literacy, mathematics, and physical wellbeing and motor development. These are the key areas of child development and learning that are recognized as essential for school and long-term success. The table on page 9 provides sample skills and knowledge for each domain, as indicated by the Common Language Standards.

Language & literacy is critical to overall school readiness. Children's oral language skills and early literacy development serve as the foundation for later reading abilities and comprehending more complicated text in later years. It is well documented that children with low language and literacy skills are at risk for poor outcomes as they progress through school.

Children who are proficient in mathematics have critical-thinking skills and are primed for academic success. Early math achievement can affect a child's interest and confidence in the subject during elementary and middle school, and strongly predicts future math success.⁶ Demonstrating readiness in mathematics makes students more likely to attend and complete college, giving them the higher-level technical skills that our nation needs to maintain a thriving modern economy.⁷

Despite Maryland's focus on language & literacy and early mathematics, readiness in these cognitive domains remains flat or declined since last year. For example, in the 2016-2017 and 2017-2018 school years, 40% of kindergarteners demonstrate language & literacy readiness. In mathematics, 37% demonstrate readiness in 2017-2018, down from 38% in 2016-2017.

⁶ G.M. Mulligan, J.C. McCarroll, K.D. Flanagan, and D. Potter, *Finding from the Third-Grade Round of Early Childhood Longitudinal Study, Kindergarten Class of 2010-2011* (U.S. Department of Education, National Center for Education Statistics, May 2016).

⁷ "Race for Results: Building a Path to Opportunity for All Children" (The Annie E. Casey Foundation, 2017).

⁸ Enrico Gnaulati, "Girls succeed over boys in school and they are more apt to plan ahead, set academic goals, and put effort into achieving those goals." (*The Atlantic*, September 2014).
⁹ Emma García, "The Need to Address Noncognitive Skills in the Education Policy Agenda" (The Economic Policy Institute. December 2. 2014). Success in school is not just academic. Children who do well in a typical 21st century kindergarten class are those who demonstrate strong readiness in the social foundations (social-emotional, approaches to learning , and executive functioning) domain – specifically, exhibiting self-regulation and self-control, taking turns, paying attention, and listening to and following instructions.⁸ Maryland's investment in the Social & Emotional Foundations for Early Learning (SEFEL) framework, which has been implemented in a variety of different child care settings, as well as home visiting and child welfare programs, has started to yield readiness improvements: 54% of kindergarteners demonstrate readiness in the social foundations domain, up from 53% in 2016-2017. Slight progress was also seen in the physical well-being & motor development domain: 56% demonstrate readiness, up from 55% last year.

Multiple studies identifying the interdependence between cognitive and non-cognitive skills indicate that we may fail to boost cognitive skills unless we pay closer attention to non-cognitive skills.

In other words, focusing on social and emotional skills may actually further improve reading, writing, and mathematics performance.[°]



School success depends on a child's readiness in multiple domains of learning.

SOCIAL FOUNDATIONS



LANGUAGE & LITERACY



MATHEMATICS



Expressing, understanding, and responding to feelings (emotions) of self and others; following routines and multi-step directions; sharing materials and equipment with other children; or demonstrating the ability to delay gratification for short periods of time.

SAMPLE KNOWLEDGE & SKILLS FOR EACH DOMAIN

Listening; asking and answering questions; identifying, blending, and segmenting syllables in spoken words; recognizing rhyming words; speaking or expressing thoughts, feelings, and ideas clearly; participating in conversations with adults and peers; printing letters of own name; or describing persons, animals, places, events, actions, etc.

Counting to 20; naming written numerals and pairing them with concrete objects; sorting multiple groups by one attribute; comparing and describing two objects with a measurable attribute; ordering objects by measurable attributes; matching similar shapes; or naming different two-dimensional shapes.

Using large muscles to perform a variety of physical skills (e.g., running, hopping, jumping) and demonstrating these skills with control, coordination, and balance; identifying and following basic safety rules; independently completing personal care tasks; using classroom and household tools independently with eye-hand coordination to carry out activities (e.g. using a three-finger grasp of dominant hand to hold a writing tool).

JURISDICTIONAL READINESS

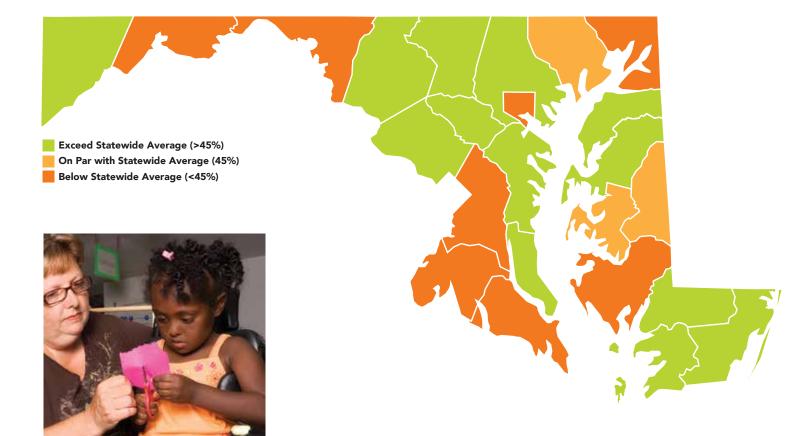
High poverty jurisdictions show lower readiness

The KRA 2017-2018 data show:

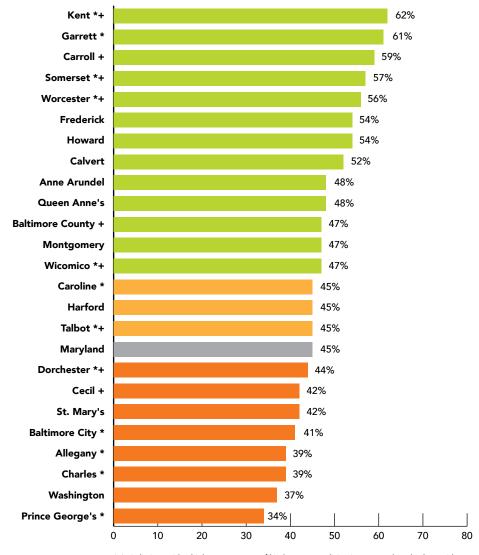
- 13 of Maryland's 24 jurisdictions exceed the statewide average (>45% demonstrate readiness), including Anne Arundel, Baltimore, Calvert, Carroll, Frederick, Garrett, Howard, Kent, Montgomery, Queen Anne's, Somerset, Wicomico, and Worcester Counties.
- 3 jurisdictions Caroline, Harford, and Talbot Counties meet the statewide average. Dorchester County is within 1 point of the statewide average.
- 9 jurisdictions experienced exceptional one-year gains of 15% or more in the percentage of kindergarteners demonstrating readiness (Baltimore County, Carroll, Cecil, Dorchester, Kent, Somerset, Talbot, Wicomico, and Worcester).
- 8 jurisdictions show readiness levels below the statewide average. Of note:
 - Over 22,500 children (36% of all of Maryland's kindergarteners) reside in 1 of these 8 jurisdictions.
 - More than 14,000 children living in these 8 jurisdictions require targeted or considerable support to do kindergarten work.
 - 5 of the 8 jurisdictions have a higher percentage of kindergarteners living in poverty than the Statewide average (> 43% of kindergarteners receiving FaRMs).

5 of the 8

jurisdictions with lower than average readiness levels have a higher percentage of kindergarteners living in poverty.



Demonstrate Kindergarten Readiness by Jurisdiction



* Jurisdictions with a higher percentage of kindergarteners living in poverty than the Statewide average (43% of kindergarteners receiving FaRMs).

+ Jurisdictions with one-year readiness gains of 15% or higher.

GENDER READINESS

Gender gap favors females

The 2017-2018 KRA data show that girls were more likely than boys to demonstrate readiness in all domains:

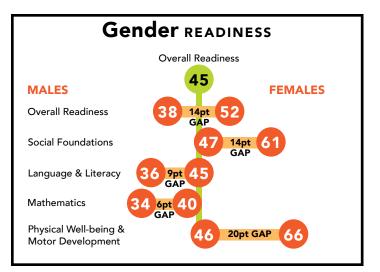
- 52% of female kindergarteners demonstrate readiness, compared with 38% of males.
- Girls perform 9 points higher in language & literacy and 6 points higher in mathematics.
- In the other areas, males areas, males score 14 points lower in the social foundations and 20 points lower in physical well-being and motor development.

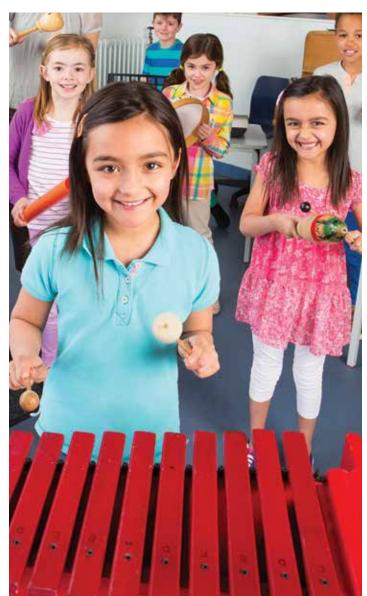
Children's developmental trajectories are shaped by dynamic and interacting factors such as maturation, early experience, and brain development.¹⁰ Maturity appears to contribute greatly to this historical gender gap. The impact of maturity is evident in the 14-point readiness gap in the social foundations domain. Recent studies discovered that boys were a whole year behind girls in all areas of self-regulation. By the end of kindergarten, boys were just beginning to acquire the self-regulatory skills with which girls had started the year. This self-discipline edge for girls carries into middle-school and beyond and contributes greatly to their better grades across all subjects.¹¹

New research indicates that this may be a function of brain development. Young girls' brains develop earlier and have more connections across the two hemispheres of the brain than those of boys. Researchers believe that this makes girls' brains work more efficiently, and therefore, reach a more mature state for processing the environment at an earlier age.¹²

There is also evidence that the gaps may be due to early experiences with gender stereotypes that are regularly reinforced in conscious and subconscious ways by parents, caregivers, and teachers. Boys and girls often receive social cues on the subjects and interests that they should pursue.

Early childhood educators need to further encourage participation and give more positive reinforcement for boys and girls in activities that strengthen readiness skills across all domains.





¹⁰ M.M. McClelland, C.E. Cameron, R. Duncan, R.P. Bowles, A.C. Acock, A. Miao, and M.E. Pratt, "Predictors of early growth in academic achievement: the head-toes-knees-shoulders task," (*Frontiers in Psychology*, June 17, 2014).

¹¹ Gnaulati.

¹² Alex Sifferlin, "Why Girls' Brains Mature Faster than Boys' Brains" (Time, December 19, 2013).

RACE/ETHNICITY

DEMOGRAPHICS & READINESS

Readiness gaps exist for Maryland's children of color

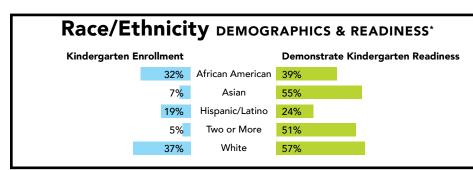
Of the more than 63,000 kindergarteners, 63% are children of color; the majority are of African American ethnic background (32%). Hispanic children comprise 19% of the kindergarten population and are the fastest-growing minority group – a 79% ten-year increase.

Children of color are more likely to live in poverty or in communities where families are at risk for adverse experiences, such as housing insecurity, increased crime, insufficient employment opportunities, or lack of affordable, high-quality, early childhood programs. As a result, African American and Hispanic children face some of the largest readiness gaps. The 2017-2018 KRA data indicate:

- 39% of African American kindergarteners demonstrate readiness, compared with 57% of white kindergarteners.
- 24% of Hispanic kindergarteners demonstrate readiness, resulting in a 33-point achievement gap between Hispanic children and white children.

The disparities in school readiness exist for African American and Hispanic kindergarteners across all domains:

- Fewer African American children demonstrate readiness in language & literacy (37%) and mathematics (30%) than their white peers (51% language & literacy and 49% mathematics).
- Similar readiness disparities can be seen in the other domains: 49% of African American children demonstrate readiness in social foundations, compared with 61% of white children, and 52% of African American children demonstrate readiness in physical well-being and motor development compared with 62% of white children.
- Among Hispanic children, 19% demonstrate readiness in language & literacy and mathematics; this represents a 32-point language & literacy and a 30-point mathematics readiness gap between Hispanic children and white children.
- In the other domains, Hispanic children also have lower readiness levels: 42% demonstrate readiness in social foundations and 45% demonstrate readiness in physical well-being and motor development. As a result, there is a 19-point and a 17-point readiness gap, respectively, between Hispanic children and white children.



* Readiness and demographic information for students of American Indian (0.3% of Maryland's kindergarten enrollment) and Native Hawaiian/Pacific Islander (0.2%) ethnic backgrounds are not reported due to limited sample size.



