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Head Start since the War on Poverty: Taking on New Challenges to Address Persistent School Readiness Gaps

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As one of the key initiatives enacted as part of President Lyndon B. Johnson's War on Poverty, Head Start has grown into the largest federally funded early education program in the United States. It provides free education and health services to economically disadvantaged preschoolers, toddlers, and infants. The program is designed to increase access to early education for low-income children whose families cannot afford private preschool. Head Start also specifically targets services within the low-income population for especially vulnerable groups, such as children with special needs and children of migrant farmworkers.

The program has adapted over time to shifting policy priorities and goals. Head Start started off small and focused on comprehensive health services and family economic empowerment. It began increasing its scope in the late 1990s as the program shifted attention to improving child school readiness, which places greater emphasis on cognitive development including math and reading.[1] In recent years, Head Start has also initiated a push for high-quality services and increased accountability among its centers. However, because the resources allotted to the program are limited and the need for services is greater than the number of slots available, there is an inherent tension between enhancing quality and expanding to serve more children.

At the same time, Head Start is adapting to the changing demographic composition of the child population – the increasing numbers of dual-language learners (DLLs) enrolling in preschool and the high proportion of children living in extreme poverty (one-tenth of children live in families with incomes 50% below the federal poverty line).[2,3] Although the program's required adaptation to changes in population trends and the policy landscape seems overwhelming, given its level of funding, initial studies of Head Start's learning approaches find positive results for children's health and development.[4] This indicates that further investment in tailored approaches can offer a real opportunity for Head Start to help reduce the persistent gaps in school readiness seen between children with different levels of access to educational resources.

This article explores Head Start's overall effectiveness in improving school readiness and its potential to reduce gaps in light of changes in program goals and in resource and funding capacity, and demographic shifts in the low-income child population it serves. Although not an explicit goal of the program, we assess its ability to reduce school readiness gaps between children of different racial and ethnic backgrounds and income groups. Because of changing policy priorities and Head Start's effort to target vulnerable groups of children with diverse needs, meeting Head Start goals within funding constraints can be challenging. However, we will show

in this paper that the program has successfully adapted to its changing environment. Despite the evolving nature of its goals, it has managed to demonstrate a favorable impact on children.

In order to evaluate the program's effectiveness in improving school readiness and the potential to reduce inequities in these outcomes, we follow a three-step process of policy assessment.[5] The first section of this article describes Head Start's program logic. This includes the outcomes that the program is designed to address, the specific goals that have been set, and the services intended to address these target outcomes. We begin by describing trends in school readiness and the gaps between children of different racial and ethnic backgrounds and income groups. We then turn to Head Start's current services and highlight what new components have been added. In the second section, we analyze the program's capacity to meet its goals, considering factors such as limited resources, the targeted enrollment of vulnerable subgroups, the establishment of program standards, and the monitoring of quality. Lastly, we define program effectiveness and review the large body of evaluation evidence to understand how effective Head Start has been in meeting the newest goal of improving school readiness as well as its potential to reduce racial/ethnic and socioeconomic achievement gaps.

Our assessment of research evidence from rigorous studies shows that Head Start has a positive average impact on child school readiness at kindergarten – the program's primary goal – as well as longer-term impacts in adulthood,[4] although these remain to be proved through experimental studies. Head Start also has positive impacts on school readiness among subgroups of low-income children, including black children and children with the lowest level of academic performance at program entry.[6,7] Additionally, initial evidence shows that using evidence-based curricula with Head Start children results in further improvements in school readiness. Studies of other innovative practices, such as dual-generation approaches, effective curriculum, and quality measurement tools for DLLs, are ongoing.[2]

Nevertheless, the program's potential to reduce inequities in school readiness significantly at the population level is constrained by resource capacity**.** Because of insufficient discretionary funding, Head Start has the capacity to serve only about half of the low-income children who meet the program eligibility requirements, and access to the program varies by race, ethnicity, and geographic location. Moving forward, Head Start's infrastructure could be bolstered by funding additional slots, extending program operating schedules, targeting high-need areas, hiring additional bilingual teachers, and further investing in evidence-based classroom curricula and professional development. Many of these recommendations

are included as part of the fiscal year 2017 budget and are incorporated in the final Head Start Program Performance Standards.[8]

At a time when there is consensus about the need to expand access to early education and learning with a focus on quality, Head Start provides a strong foundation and infrastructure to build upon. Given its long history and the rigorous evaluation evidence available, Head Start contains lessons beyond those of an antipoverty program. It is the story of a social policy that has evolved over time and is adapting to the diversity of children and their needs that can inform education and other reform efforts.