Disparities in school readiness exist for African American and Hispanic kindergarteners across all domains.

S U B G R O U P

DEMOGRAPHICS & READINESS

Children from low-income households start school at a disadvantage

In 2017-2018, more than 27,000 Maryland kindergarteners (43%) receive Free and Reduced-Priced Meals (FaRMs),¹³ meaning that their families' incomes were at or below 185% of the Federal Poverty Line (\$24,000 for a family of 4).¹⁴ This represents a 25% increase in the last ten years.

Living in poverty has been shown to be particularly challenging to children's educational and other life outcomes.¹⁵ Poverty is one of the greatest threats to a child's cognitive development, healthy growth, and ability to learn.

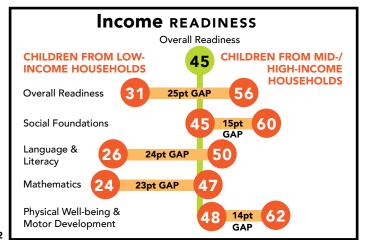
Young children living in poverty are much less likely to demonstrate kindergarten readiness than children living above the poverty threshold: 31% of kindergarteners from low-income households demonstrate readiness, compared with 56% of children from mid- to high-income households. This represents a 25-point readiness gap along income lines.

Young children from low-income households are less likely to demonstrate readiness in language & literacy and mathematics than their mid- to high-income peers:

- While 26% of kindergarteners from low-income households demonstrate readiness in language & literacy, 50% of those living above poverty do so.
- A 23-point mathematics readiness gap exists between kindergarteners from low-income households and their mid- to high-income peers.

It is estimated that half of the disparities between poor and affluent children are evident by age 2,

before most kids ever get to preschool, and these gaps are likely to continue throughout their education unless high-quality instructional supports aimed at addressing the readiness needs of children from low-income households are provided.^{16 17}





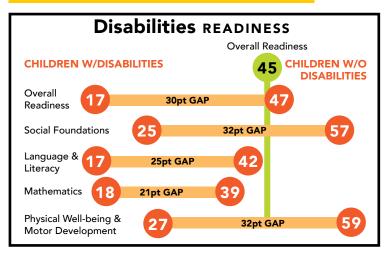
Fewer kindergarteners with identified disabilities demonstrate readiness

In Maryland, 5,348 kindergarteners (8%) have identified disabilities and receive special education and related services through an Individualized Education Program (IEP).

Among kindergarteners with identified disabilities, 17% demonstrate readiness, compared with 47% of their peers without a disability. Children with disabilities perform closest to their nondisabled peers in mathematics and language & literacy (a 21-point readiness gap and a 25-point gap, respectively) and farthest behind in physical development and social foundations (32-point readiness gaps).

Providing inclusive learning opportunities across all early childhood settings prior to kindergarten entry supports meaningful access to regular early childhood curricula that, along with specialized instruction, improves outcomes for children with disabilities and narrows the school readiness gap prior to kindergarten entry. Inclusion is now a recognized evidence-based practice that results in benefits not only for children with disabilities, but also for their nondisabled peers. In Maryland, 2,452 four-year-olds with IEPs received their services in inclusive early childhood programs, and 962 four-year-olds with IEPs were served in separate classes.

To meaningfully participate, children with identified disabilities may need additional services and supports – some specialized and individualized. Services may be provided through early intervention, preschool special education or by an early care and education provider. Regardless of how the services and supports are provided, federal and state law requires that children with disabilities receive any necessary services and supports in their natural environments – a setting that is natural or typical for their same age peers without disabilities. All early childhood programs should be inclusive, high quality and accessible to young children with disabilities and their families.





English proficiency impacts school readiness

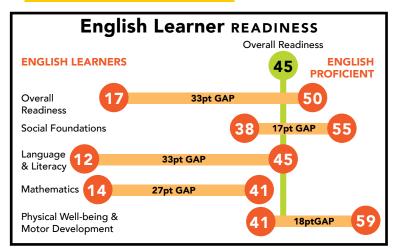
English Learner is a term commonly used to refer to students who are learning English in addition to their home language(s). The term dual language learner (DLL) is used to describe children who range in age from birth through five years old and who are learning two or more languages. The title of DLL acknowledges that very young children are still actively developing their home language(s) along with English.

English Learners (ELs) and DLLs may have lived in the United States for differing amounts of time and are at varying stages of developing listening, speaking, reading, and writing skills in their home language(s) as well as in English. Acquiring multiple languages is a developmental process and the rate and means of language acquisition may vary among DLLs and their languages.

Currently, Maryland is among the top 25 states with the largest proportions of ELs in the United States.¹⁸ Twenty-eight percent (28%) of Maryland's children under 5 have at least one parent or guardian who speaks a language other than English at home.¹⁹ The majority were born in the United States (85%) and speak Spanish (51%),²⁰ but over 184 different languages are spoken in Maryland's public schools. ELs comprise 16% of Maryland's kindergarten population; the jurisdictions with the highest percentages of ELs are Montgomery and Prince George's Counties (31% and 29% of kindergarteners, respectively).

ELs represent one of the fastest growing segments of public school enrollment. Maryland's EL kindergarten enrollment increased by 60% between 2007 and 2017. The growth in EL population is most evident in Calvert and Charles Counties, which saw the largest oneyear and ten-year gains.

The increase in the numbers of English learners can pose challenges for a jurisdiction, but it can also represent opportunities.



Being able to understand and interact using two or more languages is an asset. Research demonstrates that dual language experiences improve cognitive abilities, especially problemsolving. When the home language is supported while children learn the English language, they do better in school. Students who become fully fluent in multiple languages generally perform better academically than either fluent monolingual students or students who are not fully proficient in more than one language.²¹ Therefore, the continued use of the home language and meaningful interactions through high-quality programs are key to overall language development of ELs.

Nationally, there is a lack of state-supported preschool for ELs. In fact, just five programs in four states require teachers to have any special qualifications preparing them for the challenges of educating ELs.²² Maryland is among the 32 states reporting a shortage in teachers for ELs.²³

While there are clear benefits of being bilingual, the 2017-2018 gaps in readiness among ELs are troubling. Among ELs:

- 17% demonstrate the foundational skills and behaviors that are essential for kindergarten success, compared with 50% of English proficient kindergarteners. This represents a 33-point achievement gap between ELs and their English proficient peers.
- ELs tend to lag behind their English proficient peers in reading and mathematics: 12% of ELs demonstrate readiness in language & literacy, compared with 45% of English proficient kindergarteners; 14% in mathematics vs. 41%.

Because the KRA is not given in the student's home language, the knowledge and skills of ELs may not be fully captured. However, we should attend to the gaps that are exposed. ELs who start school behind their peers are typically unable to catch up. Research shows that English language abilities in kindergarten predict academic achievement trajectories through eighth grade.²⁴ Maryland's National Assessment of Educational Progress (NAEP) – often referred to as "The Nation's Report Card" – scores reflect the continuing disparity: in fourth grade mathematics, an 18-point gap exists between ELs and non-English learners, and a 20-point gap exists in reading.²⁵

- ¹³ This report uses FaRMs status as a proxy for low-income households. Children receiving free or reduced-priced meals meet United States Department of Agriculture (USDA) guidelines for family size and income. Several Maryland jurisdictions, as well as select schools, participate in USDA/FNS's Community Eligibility Provision (CEP) program, providing breakfast and lunch at no cost to all enrolled students without the burden of collecting household applications. This can result in a decreased ability to accurately report family income.
- ¹⁴ Maryland Poverty Profiles, 2016 (Maryland Alliance for the Poor, 2016).
- ¹⁵ "Early School Readiness: Indicators on Children and Youth Well-Being" (ChildTrends Data Bank, July 2015).
- ¹⁶ Ibid.
- ¹⁷ Claudio Sanchez, "Pre-K: Decades Worth of Studies, One Strong Message" (NPRED, May 3, 2017).
- ¹⁸ Angélica Montoya Ávila, "Trends in Maryland Public Schools: English Language Learner Enrollment" (The Maryland Equity Project, March 2017).

- ¹⁹ Margie McHugh, "Dual Language Learners and Their Families: National and Maryland Perspectives" (National Center on Immigrant Integration Policy, December 2015).
- ²⁰ Claudio Sanchez, "English Language Learners: How Your State is Doing" (NPRED, February 23, 2017).
- ²¹ Sarah D Sparks, "Teaching English-Language Learners: What Does the Research Tell Us?" (*Education Week*, May 11, 2016).
- ²² W.S. Barnett, A.H. Friedman-Krass, G.G. Weisenfeld, M. Horowitz, R. Kasmin, R., and J.H. Squires, "The State of Preschool 2016: State Preschool Year Book" (National Institute for Early Education Research, 2017).
- ²³ Sanchez.
- ²⁴ Carol Scheffener Hammer, et al. "The Language & Literacy Development of Young Dual Language Learners: A Critical Review" (*Early Childhood Research Quarterly*, 29.4, 2014).
 ²⁵ McHugh.

PRIOR CARE

EXPERIENCES & READINESS

Benefits of early education are clear

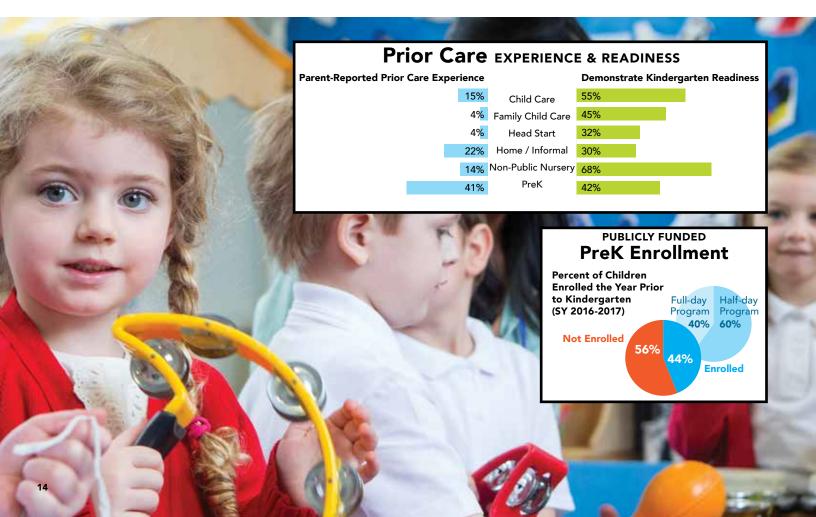
At kindergarten registration, parents indicate their child's primary prior care setting (the 12 months prior to starting school) as one of the following:

- Head Start. A federal pre-school program for 2- to 5-year-olds from low-income families; funded by the US Department of Health and Human Services and licensed by MSDE and/or local boards of education.
- **Prekindergarten (PreK).** Public school prekindergarten education for four-year-old children administered by local boards of education and regulated by MSDE.
- Child Care Center. Care provided to children in the absence of the parent in a facility for part or all of the day; centers are licensed by MSDE.
- Family Child Care. Regulated care given to a child in place of parental care in a residence other than the child's home and for which the provider is paid; care is regulated by MSDE.

- Non-Public Nursery School. Pre-school programs (part-day or full-day) with an education focus for 3- and 4-year olds; approved or exempted by MSDE.
- Home/Informal Care. Care by parent(s) or a relative.

The parent-reported data show:

- 78% of this year's kindergarteners attended a formal early learning setting the year prior to starting school. This is lower than the national average for pre-primary program enrollment (87%).^{26 27}
- The majority of kindergarteners (41%) were enrolled in public PreK.
- Nearly 13,000 children did not have any formal education experience before they entered a kindergarten classroom (22% of children were at home or received informal care the year prior to kindergarten).





Children's school readiness – their skills and abilities – are influenced by the quality of the environments in which they learn before entering school. The KRA data confirm that kindergarteners enrolled in formal early learning settings – regardless of setting – outperform their peers who were at home or in informal care the year prior to kindergarten: 46% of kindergarteners with formal prior experiences demonstrate readiness, compared with 30% who were at home or in informal care.

We know that high-quality early childhood education programs promote school readiness. The quality of an early care and education program is tied to the ability of a program to create an environment that welcomes all children and provides appropriate services and supports for each child. Maryland's early learning centers of distinction known as Judy Centers are examples of high-quality programming. Located in Title 1 school districts, Judy Centers work collaboratively with elementary schools to offer comprehensive, year-round services for children from birth to age 6. In 2016-2017, Judy Centers served a total of 4,620 four-year-old children.

Children may attend a half-day or full school-day (or longer with wraparound services) early learning program. Some children spend the year prior to kindergarten in multiple settings. The amount of time a child spends per day in early learning, as well as the consistency of attendance, are also highly correlated with school readiness. A study by the Annie E. Casey Foundation links chronic absenteeism with an increased likelihood of poor academic performance, disengagement from school, and behavioral problems.²⁸ The National Center for Children in Poverty reports that chronic absenteeism among kindergarteners is associated with substantially lower academic performance, especially among Hispanic/Latino children.²⁹

³⁰ Barnett et al.