Head Start's Design Logic

Persistent School Readiness Gaps That May Widen

Addressing school readiness gaps between low-income children served by the program and children from families with incomes above the federal poverty line is implicit in Head Start's goals. Improving school readiness for low-income children also presents an opportunity to address racial/ethnic gaps in school readiness outcomes because black and Hispanic children consistently represent a disproportionate share of children in poverty. For example, in 2013, non-Hispanic white, Hispanic, and black children represented 53%, 24%, and 14% of the total child population, respectively, but 30%, 37%, and 26% of the children in poverty.[9]

Many studies have established that there are statistically significant gaps in school readiness (defined as the math and reading test scores at the start of or during kindergarten) between children from different racial/ethnic backgrounds and income groups.[10] The findings on the size of these gaps differ depending on the data source and the specific test.[11] One data source, the Early Childhood Longitudinal Study – Kindergarten Cohort (ECLS-K), produces smaller estimates of racial/ethnic school readiness gaps between blacks and whites and Hispanic and whites than do data sources that use other tests of reading and math, such as the National Longitudinal Survey of Youth (NLSY). In general, the trend is that there is a difference of about 0.5 to 1 standard deviation between the mean test scores for black and white children, which is cut in half when a set of socioeconomic characteristics are controlled (income plus a host of other factors, depending on the study).[11] A more recent study using the latest (2011) cohort of the ECLS-K confirms the findings of these prior studies and also identifies gaps between non-English-speaking Hispanic children and white and Asian children.[12]

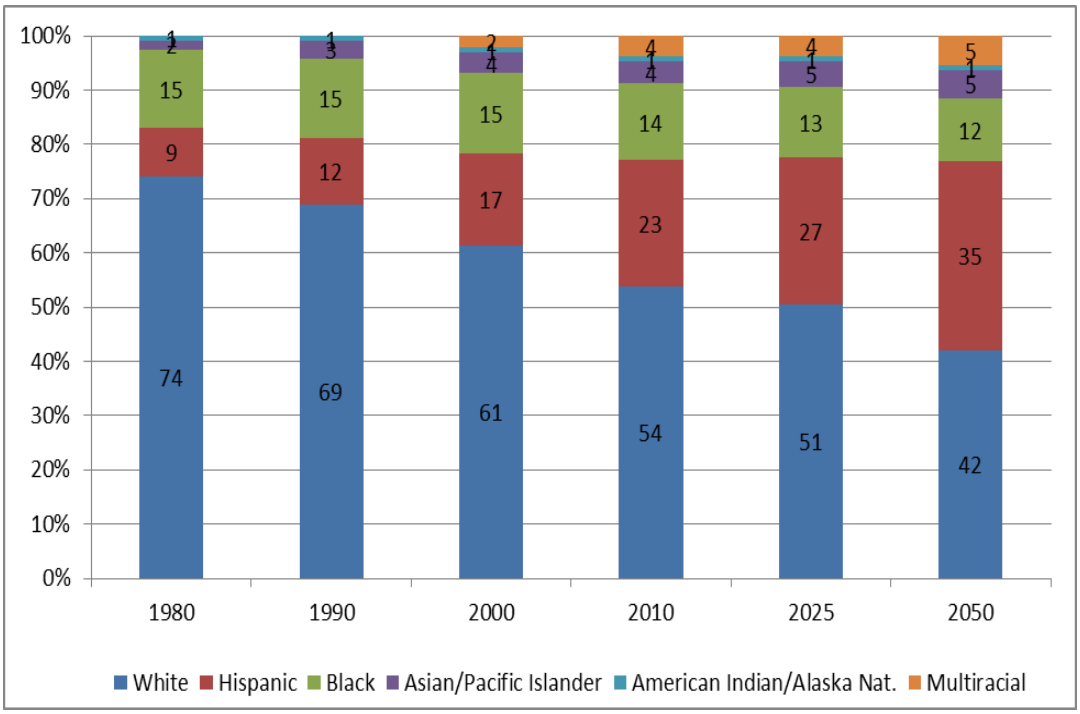
Even if racial/ethnic differences partly originate in income differences, black and Hispanic children do face lower levels of school readiness than white children. As Rouse et al[10] note, it is often difficult to

disentangle children's race/ethnicity and income from other correlated factors that stem from lower access to resources. Because school readiness gaps appear even at a very young age, Head Start's role in targeting low-income children is a key policy lever for promoting racial/ethnic equity in achievement.

That these school readiness gaps persist is of great concern to policymakers, particularly in that the target population for Head Start, children younger than 6 years of age, is increasingly becoming more racially and ethnically diverse. Census data show that in 2013, half of the child population was nonwhite, including 25% Hispanic, 14% black, 5% Asian or Pacific Islander, 5% mixed race, and 1% Native American/Native Alaskan.[9] By 2050, 58% of the child population younger than 18 years is projected to be nonwhite.

Chart 1 highlights that in 2050, more than one-third of the child population is projected to be of Hispanic origin. The United States should strive to decrease school readiness gaps between all children with different exposure to resources. However, because of the growing proportion of Hispanic children and the documented school readiness gaps of non-English-speaking Hispanic children, it is imperative that our early learning systems monitor and continue to implement evidence-based practices to prevent further widening of Hispanic–white school readiness gaps.

Chart 1. Racial/ethnic composition of the child population younger than 18 years, 1980-2050.



Source: U.S. Census Bureau estimates and projections. Projections use Constant Net International Migration Series.

Note: Hispanics may be of any race. Racial groups include only non-Hispanic members. Multiracial data are not available before 2000.

Head Start Shifting Policy Priorities

Although the current goal of Head Start is to improve child school readiness, this has not always been the case. Between 1966 and 1996, Head Start's official legislative goals regarding child developmental were to promote general well-being and development that would allow children to achieve their "full potential." This final child outcome was neither defined nor specifically measured. No further elaboration was provided until 1975, with the creation of the Head Start Program Performance Standards, which offered an alternative goal: improving low-income children's "social competence." The standards defined "social competence" as

> …the child's everyday effectiveness in dealing with both present environment and later responsibilities in school and life. Social competence takes into account the interrelatedness of cognitive and intellectual development,

> physical and mental health, nutritional needs, and other factors that enable a child to function optimally.[13]

Both "full potential" and "social competence" reflected a concern with a child's ability to navigate and flourish in all aspects of life, not solely in school. These terms embody Head Start's "whole child" approach, and the deep emphasis it places on physical, emotional, and developmental health, in addition to academic ability. Nevertheless, the ambiguity of both goals can make them difficult to measure and assess.