PreK makes a difference

Maryland recognizes the benefits of high-quality, prekindergarten (PreK) programs and has made strategic investments to improve access to eligible students and expand availability of its public programs. In an effort to improve educational equity, Maryland enacted the Prekindergarten Expansion Act in 2014, increasing access to full-day public PreK for 4-year-olds from families with household incomes at or below 300% of the Federal poverty level. That same year, Maryland was also awarded a Preschool Development Grant of \$15 million per year through fiscal year 2017. Since 2001-2002, Maryland experienced an 11% growth in the number of four-year-olds served in state-sponsored PreK programs. Last year, Maryland ranked 13 out of 44 states in the percent of children enrolled in PreK.³⁰

In 2016-2017, Maryland's publicly funded PreK programs served 31,900 children, including 3,923 three-year-olds and 27,977 four- and five-year-olds. Publicly funded PreK refers to programs serving children in public school PreK classrooms, as well as those serving children in community-based PreK classrooms funded through the Preschool Development Grants program. In fact, 3% of kindergarteners participated in publicly funded PreK programs at a child care setting.

Based on this enrollment data, approximately 44% of all 2017-2018 kindergarteners attended publicly funded PreK programs. Eleven jurisdictions served more than 50% of their 4-year-old population through publicly funded PreK, and 2 jurisdictions (Kent and Somerset Counties) have universal access to PreK.

Forty percent (40%) of children who were enrolled in publicly funded PreK attend full-day programs, receiving, on average, three more hours of instruction per day than children in half-day programs. Twenty-two jurisdictions offered a full-day option for some or all PreK children. Four jurisdictions (Baltimore City, Kent, Garrett, and Somerset) only offer full-day PreK programs.

The KRA data confirm that public PreK makes a difference. Children who attended PreK the year prior to kindergarten (as indicated by parents) are better prepared for school than kindergarteners at home or informal care the year prior to starting kindergarten (42% demonstrate readiness, compared with 30%). Moreover, children from low-income families and English learners often make the most gains when exposed to publicly funded PreK programs. Children who are English learners, for example, show relatively large benefits from PreK education — both in their English-language proficiency and in other academic skills.³¹

While half-day programs make a difference, full-day programs have a bigger impact. For example, Garrett and Kent Counties – the two jurisdictions with the highest percentage of students who demonstrate readiness – have large majorities of children enrolled in PreK. Kent offers full-day programming to every student attending PreK.

²⁶ J. McFarland, B. Hussar, C. de Brey, T. Snyder, X. Wang, S. Wilkinson-Flicker, S. Gebrekristos, J. Zhang, A. Rathbun, A. Barmer, F. Bullock Mann, and S. Hinz. (2017). The Condition of Education 2017 (U.S. Department of Education, National Center for Education Statistics, 2017).

²⁷ Barnett et al.

²⁸ "Present, Engaged and Accounted For: The Importance of Addressing Chronic Absence in the Early Grades" (The Annie E. Casey Foundation and the National Center for Children in Poverty, 2008).

²⁹ Mariajosé Romero and Young-Sun Lee, "A National Portrait of Chronic Absenteeism in the Early Grades" (National Center for Children in Poverty, October 2007).

³¹ "The Current State of Scientific Knowledge on Pre-Kindergarten Effects" (The Pre-Kindergarten Task Force, 2017).

Substantial inequities exist throughout Maryland and are impacting the school readiness of our youngest children, as well as their subsequent academic and life-long success. Most experts agree that improving equity would result in better educational outcomes and reduce or eliminate the achievement gaps.

ADDRESSING INEQUITIES

UCCESS VITHIN Funding is key. An equitable distribution of education dollars would take into account the extra costs involved in districts with high proportions of low-income students or students with special needs such as disabilities or English learners.³²

In June 2016, Maryland's General Assembly formed the Commission on Innovation and Excellence in Education (or the "Kirwan Commission") to review and assess the State's current education financing formulas and accountability measures. In September 2017, a workgroup, formed by the State legislature to study universal access to prekindergarten, recommended to the Kirwan Commission that universal, high-quality, full-day prekindergarten be accessible to all four-year-old children through a mixeddelivery system of schools and community-based providers. The Commission, which will present its formal recommendations to the Governor and the Maryland General Assembly in 2018, is considering key actions that will dramatically improve access to high-quality childhood programming/prekindergarten for all 4-yearolds and low-income 3-year-olds.

"Universal PreK" or "PreK for All" is an essential first step and an important part of the puzzle. But it cannot be our only mechanism for addressing educational equity and the gaps in school readiness. The solution must be multi-faceted:

- Use of the KRA Data. The KRA data is a valuable source of information and insight into our readiness challenges. Early educators, kindergarten teachers, schools, legislators, business leaders, and other community leaders must continue to use the data to drive readiness policy, funding priorities, program improvements, classroom instruction, and individual student learning by examining the answers to these guiding questions:
 - What does the data show? Do our kindergarteners demonstrate school readiness?
 - In which domain(s) do they need more support?
 - How do children from low-income households fare? Minority children? English learners? Children with identified disabilities? Children experiencing homelessness, in foster care, or from immigrant families?
 - What strategies can we use to address the achievement gaps?
 - What are we doing in our early childhood programs to support healthy children, or their families, to ensure that children enter school ready to succeed?
 - What more can we do to achieve educational equity? What actions need to be taken?

Inherent in the use of the data is the need to assess all kindergarteners. Randomized samples severely limit teachers' knowledge of and ability to meet the needs of individual students, and only the families and caregivers of the children sampled are provided with the information they need to support their children at home. Without an accurate baseline for every child in Maryland, we cannot achieve "school readiness for all."

- Focus on the most vulnerable. The 2017-2018 KRA data confirm the need to address our relative lack of readiness among Maryland children—especially children from low-income households, children with disabilities, English learners, and children without PreK experience.
- Demand quality. There is near universal consensus that highquality, early education programs have positive impacts and translate into measurable improvements in language, math, and social skills through second grade. One estimate shows replacing a poor-quality caregiver with an excellent one would improve a child's school readiness by 50%.³³ And a recent study on Head Start shows that Head Start and other high-quality programs can give children from low-income households lasting benefits.³⁴ Affordable, high-quality early education programs that are nationally and state accredited and have highly certified and wellcompensated staff are essential. Children need a solid foundation well before they enroll in PreK.
- Incorporate culturally & linguistically competent practices. Maryland must capitalize on the benefits associated with being bilingual and determine how to best serve this rapidly growing population. It is also crucial to analyze how English learners are distributed across schools in order to allocate the kinds of resources they need and avoid racial or ethnic segregation.³⁵ We must also recognize and celebrate the cultures represented by our immigrant children and respect the diverse families of our state.
- Address the disconnect. In many schools, there is a disconnect between PreK and elementary education. Rather than building on the skills that children gain in PreK, researchers have found lots of redundancy; kindergarten and first-grade teachers often repeat what is taught in PreK.³⁶ Coordinated professional learning and agreements between the early elementary grades and early education programs foster smooth transitions and better outcomes for children.
- Engage & empower families. Parents and caregivers are the first and primary influence on their children's development and learning. Children whose parents and caregivers are engaged and involved tend to have fewer behavioral problems and better academic performance, and are more likely to complete high school than students whose parents and caregivers are not involved in their school.³⁷ Early childhood educators should engage parents and caregivers as active partners in achieving school success.
- Keep school readiness a top priority. This is the most critical time in a child's life, and all stakeholders must be poised to take action if we want our students to succeed academically and compete in the workforce and the global economy.

³² Barthe

³³ Karen Bogenschneider and Carol Johnson, "Family Involvement in Education: How Important Is It? What Can Legislators Do? (Policy Institute for Family Impact Seminars, University of Wisconsin-Madison, University Extension, 2004).

³⁴ Andrew Barr and Chloe R. Gibbs, "Breaking the Cycle? Generational Effects of an Anti-Poverty Program in Early Childhood" (August 2017).

³⁵ Ávila.

³⁶ Sanchez.

³⁷ "Parental Involvement in Schools: Indicators of Child and Youth Well-being" (ChildTrends Data Bank, September 2013).

Statewide and jurisdictional KRA data at-a-glance

The following pages highlight kindergarten readiness results for each of Maryland's 24 jurisdictions. Jurisdictional pages feature graphs and callouts of the KRA data that can be easily read and quickly understood.

JURISDICTIONAL INFORMATION

BLUE (CENSUS) or **RED (SAMPLE)** box highlights:

- Percent demonstrating readiness.
- Total number of students enrolled in kindergarten.
- Percent assessed by the KRA; a Sample Administration was used if the percent indicated is less than 100%.

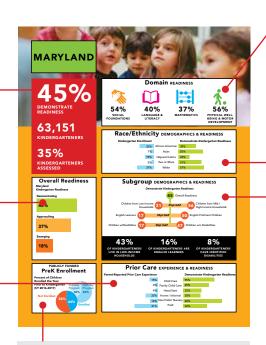
OVERALL READINESS BAR GRAPH

GREEN indicates the percent of kindergarteners demonstrating readiness — those students fully prepared to do kindergarten work.

ABOUT PRIOR CARE

At school registration, parents indicate the primary setting their child was in the year prior to kindergarten:

- HEAD START. A federal pre-school program for 2- to 5-year-olds from low-income families; funded by the US Department of Health and Human Services and licensed by MSDE and/or local boards of education.
- PREKINDERGARTEN (PREK). Public school prekindergarten education for four-year old children administered by local boards of education and regulated by MSDE.
- CHILD CARE CENTER. Care provided to children in the absence of the parent in a facility for part or all of the day; centers are licensed by MSDE.
- FAMILY CHILD CARE. Regulated care given to a child in place of parental care in a residence other than the child's home and for which the provider is paid; care is regulated by MSDE.
- NON-PUBLIC NURSERY SCHOOL. Preschool programs (part-day or full-day) with an education focus for 3- and 4-year olds; approved or exempted by MSDE.
- HOME/INFORMAL CARE. Care by parent(s) or a relative.



ABOUT PUBLICLY FUNDED PREK ENROLLMENT

Publicly funded PreK refers to programs serving children in public school PreK classrooms, as well as those serving children in community-based PreK classrooms funded through the Preschool Development Grants program. The pie charts show:

- Percent of current kindergarteners (School Year 2017-2018) who were enrolled in publicly funded PreK in 2016-2017, as estimated using MSDE enrollment data.
- Percent of PreK students enrolled in publicly funded programs who attended half-day and full-day programs.

DOMAINS

The KRA looks at children's readiness in four domains. These are the key areas that are recognized as essential for school and longterm success.

BACK-TO-BACK BAR GRAPHS Show:

- **BLUE** for kindergarten enrollment
- **GREEN** for demonstrating readiness

Stakeholders can quickly compare readiness levels and calculate achievement gaps, as well as the total students, across each group.

SUBGROUP GRAPHS

Highlight readiness levels of and gaps between each subgroup.

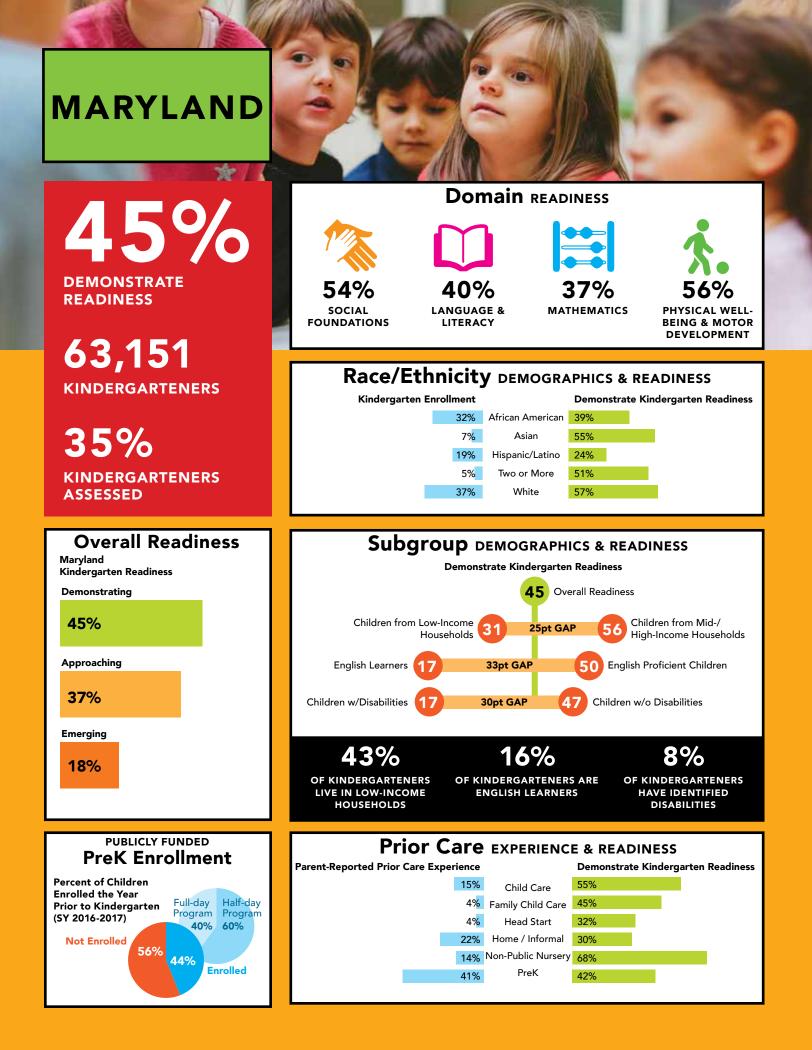
ABOUT SUBGROUPS

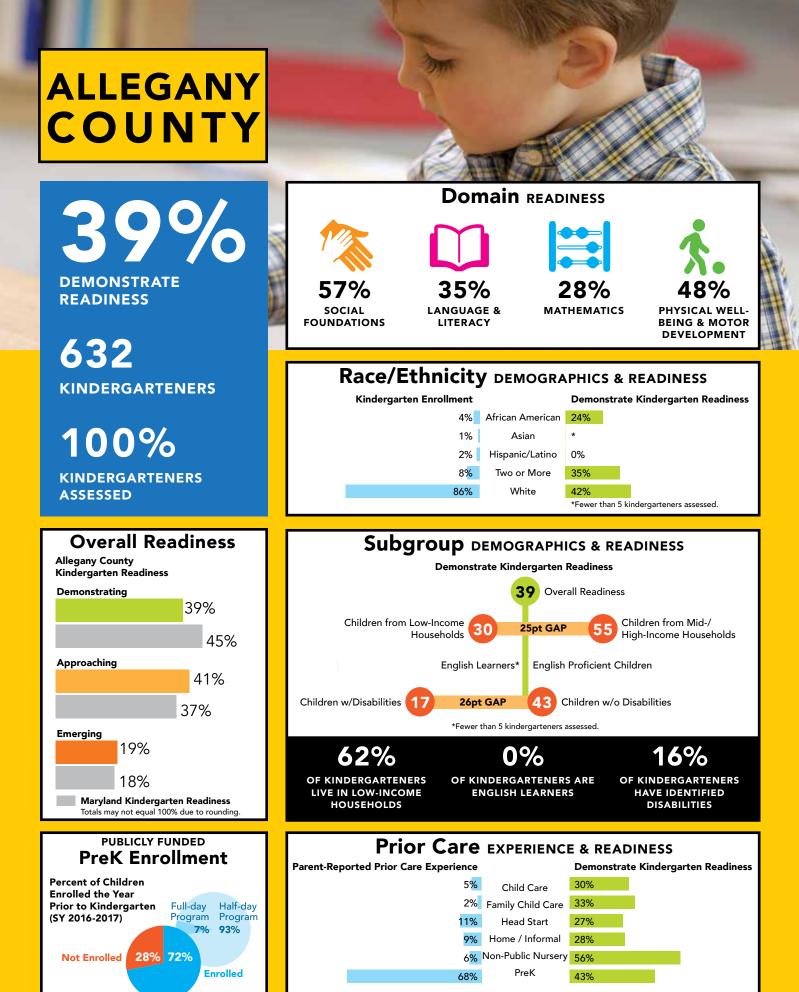
The percent of kindergarteners in each subgroup is listed. Subgroups are defined as:

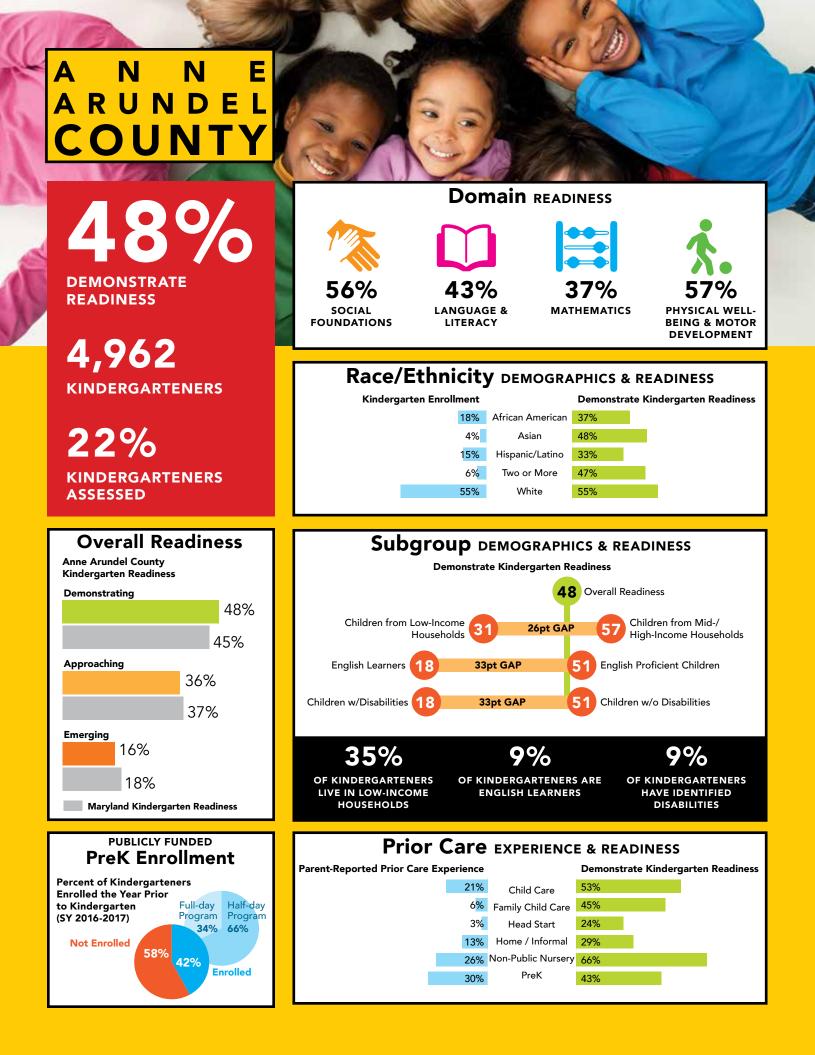
- LOW-INCOME STUDENTS: kindergarteners who receive Free- and Reduced-Priced Meals (FaRMs).
- ENGLISH LEARNERS: kindergarteners who are learning English in addition to their home language(s).
- CHILDREN WITH DISABILITIES: kindergarteners who receive special education services through an Individualized Education Plan (IEP).

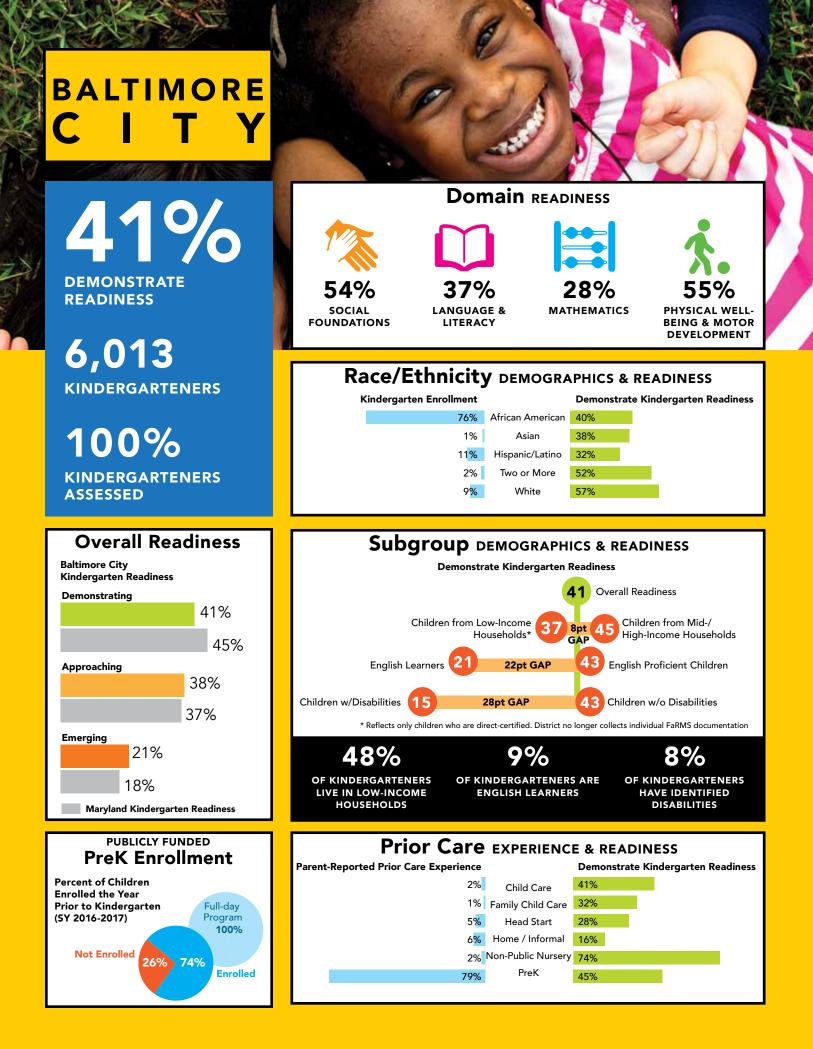
LEARN MORE

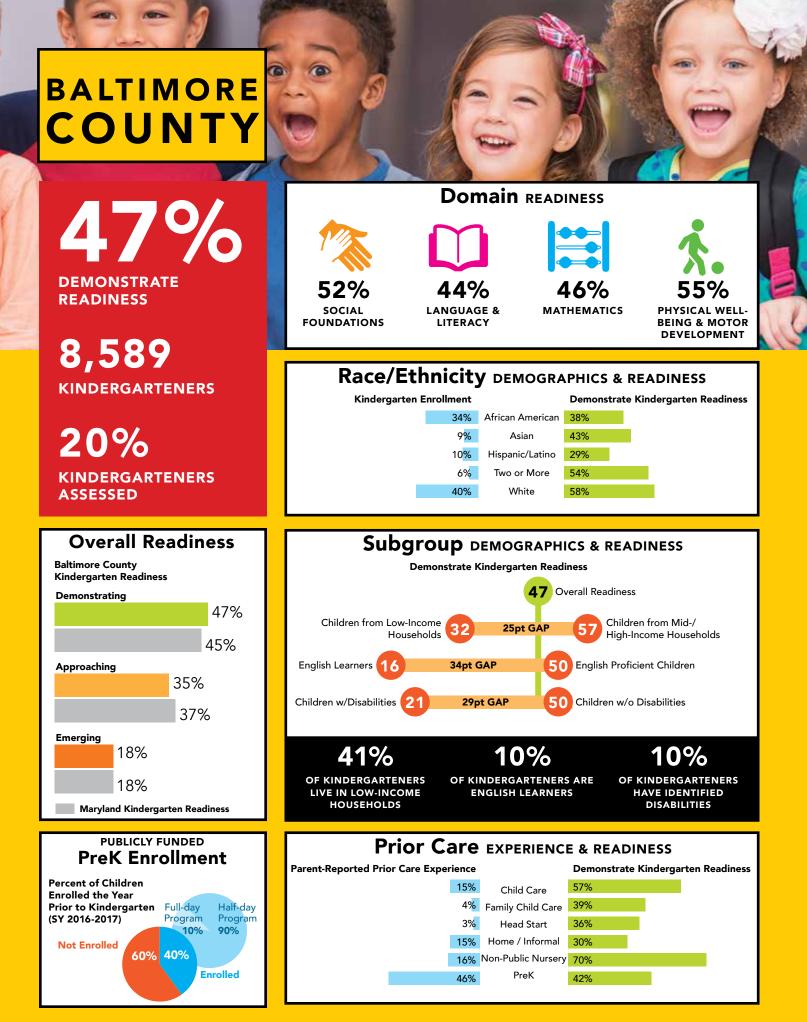
Additional data, including customized jurisdictional issue briefs, PowerPoint presentations, parent resources, a technical report, and an electronic version of this publication are available at www.readyatfive.org.