It was not until 1998, when legislators refocused Head Start's goals, that the term *school readiness* was introduced. It replaced *full potential* and *social competence* as the major objective. This transition placed greater emphasis on the educational functions of the program. It is important to note that although Head Start's official goals did not specify a heavy academic emphasis for most of the program's existence, it has often been touted or perceived as having a primary focus on cognitive outcomes.[1] In addition, the program does not target long-term developmental goals (eg, high school graduation), although many criticisms of the program revolve around long-term effects.

School readiness also presents some evaluation challenges because Head Start does not offer a standardized formula or assessment tool for measuring it. The shifting priorities of Head Start, coupled with the lack of definitive, research-based measures for the current program goal, make it difficult to evaluate overall effectiveness. In fact, depending on the definition of school readiness that is used and the reason for conducting an assessment, school readiness assessment tools vary widely across the early childhood education field. The need to measure school readiness has increasing urgency as research documents a racial/ethnic gap in school readiness that varies in magnitude depending on the different measures and tests used.[14] Therefore, evaluating the effectiveness of Head Start is not only about how best to define and measure children's readiness for school; also required is a better understanding of the gaps between children of different racial and ethnic backgrounds and how Head Start can address them.

Increasing Focus on Quality Improvement

Historically, Head Start has adopted a flexible approach so that grantees can deliver services based on local assessments of community needs. This flexibility has led to a variation in the mix, intensity, and delivery of services from community to community. There are several benefits to Head Start's flexible approach because it allows programs to tailor and adapt services to

the children they serve. At the same time, because this flexibility gives programs significant leeway in their design, it may also result in some programs providing higher-quality services than others.

In recent years, Head Start has begun to offer more detailed service guidelines and quality requirements. For example, Head Start conducts triennial on-site federal monitoring reviews, which are external reviews that occur at least once every 3 years and evaluate Head Start agencies' compliance with the program performance standards, including program governance, fiscal integrity, and child health, safety, development, and education.[15] In 2009, this review added an evidence-based process measure: an observational review of classroom quality and teacher–child interactions. This observational review is meant to provide a reliable measure of the quality of the classroom environment. In addition, the Improving Head Start for School Readiness Act of 2007 mandated the Designation Renewal System (DRS) to expand accountability standards for Head Start grantees.[16] Before the rollout of the DRS, Head Start agencies received continuous grant funding for their programs for an indefinite period except in cases of extremely poor performance.[1] The new system limits the grant funding period to 5 years, with continued funding contingent upon program performance. Program performance is determined by seven criteria, including a program's observational review of classroom quality.

Despite these efforts at standardization, there is still variation in the type and quality of care and education that Head Start children receive, which presents challenges in the detection of an "average" Head Start impact. For example, the extent of service exposure and the quality of these services vary by child race/ethnicity. A nationally representative survey of Head Start centers showed that on average, Hispanic and Asian students are exposed to fewer hours of services, and a lower percentage of centers attended by black students are of high-quality than of centers attended by other racial groups.[17] New Head Start regulations that will expand the operating hours of centers will help close the gaps in exposure to Head Start services. It is important to consider these historical, demographic, and quality contexts to understand how Head Start is experienced by different groups of children and which types of services work for whom. These different experiences are critical to keep in mind when the program's effectiveness is being evaluated and recommendations are made about how to reduce the potential for program practices to widen any inequities in access or quality of services.

Head Start Comprehensive Services

From its inception, Head Start has recognized the interdependence of health and educational outcomes, the susceptibility of low-income children to health and nutritional problems, and the need to address these problems within early childhood education. This philosophy and set of associated services underpins the program's unique ability to improve the outcomes of vulnerable children. Although over time Head Start has become increasingly focused on educational goals (eg, school readiness), its ability to serve low-income children is tied to its dual focus on health and education.

The early childhood development and health services that Head Start provides to the preschool children enrolled in its programs in large part reflect a broad conception of school readiness that includes health. These services are categorized into five major components that all children receive: (1) health and development, (2) health and safety, (3) nutrition, (4) mental health, and (5) education and early childhood development. Head Start explicitly recognizes that low-income children are exposed to a greater number of health risks, which can increase the occurrence of health problems in these children compared with higher-income children, and that such health problems can negatively affect educational outcomes. The program's resulting array of health-related service components is viewed as essential to its unique ability to serve and improve the outcomes of vulnerable children.

Another distinctive feature of Head Start's child services is the emphasis on family involvement. Within almost all components, parents are viewed as partners in service delivery. Helping families support their children in early childhood development and health is an integral part of the service model. In addition, the program provides direct service or referrals for parents themselves (eg, employment services or crisis assistance), addressing issues beyond child development.[18] These activities are aligned with an increasing interest in implementing dual-generation approaches that enhance services for children by pairing them with services for their parents and families. This holistic, family-oriented approach to service provision is essential to Head Start's ability to meet low-income families' need for additional resources and supports to facilitate investment in their child's development. Moreover, increased employment services for families may play a role in further reducing inequities between lower- and higher-income families and children.