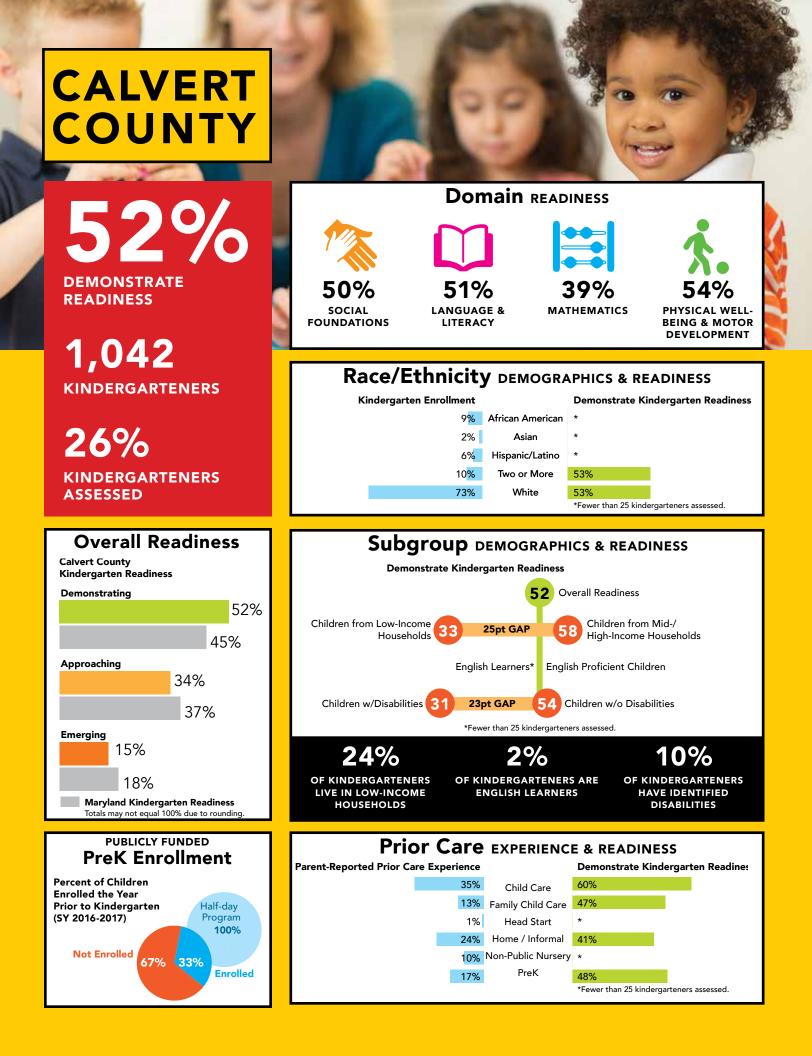


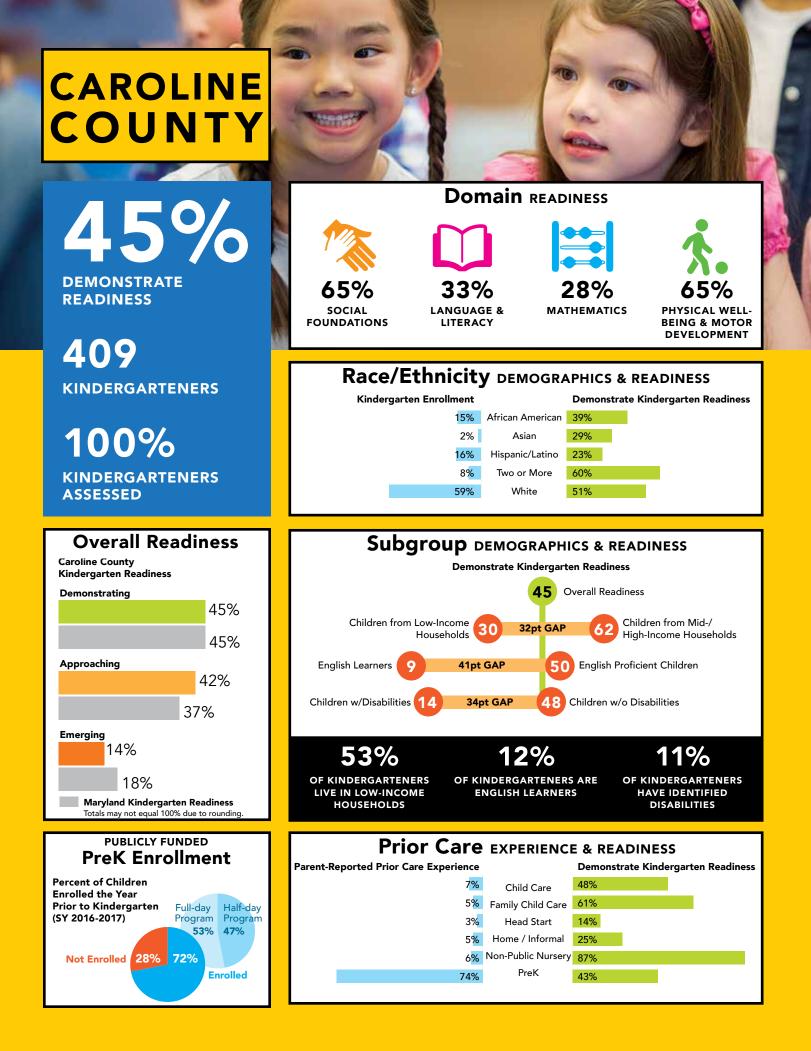




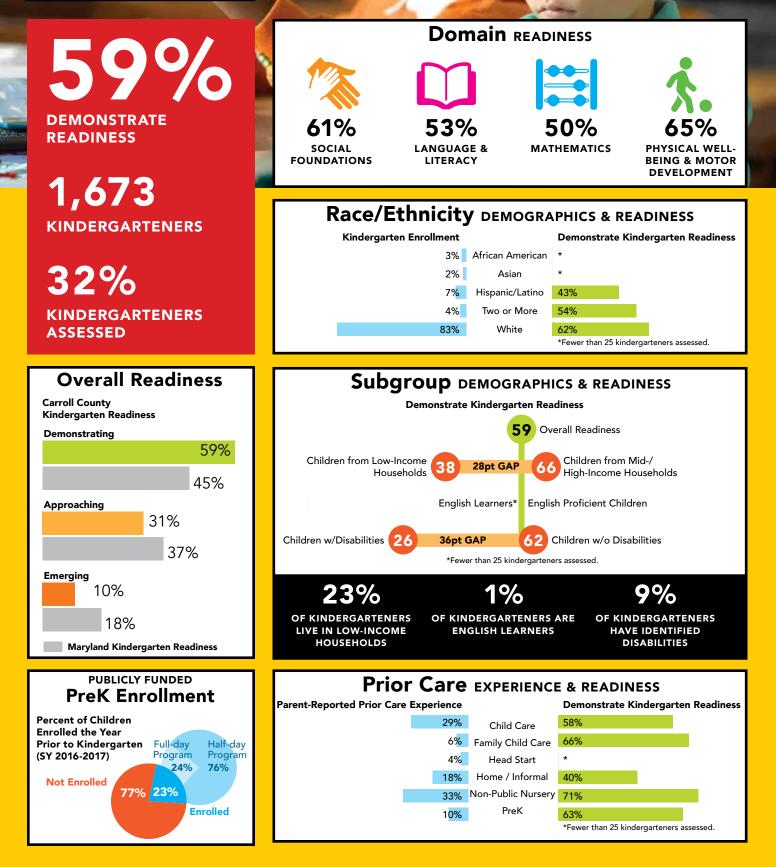


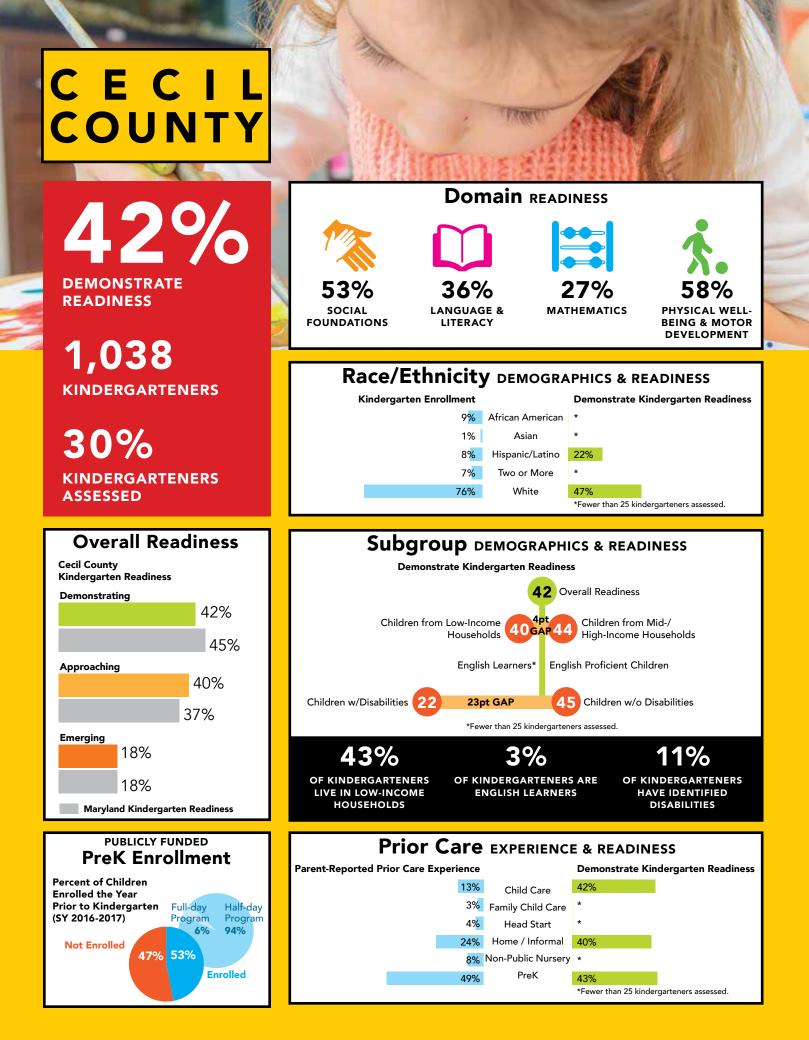


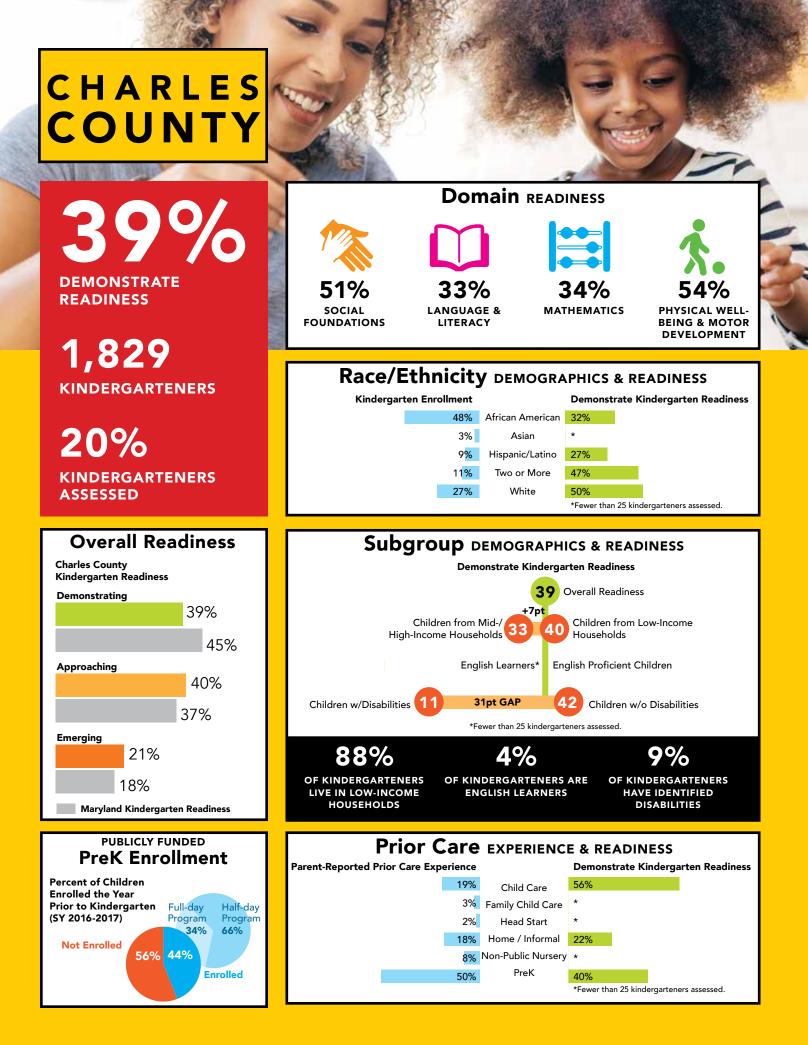


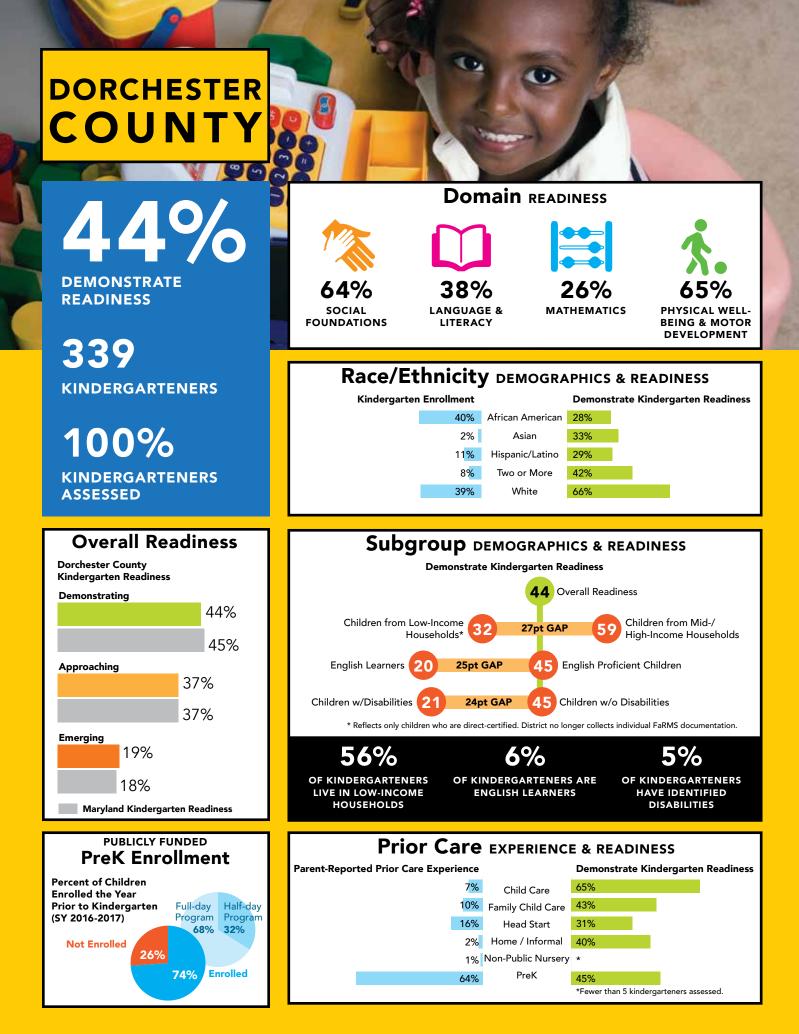


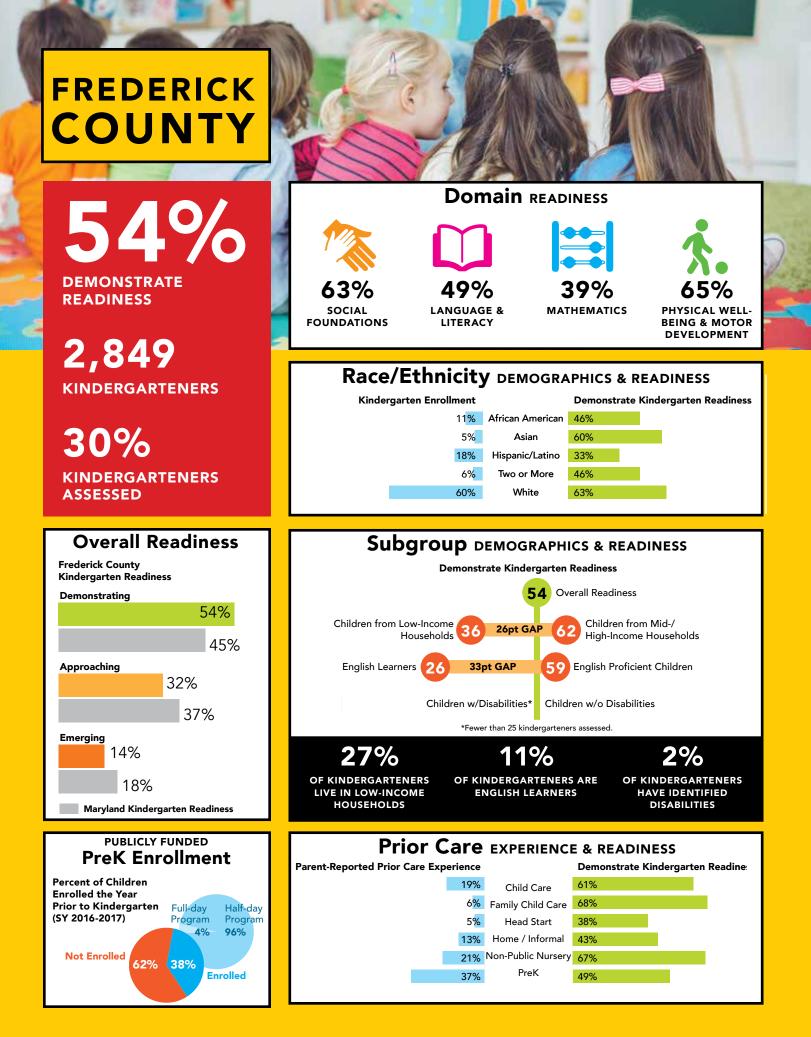




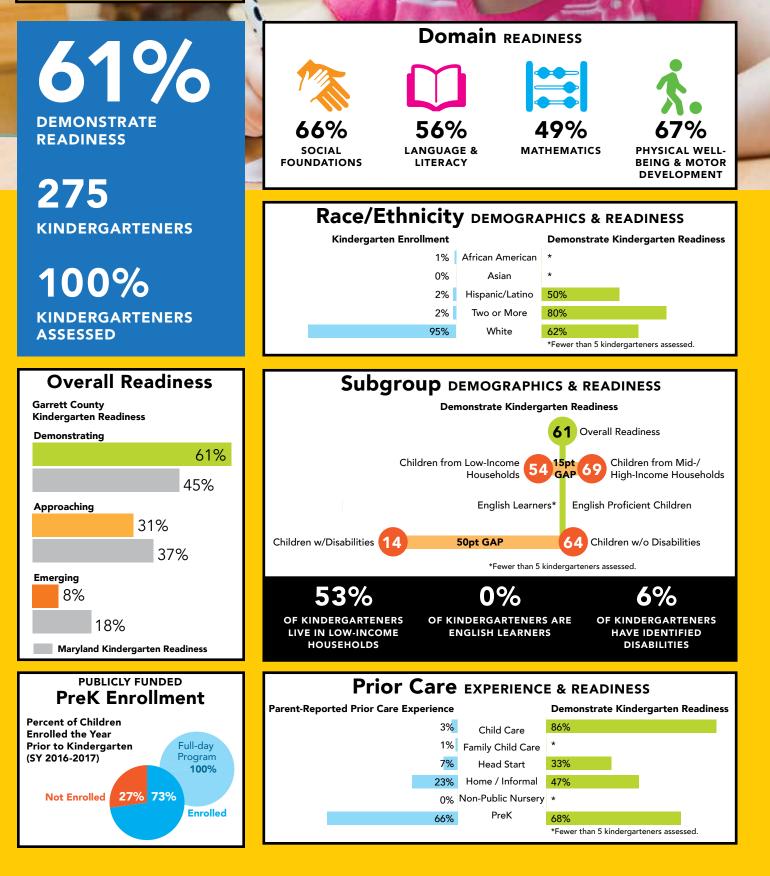


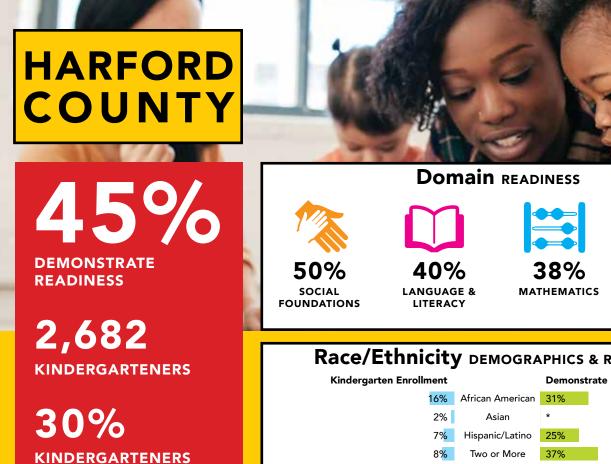






GARRETT COUNTY

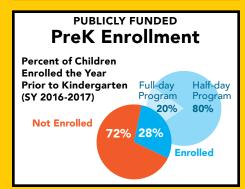


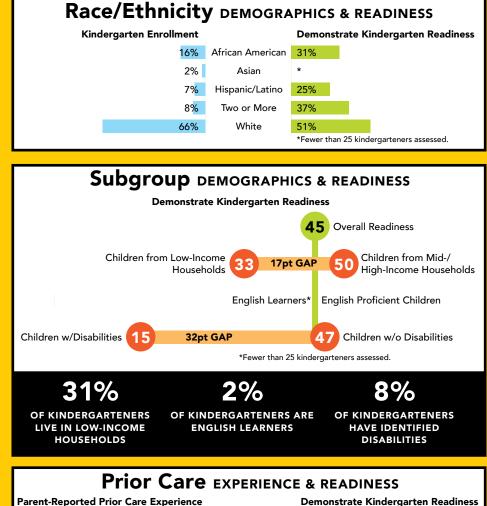


ASSESSED

Overall Readiness Harford County Kindergarten Readiness Demonstrating 45% Approaching