Expanding Equitable Access to Early Learning Opportunities

Head Start comprises four programs that target economically vulnerable children by age, ethnic background, or parental work status. The largest of

the four programs is generally known as Head Start and serves preschool children from age 3 to mandatory school age (usually 5 years). Early Head Start (EHS), started in 1994, serves pregnant women and children from birth until age 2. American Indian and Alaska Native (AI/AN) Head Start and EHS programs serve primarily Native American or Alaskan Native children and pregnant women (age requirements are the same as those for traditional Head Start and EHS). Migrant and Seasonal Head Start (MSHS) programs serve pregnant women and children from migrant and seasonal farmworker families and provide services from the time children are born until they reach mandatory school age.

Eligibility criteria are determined at the federal level and therefore leave little room for local variation. Children living in families with incomes below the federal poverty line are eligible for Head Start. Children who are homeless, live in foster care, or live in a family receiving public assistance, such as Temporary Assistance for Needy Families (TANF) or Supplemental Security Income (SSI), are also categorically eligible, meaning they are eligible regardless of income level. In addition, at least 10% of children enrolled under each Head Start agency must be children with disabilities. Head Start hopes to lessen the difficulties that low-income parents of young children with special needs face in finding an appropriate preschool placement.[19] Disability-specific eligibility criteria are detailed in the Head Start Program Performance Standards for children with any of the following: (1) mental retardation; (2) hearing impairments, including deafness; (3) speech and language impairments; (4) visual challenges, including blindness; (5) emotional and behavioral challenges; (6) autism; (7) traumatic brain injury; (8) orthopedic challenges, and others.

Head Start also applies tailored eligibility criteria to target children of American Indian/Alaska Native and migrant and seasonal farmworker families. MSHS and AI/AN Head Start programs seek to improve preschool access for these populations, which systematically face barriers different from those of other vulnerable groups. For example, migrant farmworkers must spend a large part of the year following the crop harvesting cycle around the United States, making it difficult for them to keep their children enrolled in traditional preschool programs. In response, the MSHS program was created with operating schedules and locations designed to “follow” families as they move. Similarly, AI/AN Head Start programs seek to improve preschool access for AI/AN children, who often live in geographically designated tribal areas with unique cultural needs, such as learning indigenous languages. AI/AN Head Start programs are open to non-AI/AN low-income families living in community service areas.

The high cost of private early childhood education centers is also a significant barrier for families who are living just above the federal poverty line. To support these families and to provide an environment that exposes children to diverse socioeconomic backgrounds, Head Start allows limited enrollment of near-poor and middle-income children. Up to 10% of enrollees may be "over-income" children – children at any income level above the federal poverty line. An additional 35% of enrollees may be near-poor children who are slightly above poverty (100%-130% of the federal poverty line) if centers first prioritize enrollment for all low-income and categorically eligible children in their service areas. Although including nonpoor children expands access and increases socioeconomic integration, the threshold of 100% to 130% of the federal poverty line still translates into a program that serves primarily very low-income populations. Many "over-income" children still face difficult socioeconomic conditions and significant cost barriers to accessing quality early education programming.[20]

Although Head Start's income-based eligibility criteria are meant to ensure that services are provided to the most disadvantaged children, limited socioeconomic diversity in the classroom may prevent the reduction of school readiness gaps. New research on preschoolers shows that low-income children may experience greater developmental benefits when they are placed among socioeconomically diverse peers rather than segregated in an equally disadvantaged group.[21] Although Head Start's eligibility requirements take important strides to address equity in access to early childhood education for low-income children, efforts to encourage more universal access might provide greater school readiness benefits. However, presently Head Start does not have enough resources even to serve all eligible low-income children.

In sum, Head Start promotes equitable access to early childhood care and education by using two main approaches. First, the program targets economically vulnerable children living in families with incomes below the federal poverty line. Second, within the low-income population, it further targets subgroups of vulnerable children, such as children with disabilities and children in seasonal and migrant farmworker families.

Tailoring Services to Special Populations

Beyond specific eligibility criteria, Head Start also emphasizes tailored services for groups that have unique learning and health needs, such as children with disabilities and DLLs. Children learning two or more languages at the same time (DLLs) represent a large subgroup of the Head Start population. In 2007-2008, DLLs made up 29% of Head Start participants. Given the unique cultural and linguistic context of this population, these

children and their families often need tailored educational and outreach services if they are to be able to fully participate in Head Start's learning and social activities. Researchers find that specific instructional enhancements are important for children who are DLLs. These practices include more small-group instruction, presentations in the children's home languages before English, explicit teaching of vocabulary, and scaffolding of the curriculum based on the stage of English acquisition.[2] Specific requirements and guidelines for serving these children appear throughout Head Start legislation and subsequent regulations and technical assistance.

Head Start Program Performance Standards require that "when a majority of children speak the same language, at least one classroom staff member or home visitor interacting regularly with the children must speak their language."[22] The program performance standards also require that classroom staff be aware of the ethnicity of the families they serve and be able to communicate either directly or through a translator.[23] The 2010 Head Start Child Development and Early Learning Framework, a revised version of the Child Outcomes Framework, introduced a new English Language Development Domain that "stresses the importance of maintaining children's home/first language as they learn English."[24] In addition, the Office of Head Start has released various Information Memoranda and Policy Instructions with specific requirements or recommendations for DLL children, such as requiring centers to post emergency information in other languages besides English and providing guidelines for staff cultural responsiveness in Head Start programs.[25] The Office of Head Start has commissioned several universities to conduct research studies on effective practices and lead training sessions with groups of centers.[26] These represent just a few of the many instances in which Head Start legislation, regulations, and guidelines provide additional and targeted support for DLL children.

There is some information about the implementation of services for DLL children in Head Start. A recent report found that most are in classrooms with an adult who speaks their home language, and they are more likely to have a Hispanic lead teacher than are children from monolingual English homes.[25] However, there is still variation within this finding because access to teachers who speak languages other than English varies by geography. More research is needed to develop a better understanding of Head Start experiences both within the DLL population and in comparison with monolingual English speakers. The findings could lend insight into how the program's implementation might result in differential learning and developmental outcomes for the DLL population.

Head Start's Resources and Capacity to Meet Program Goals

The term *capacity* refers to the ability of a program or policy initiative to fulfill its intended goals. Ideally, Head Start should provide high-quality early childhood education to all low-income children in need. However, the program's ability to address this equity goal is hampered by capacity constraints. Congress appropriates much less funding per child in Head Start (about $7,700 in 2013)[27] than in smaller, local intensive early childhood education programs, such as Abecedarian and HighScope/Perry Preschool (more than $17,000 as of 2006), yet these programs often serve as benchmarks for expectations of Head Start's impact.[28]

Uneven Funding

Although Head Start has faced considerable changes in its goals and the demographic composition of the populations it serves, its funding has been relatively constant and insufficient to serve all children eligible for the program. This makes it even more remarkable that the program has adapted and shown effectiveness. Over time, limited funding affected both access to and variation in the quality of Head Start services. The proportion of low-income children participating in Head Start fluctuates widely by state.[29] A closer look at the state/local levels reveals that some Head Start programs in some states have enough funding to serve all eligible low-income children, whereas others manage large waiting lists.

Although the federal government provides most of their funding, Head Start grantees are required to cover at least 20% of the approved program costs with non-federal contributions, either in cash or in kind. Exceptions to this non-federal matching requirement may be made if an agency meets certain criteria. In addition, half of the states provide supplemental funding for Head Start that is separate from or in addition to any non-federal match. State supplemental funding is provided for a variety of goals, including quality improvement, slot expansion, provision of additional services, operating schedule extension, and teacher salary enhancement. Nationally, just under 2% of slots are non-federally funded, but this ranges from 0% in 17 states to nearly 30% in Oregon. In general, the fact that non-federal funding for Head Start is provided in more than half of states indicates that there is support for increasing resources for Head Start beyond current levels of federal funding.[29]

In fiscal year 2016, Head Start received a funding increase of $570 million.[30] Almost 50% of this funding was allocated to support expansion and technical assistance for programs to meet the new requirement of extending program operating hours to full time, full day (defined as 6 hours

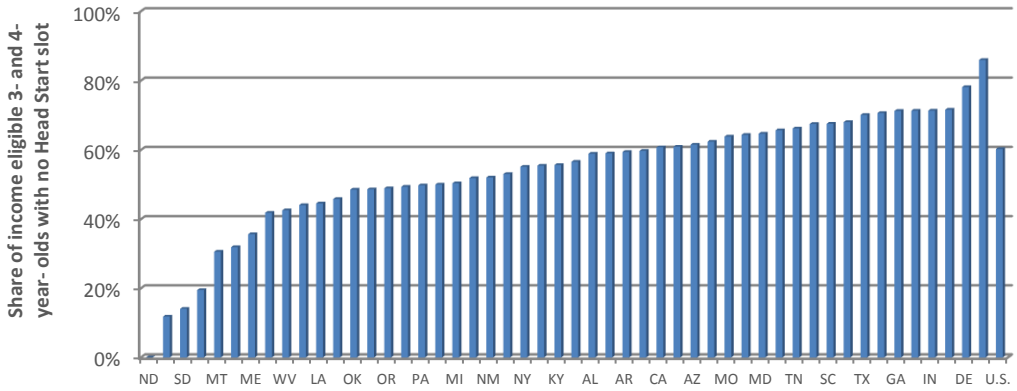
each day). This funding expansion should prevent a reduction in the number of program slots due to the expansion in program hours.

Unmet Need for Head Start

Although Head Start is theoretically open to a wide swath of the vulnerable population, in practice resource constraints limit the number of children able to participate. In 2015, just over 821,106 slots were available nationwide through three Head Start programs: traditional Head Start (serving children ages 3 to 5 years), AI/AN Head Start, and MSHS.[8] Over the past two decades, the number of available slots has nearly doubled; in 1987, there were fewer than 425,000 slots in Head Start programs. Yet even with this increase, Head Start does not have the capacity to serve all eligible low-income children.

In the 2010-2011 school year, the program was able to serve only about 40% of income-eligible 3- and 4-year olds, and therefore more than half were left without access. The capacity to serve eligible low-income children varies dramatically by state; for example, as shown in Chart 2, in South Dakota there are enough Head Start slots to serve 86% of income-eligible 3- and 4-year olds, whereas in Nevada only 14% can be served. These resource constraints are important factors to keep in mind when Head Start's impact is evaluated.