38% 37% Emerging 17% 18% Maryland Kindergarten Readiness





18%

3%

12%

41%

Child Care

6% Family Child Care 53%

Head Start

Home / Informal

20% Non-Public Nursery 52%

PreK

49%

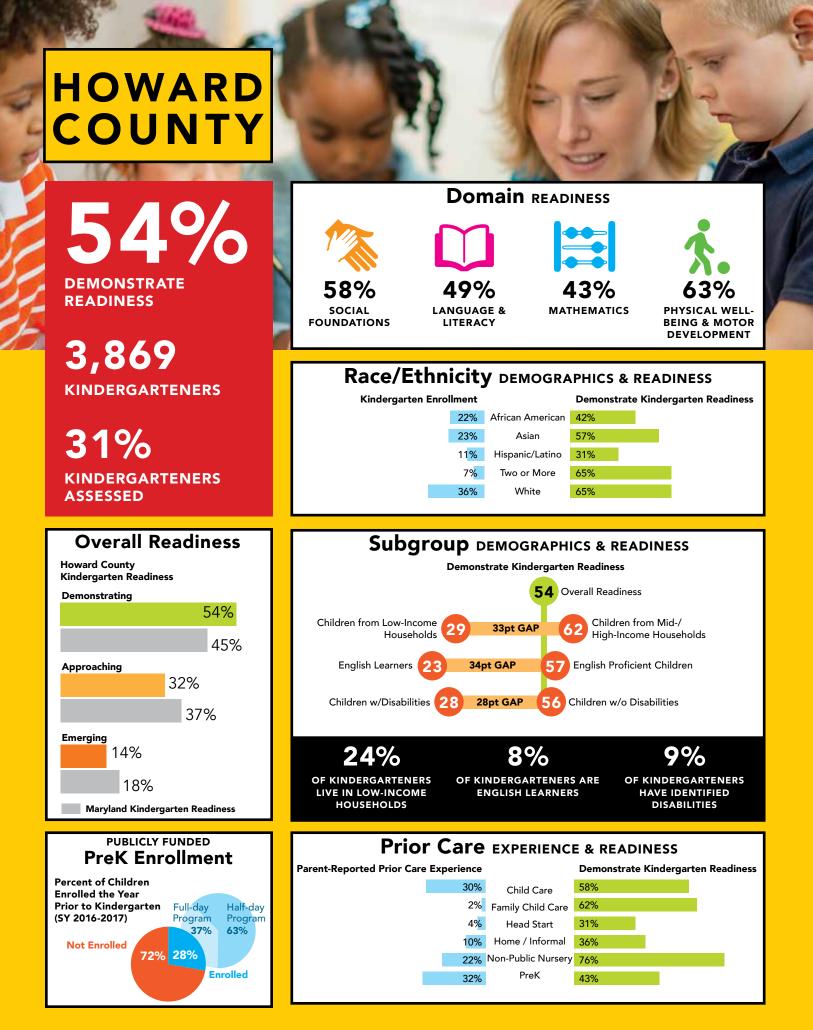
20%

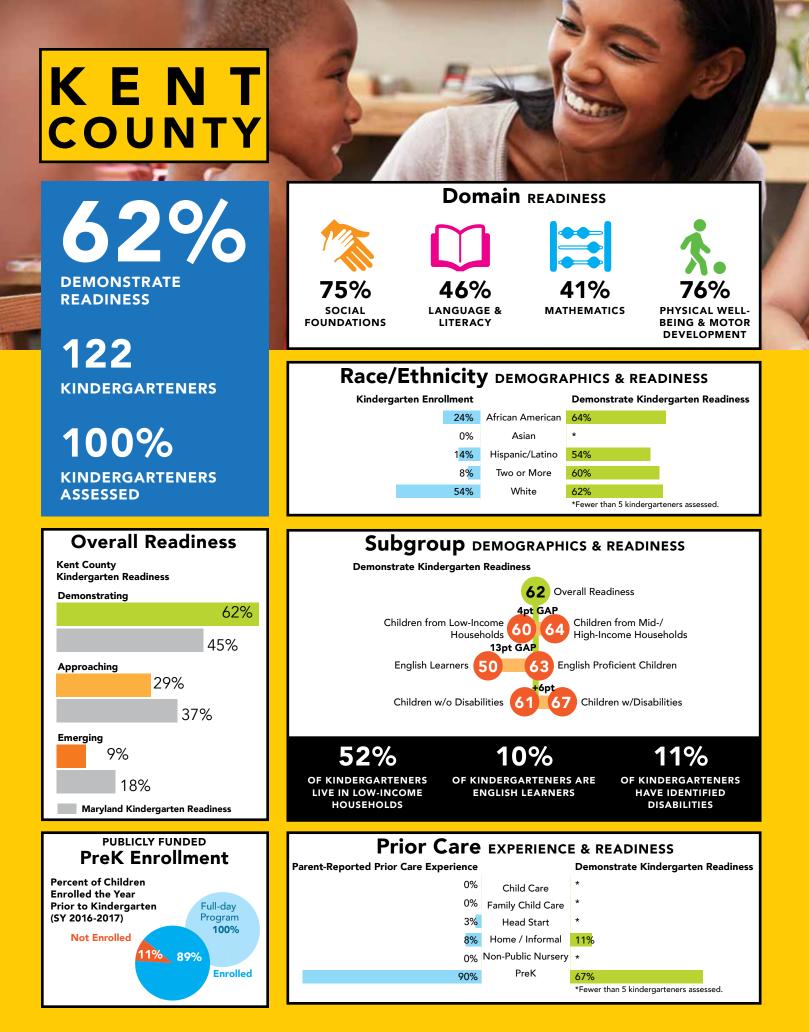
46%

55%

PHYSICAL WELL-

BEING & MOTOR DEVELOPMENT





MONTGOMERY COUNTY

Domain READINESS 79 DEMONSTRATE 42% 56% 44% READINESS SOCIAL LANGUAGE & MATHEMATICS FOUNDATIONS LITERACY 11,452 **Race/Ethnicity DEMOGRAPHICS & READINESS KINDERGARTENERS** Demonstrate Kindergarten Readiness Kindergarten Enrollment 20% African American 42% 12% 15% Asian 63% 32% Hispanic/Latino 24% 6% Two or More 53% **KINDERGARTENERS** White 27% 67% ASSESSED **Overall Readiness Subgroup** DEMOGRAPHICS & READINESS **Montgomery County Demonstrate Kindergarten Readiness Kindergarten Readiness 47** Overall Readiness Demonstrating 47% Children from Low-Income Children from Mid-/ 35pt GAP 5 Households High-Income Households 45% English Learners 39pt GAP **English Proficient Children** Approaching 37% Children (37pt GAP Children w/o Disabilities 14 w/Disabilities 37% Emerging 33% 16% OF KINDERGARTENERS OF KINDERGARTENERS ARE OF KINDERGARTENERS 18% LIVE IN LOW-INCOME ENGLISH LEARNERS HAVE IDENTIFIED HOUSEHOLDS Maryland Kindergarten Readiness PUBLICLY FUNDED **Prior Care** EXPERIENCE & READINESS PreK Enrollment **Parent-Reported Prior Care Experience Demonstrate Kindergarten Readiness** Percent of Children 11% 63% Child Care **Enrolled the Year** Prior to Kindergarten Half-day 2% Family Child Care 52% Full-day Program (SY 2016-2017) Program 4% 33% Head Start 5% 95% Home / Informal