Chart 2. Share of income-eligible 3- and 4-year olds with no corresponding Head Start slot, by state (2010).



Source: Authors' calculations based on 2010 American Community Survey microdata and 2010-2011 Program Information Report (PIR) survey data. The chart presents the total Head Start slots available to 3- to 5-year-olds as a portion of the total income-eligible population. Slots refer to funded enrollment as reported in the Head Start PIR survey

completed annually by all Head Start grantees. Funded enrollment is defined as "the total number of enrollees … the program was funded to serve for the enrollment year" (2011-2012 PIR survey form). The total number of slots includes all slots in traditional Head Start preschool programs, as well as an estimate of slots for 3- to 5-year-olds in Migrant and Seasonal Head Start programs (estimated by using cumulative enrollment). Early Head Start slots are not included in this number.

Measurement of Racial/Ethnic Diversity in Head Start Children

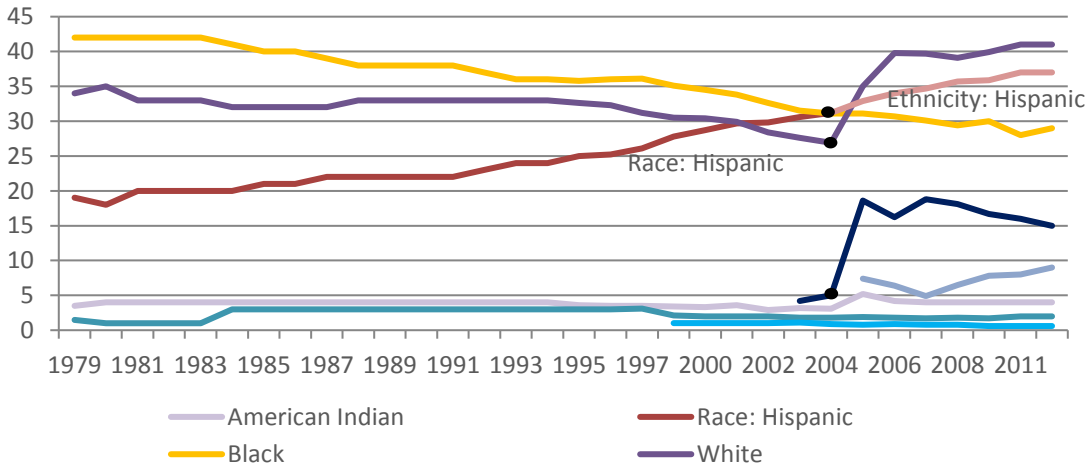
Although Head Start can play an important role in improving racial/ethnic equity in school readiness, evaluating diversity within Head Start presents many challenges. Notably, Head Start data collection systematically gathers enrollment information on only five major racial categories (white, black, Asian, Native Hawaiian/Pacific Islander, and AI/AN) and one major ethnic category, Hispanic. However, the data do not allow an analysis of race and ethnicity combined which limits the specificity of analysis and is out of sync with federal guidelines about the presentation of racial/ethnic categories released by the Office of Management and Budget.

In addition, variation in the racial/ethnic composition of Head Start participants is difficult to track over the years because the reporting method has changed. For most of the program's history, participant race and ethnicity were combined and reported as mutually exclusive categories. In 2005, the Office of Management and Budget's race/ethnicity data collection guidelines were revised, and the Head Start PIR began reporting race and ethnicity separately. Because the PIR, which presents only aggregated enrollment data at the program level, no longer reports combined racial/ethnic categories (eg, non-Hispanic whites), it is impossible to examine enrollment data for child race/ethnicity combined. The break with past race/ethnicity data collection makes it difficult to examine time trends in Head Start racial/ethnic participation.

Illustrating this challenge, Chart 3 shows flat or declining percentages of enrolled children who are white from the 1980s until 2005. However, in 2005 and 2006, there is a sudden jump in the percentage of white children and a reversal of trends – the percentage of enrolled children who are white begins increasing. This dramatic shift is not due to drastic changes in Head Start enrollment but to changed reporting requirements. Many parents of Hispanic children report their race as white, and without the ability to separate non-Hispanic whites from Hispanic whites (who are likely driving the increasing percentages of white enrollment), the time trends are misleading. The changed reporting also impedes current analysis of distinct racial/ethnic subgroups, like non-Hispanic whites vs

Hispanic whites, who constitute very different demographic groups but are now bundled together indistinguishably under the term *white*.

Chart 3. Racial/ethnic composition of Head Start participants over time, 1979-2009 (percentages).



Source: Head Start Fact Sheets, 1979-2009. Head Start Fact Sheets 2004-2012 are available online at the Office of Head Start, Early Childhood Learning & Knowledge Center (ECLKC). Head Start Fact Sheets 1979-2003 are available by request from the Office of Head Start. Data represent the combined racial/ethnic composition of all existing Head Start programs at each year. From 1979 to 1994, the data represent the racial composition of all children in Head Start programs, American Indian/Alaska Native programs, and Migrant and Seasonal programs (Early Head Start was not created until 1994). From 1995 onward, the data represent the racial composition of all children in all four types of Head Start programs: Head Start, American Indian/Alaska Native Head Start, Migrant and Seasonal Head Start, and Early Head Start.