43%

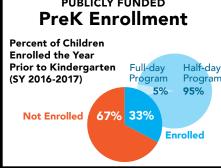
15%

38%

31%

22% Non-Public Nursery 71%

PreK



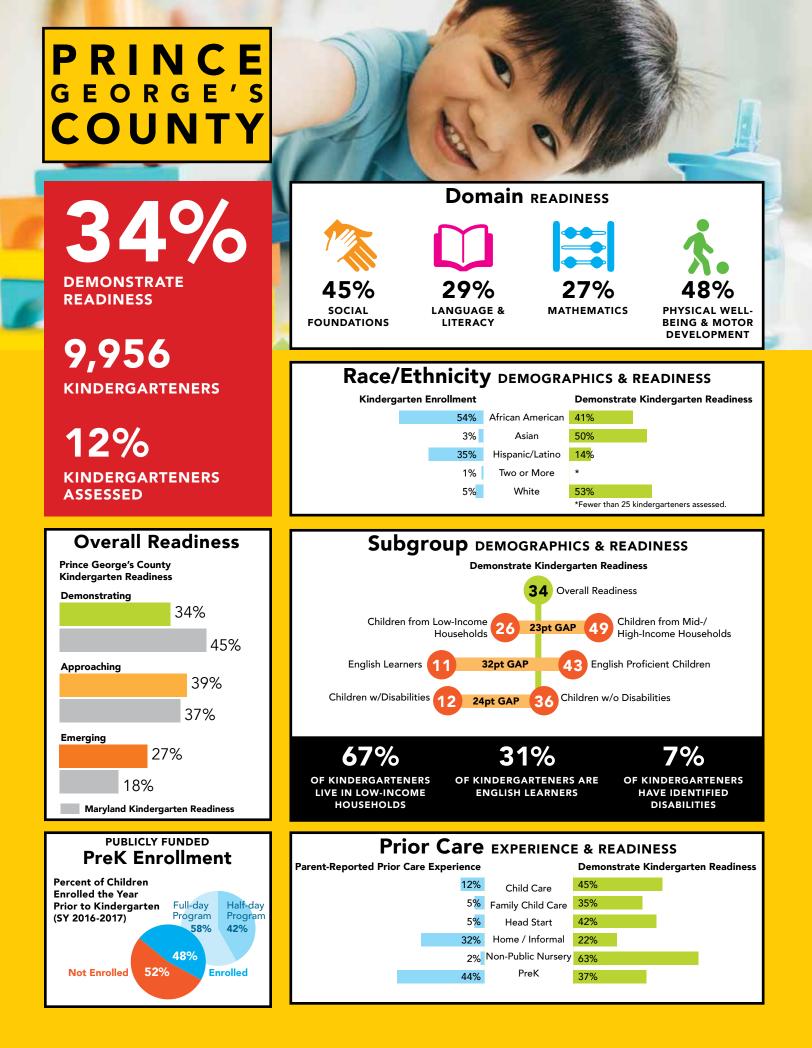


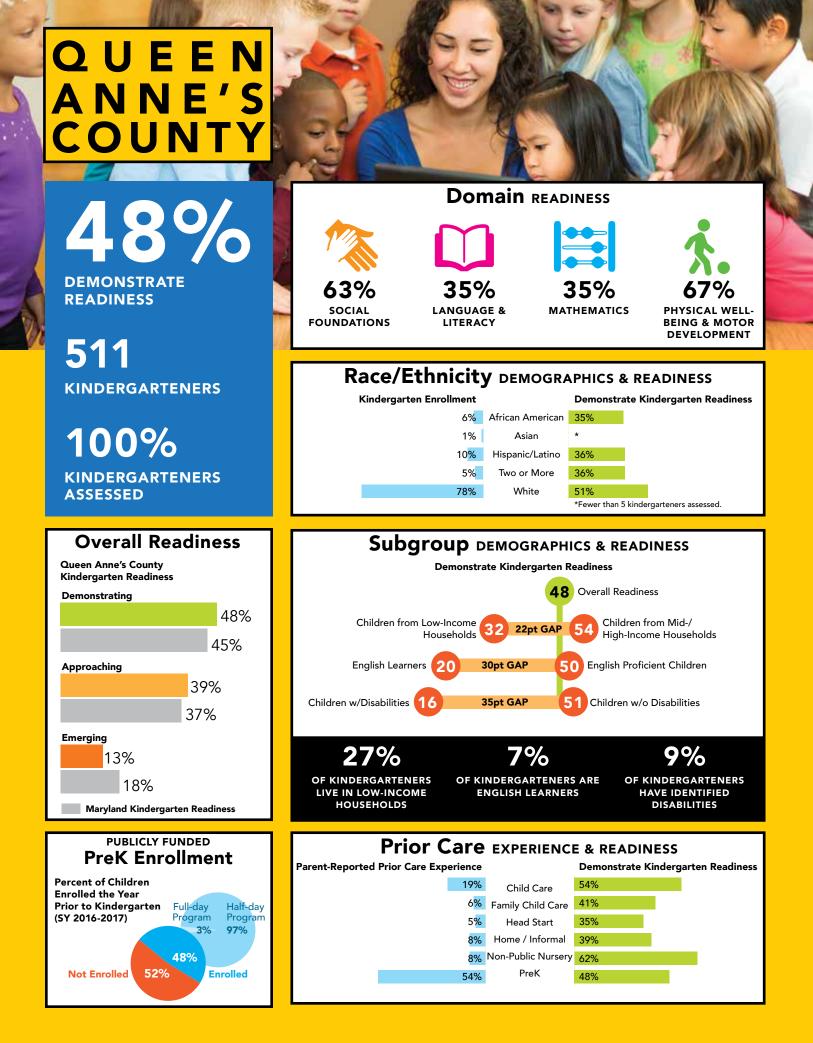
PHYSICAL WELL-

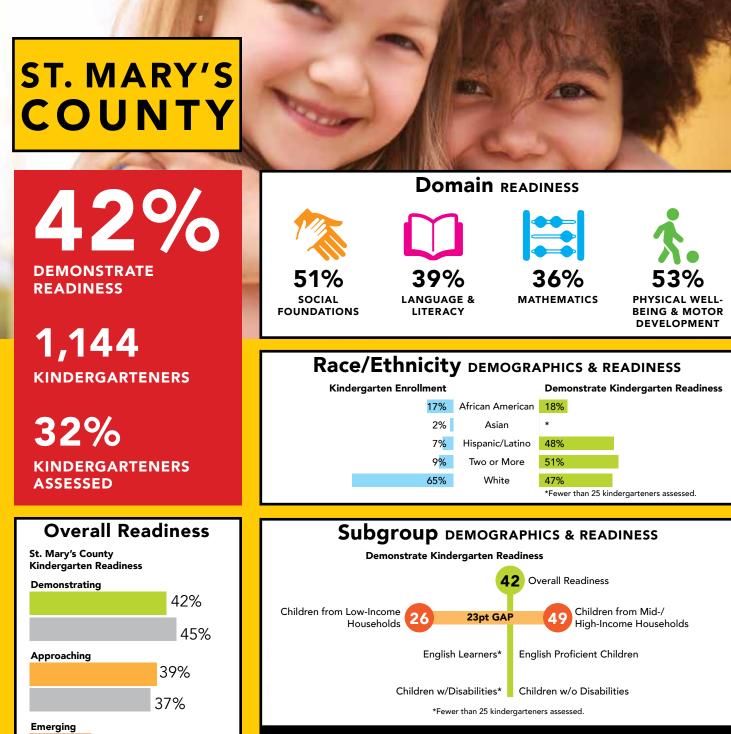
BEING & MOTOR DEVELOPMENT

9%

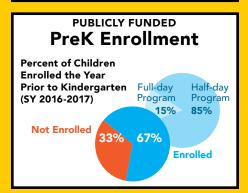
DISABILITIES

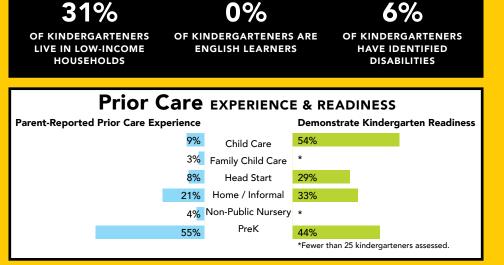


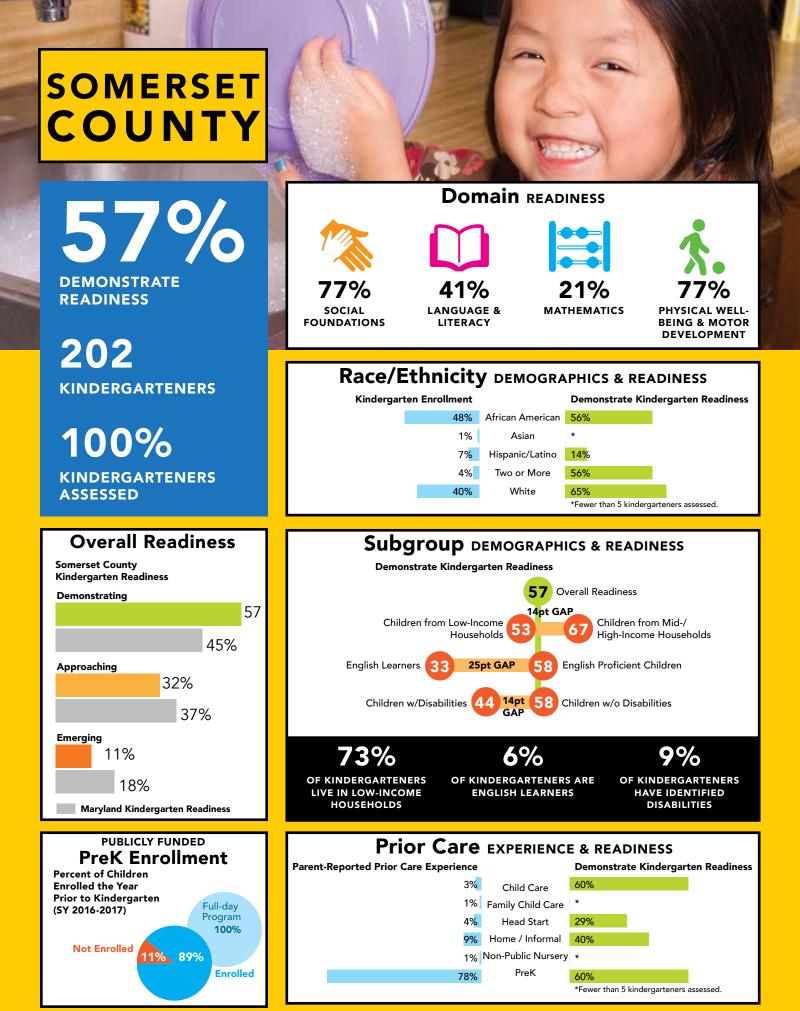


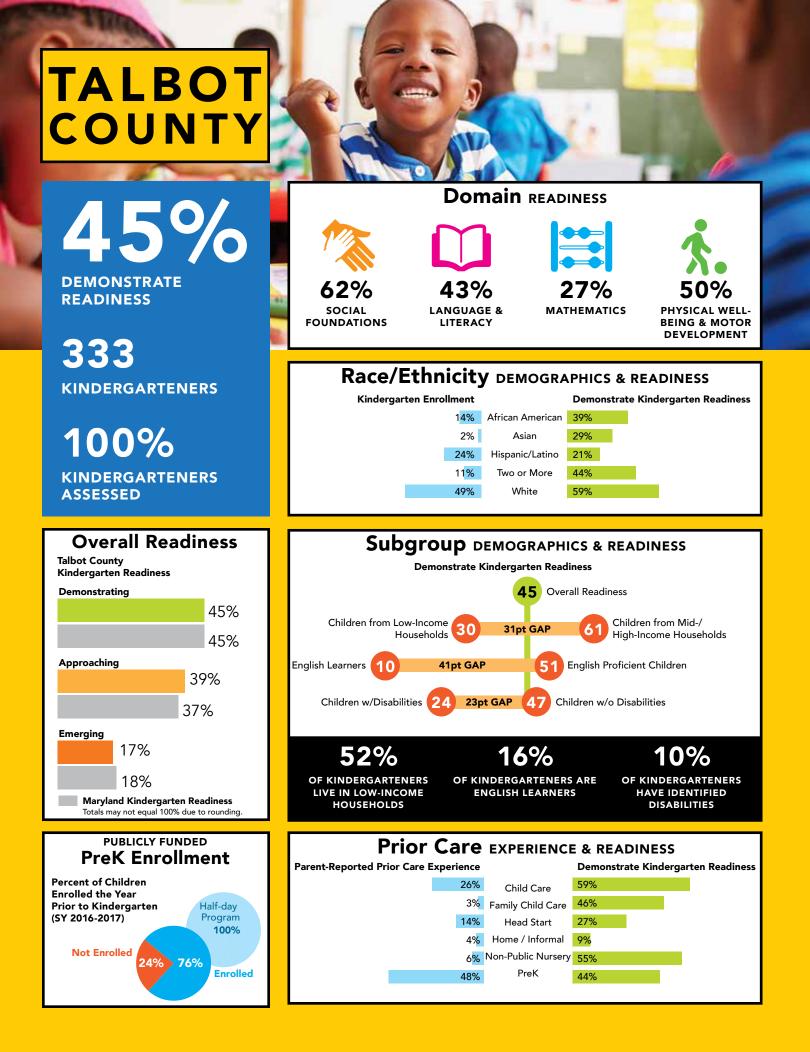


19% 18% Maryland Kindergarten Readiness

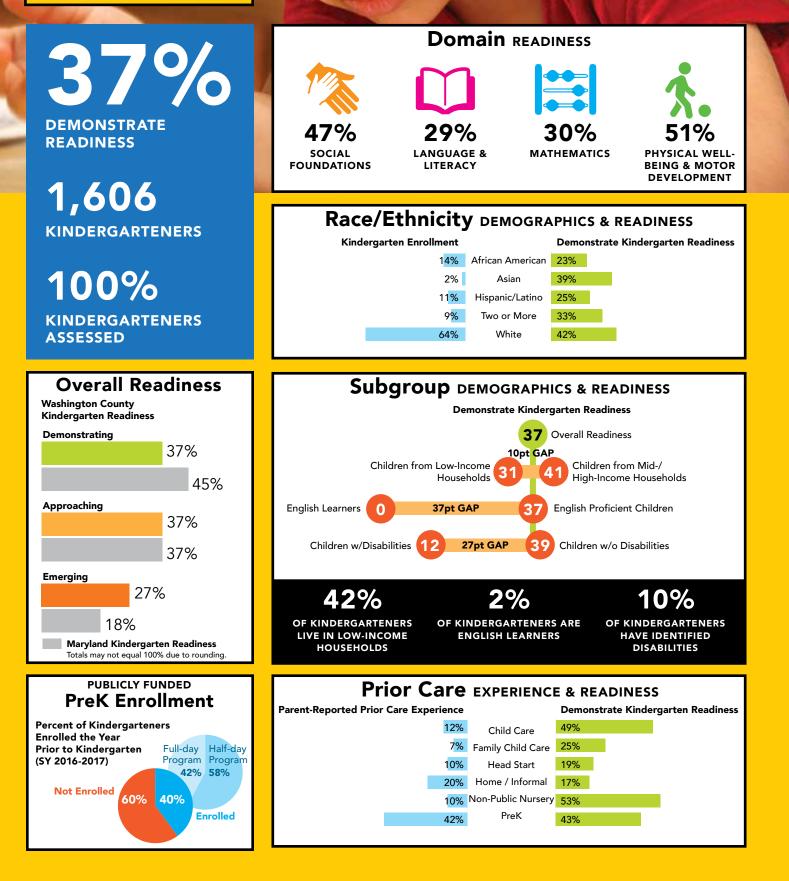


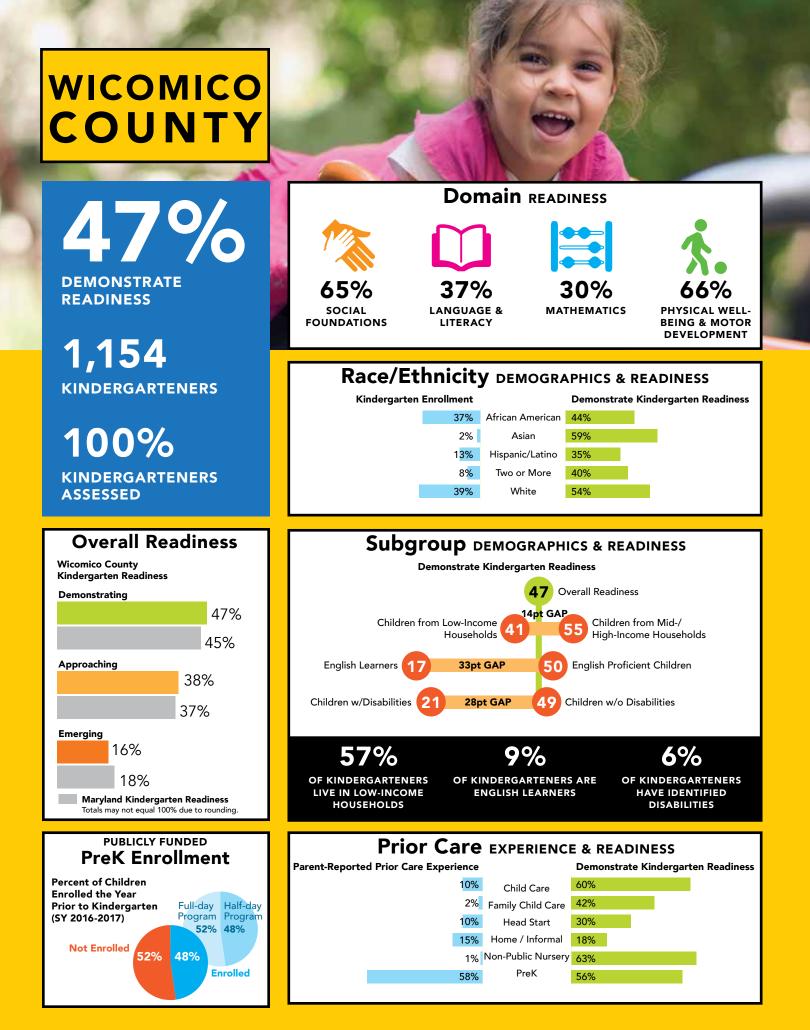






WASHINGTON COUNTY





WORCESTER COUNTY

Domain READINESS 56% DEMONSTRATE **49%** 30% 75% 9% READINESS SOCIAL LANGUAGE & MATHEMATICS PHYSICAL WELL-FOUNDATIONS LITERACY **BEING & MOTOR** DEVELOPMENT 444 **Race/Ethnicity DEMOGRAPHICS & READINESS KINDERGARTENERS** Kindergarten Enrollment Demonstrate Kindergarten Readiness 16% African American 46% 100% 1% Asian 50% 8% Hispanic/Latino 39% 7% Two or More 50% **KINDERGARTENERS** White 66% 61% ASSESSED **Overall Readiness** Subgroup demographics & readiness Worcester County **Demonstrate Kindergarten Readiness Kindergarten Readiness** 56 Overall Readiness Demonstrating 56% Children from Low-Income Children from Mid-/ 44 21pt GAP 65 Households High-Income Households 45% English Learners 31pt GAP 58 English Proficient Children Approaching 35% Children w/Disabilities 🥖 Children w/o Disabilities 38pt GAP 37% Emerging 44% 0% 5% 9% OF KINDERGARTENERS OF KINDERGARTENERS ARE OF KINDERGARTENERS 18% LIVE IN LOW-INCOME ENGLISH LEARNERS HAVE IDENTIFIED HOUSEHOLDS DISABILITIES Maryland Kindergarten Readiness PUBLICLY FUNDED **Prior Care** EXPERIENCE & READINESS PreK Enrollment Parent-Reported Prior Care Experience Demonstrate Kindergarten Readiness Percent of Children 63% 7% Child Care **Enrolled the Year** 2% Prior to Kindergarten Full-day 3% Family Child Care 25% Program (SY 2016-2017) 2% Head Start 0% Half-day Not Enrolled 7% Home / Informal 44% Program 23% 97% 5% Non-Public Nursery 71% 77% PreK 76% 58% Enrolled

High-quality early experiences lay the groundwork for a child's lifelong success.



MARYLAND STATE BOARD OF EDUCATION

Andrew R. Smarick, President Chester E. Finn, Jr., Ed.D. Michele Jenkins Guyton, Ph.D. Justin M. Hartings, Ph.D. Stephanie R. Iszard, M.Ed. Rose Maria Li, MBA, PhD Michael Phillips Irene M. Zoppi Rodriguez, Ph.D. David M. Steiner, Ph.D. Kyle J. Smith

Dr. Karen B. Salmon Secretary-Treasurer of the Board State Superintendent of Schools

Steven Hicks Assistant State Superintendent, Division of Early Childhood Development

Scan here or visit www.ReadyAtFive.org for additional data, including customized jurisdictional issue briefs, PowerPoint presentations, parent resources, a technical report, and an electronic version of this publication.



For inquiries related to departmental policy, please contact:

Equality Assurance and Compliance Branch Maryland State Department of Education 200 W. Baltimore Street Baltimore, Maryland 21201 Phone: 410/767.0425 TTY/TTD: 410/333.6442 Website: http://www.marylandpublicschools.org

For more information about this publication, contact: Division of Early Childhood Development Maryland State Department of Education 200 W. Baltimore Street Baltimore, Maryland 21201 Phone: 410/767.0335 Website: http://earlychildhood. marylandpublicschools.org/

For more information and resources to improve school readiness in Maryland, contact:

Ready At Five 5520 Research Park Drive, Suite 150 Baltimore, MD 21228-4791 Phone: 410/788.5725 Email: info@readyatfive.org Website: www.readyatfive.org



EDUCATION

PREPARING WORLD CLASS STUDENTS

The Maryland State Department of Education does not discriminate on the basis of race, color, sex, age, national origin, religion, disability, or sexual orientation in matters affecting employment or in providing access to programs.

© 2018 Ready At Five