Notes: The evolving Head Start reporting definitions and categories intended to capture participant race and ethnicity have led to inconsistent reporting over time. As these definitions change (eg, addition of Hispanic/Latino ethnicity) or new categories are added (eg, biracial, other, or unspecified), the new reporting categories do not reflect the same types of participants as the old categories, limiting the ability to document changes in the racial/ethnic composition of Head Start enrolled children over time. The 2005 reporting changes, which separate ethnicity from race without also reporting combined racial/ethnic categories, are especially problematic for studying racial composition. Between 2004 and 2005, white and unspecified racial groups displayed an improbable jump in the number of enrolled participants. This was most likely caused by Hispanic/Latino participants, who had previously identified themselves racially and ethnically as Hispanic/Latino and were

then required to choose both an ethnic and a separate racial group. As a result, in addition to identifying themselves ethnically as Hispanic/Latino, a large number of these participants also identified themselves as white or of unspecified race. Therefore, the racial distribution of participants from 2005 onward is no longer comparable with the racial distribution of participants before 2005.

Despite these imperfections, an examination of the data reveals variation in the racial/ethnic composition of Head Start participants by program type, exposure, and state. Analyzing patterns by program type reveals that during the 2010-2011 program year, on average about 25% of children participating in traditional Head Start (for children ages 3 to 5) and AI/AN Head Start programs reported Hispanic or Latino ethnicity, ranging from 2% in West Virginia to 72% in California.[29] However, almost all MSHS participants report Hispanic or Latino ethnicity regardless of their geographic location (99% on average across states). In terms of exposure, Hispanics and Asians tend to be in half-day center Head Start classrooms and participate less in full-day classrooms compared with non-Hispanic black and white children, resulting in less exposure to Head Start services. This variation suggests that racial/ethnic differences in program type and dosage are important to consider when differences in outcomes by subgroup are examined.

Analyzing patterns by state reveals that in some states the level of Head Start participation is fairly uniform across racial/ethnic groups, but in others it varies greatly. For example, in Indiana, participation among income-eligible 3- and 4-year-olds is uniformly low across racial and ethnic groups, whereas in Illinois total participation levels are higher but with greater disparities across racial groups. Therefore, both geographic location and child race/ethnicity can greatly influence children's degree of access to Head Start services.

Staffing Issues

It is well-known that the low wages paid to workers in the child care industry are associated with job instability and turnover.[31] Analyzing Bureau of Labor Statistics occupational data, Whitebook et al[31] found that child care workers in 2013 earned $10.33 per hour. Child care workers earn much less than preschool teachers ($15.11 per hour) and kindergarten teachers ($25.40 per hour). Analyzing program data from Head Start, Walker and Schmit[32] found that in 2013, Head Start teachers earned an annual average salary of $29,650, which is below the annual average earnings of $38,040 for kindergarten teachers but higher than the earnings of other child care workers ($21,710 in 2014). In contrast, teachers in MSHS earned an average of $17,901 in 2013.[33] Some of the difference between Head Start

and MSHS is likely due to the lower proportion of MSHS teachers who have an associate's degree and to regional salary differences. These staffing issues should not be overlooked because poor compensation and staff turnover for child care workers is negatively associated with child care quality.[34] Given the low wages of Head Start teachers, it may be challenging to recruit a new cadre of bilingual teachers to meet the growing demand for teachers who are fluent in children's home languages. This difficulty will adversely affect program effectiveness in reducing school readiness gaps for children learning English and another language.

Evaluation of Head Start's Effectiveness

In previous sections, we have shown that Head Start has had to adapt to significant changes in policy priorities and child demographics. An important measure of whether the program has been successful despite shifting priorities and resource constraints is its effectiveness in improving child outcomes. This section assesses whether the program has been effective and, importantly, given the diversity of the population it serves, whether it has been effective for subgroups of vulnerable children. We start by defining program effectiveness and providing a policy assessment framework developed to determine whether programs are likely to be effective for different populations of vulnerable children.[5] We then assess the research evidence to determine what works for whom and under what conditions, and to evaluate Head Start's effectiveness in reducing racial/ethnic inequities in outcomes. We review the available data and questions that have been used to evaluate program effectiveness. Finally, we outline data that is still needed and questions that should be addressed in future research studies to fully evaluate Head Start's capacity to reduce school readiness gaps.

Defining Program Effectiveness

One of the most basic questions that researchers, policymakers, and the general public ask about policies and social programs is whether they work. For Head Start, this question translates to whether it is effective in helping vulnerable families and children achieve better outcomes. In the current policy environment, there is an increasing focus on evidence-based policymaking, which uses rigorous program evaluation research evidence to guide funding decisions and future program replication or expansion. Research evidence on program effectiveness often provides an overall "What works?" assessment of social programs based solely on the results of causal impact evaluations: studies that use experimental research designs (ie, random assignment) to evaluate a program's average impacts. However, there is a growing call for research evidence that addresses two

additional questions with important implications for policy and equity: "What works for whom?" and "What works under what conditions?"

Answering these questions requires different types of evidence. As mentioned, the first question, "What works?" can be answered with traditional program effectiveness research evidence – that is, impact evaluations that use experimental designs to estimate the average effect of a program on participant outcomes. However, the second two questions, "What works for whom?" and "What works under what conditions?" require an examination of the broader program context, including program logic or design and capacity. For example, if a program is not designed to provide targeted services to address the needs of a given vulnerable child subgroup, this should be considered in an evaluation of whether the program works for that subgroup. Similarly, any variation in the implementation of a program should be understood as it may result in differences in the program's quality or intensity, and thus potentially its effectiveness, across subgroups of children.

Head Start's Research Landscape

Head Start is one of the oldest and most studied federal social programs targeting low-income children in the United States. Since its implementation in 1965, researchers, policymakers, and the public have wanted to know if and how it improves child outcomes. This concern is ongoing; in the past 15 years, many rigorous studies have been conducted, including the Head Start Impact Study (HSIS) mandated by Congress in an attempt to definitively answer whether Head Start "works" and "for whom." Reviewing HSIS results and other research evidence, we classify the types of studies that have been conducted, identify available data sources, determine what research questions have been asked, and ultimately establish what questions still need to be asked to capture a complete picture of its effectiveness. This review examines research evidence on the effectiveness of the Head Start program serving 3- to 5-year olds. Although research has been conducted on other programs, such as MSHS, AI/AN Head Start, and EHS, these are not the focus of this review.

Availability of Data Sources to Evaluate Head Start

There are five main data sources available to answer questions about Head Start's effectiveness. The first two data sources allow a descriptive documentation of Head Start programs and centers. The Program Information Report (PIR) is an annual survey-based census of all Head Start programs. The PIR can be used for program performance management and the documentation of participant and staff characteristics. It also provides a

demographic breakdown of Head Start participants by race/ethnicity, disability, child age, and other characteristics.

The second data source is the Family and Child Experiences Survey (FACES). This is a triennial survey of a nationally representative sample of Head Start programs, centers, classrooms, teachers, children, and families. The study follows children through the end of kindergarten, and the data may be used for program performance management and outcome evaluations.[35]

The best-known data source is the 2002 HSIS. The HSIS is a nationally representative, multiple-outcome measure impact evaluation of the Head Start program, following 3- and 4-year old children through the end of third grade.[7] Data may be used to assess the impact of receiving an offer of Head Start services (compared with no offer) on child school readiness and other outcomes. Notably, HSIS did not collect information on AI/AN Head Start programs or on MSHS programs, so HSIS data cannot be used to research impacts for these populations. This dearth of information on MSHS and AI/AN Head Start highlights how the availability of research data can influence which aspects of a program are evaluated and the quality of research evidence for specific subgroups.

The next group of studies focuses within the Head Start population and examines specific enhancements to Head Start. These enhancements include adding literacy and/or social-emotional curricula, health prevention, or parental employment services to regular services. For example, the Hip-Hop to Health Jr. program was an obesity prevention program for black and Latino Head Start preschoolers that was integrated into Head Start programs.[36] Other interventions have implemented dual-generation approaches, such as adding parental employment assistance to usual Head Start services.[18] Some federal agencies have sponsored research of specific evidence-based curricula. For example, a federal interagency working group funded a study known as the Research-Based, Developmentally Informed (REDI) intervention, which was a mixed-methods impact evaluation of a research-based literacy and social-emotional curriculum enrichment program within Head Start classrooms in Pennsylvania.[37] Importantly, the REDI experiment was accompanied by an implementation study in which qualitative methods and surveys were used to describe in depth Head Start classroom implementation of the REDI curriculum in terms of exposure, fidelity, generalization, and child engagement.

Many of these studies and data sources collect information on race, ethnicity, parenting practices, disabilities, or household indicators, such as unemployment or receipt of public assistance. These data are essential and

should be more systematically and uniformly collected across data systems, as well as further examined and analyzed to understand how program effects may vary across subgroups of children. Unfortunately, only a limited number of studies have included implementation analysis, which is essential to understanding the conditions under which programs are effective.

MSHS and AI/AN Head Start have traditionally not been included in Head Start evaluations. For example, MSHS participants are usually omitted from national Head Start studies, and AI/AN Head Start programs are excluded from the recurring Head Start FACES. As a result, it is difficult to reach a conclusion about whether Head Start works for these important subgroups when evaluative information is limited. New surveys are underway to help address this information gap.

Review of the Research Evidence

We now turn to a review of the research evidence on Head Start effectiveness, keeping in mind the limitations of Head Start studies and data sources. Research findings provide conclusive evidence that the program achieves its primary goal. Our assessment shows that Head Start improves child school readiness at kindergarten entry across multiple domains, including some cognitive outcomes (eg, language and literacy), social-emotional outcomes, health status, and dental care.[7]

Results from assessments of the 2009 FACES cohort demonstrate that Head Start involvement is associated with some school readiness gains in the domains of cognitive development, social-emotional skills, and approaches to learning. The HSIS found that access to Head Start resulted in initial positive impacts during and at the end of preschool in all measured domains, including cognitive development, social-emotional skills, and health status and services. It is important to note that these impacts are neither large nor consistent across all areas and stages of development, indicating that there may be room for improvement within the program.

Longer-term findings are also part of Head Start's evidence base, although impact past kindergarten is beyond the scope of the goals delineated in the program's legislation. Non-experimental longitudinal studies find long-term positive effects of Head Start participation in adulthood.[38,39] However, short-term elementary school evidence from HSIS shows that cognitive scores converge for treatment and control children, and there is no clear pattern in social-emotional or health outcomes. There are no current data to help understand why children who do not participate in Head Start catch up to their Head Start peers in elementary school. Given these findings, it remains to be proved conclusively (ie, through randomized

experimental studies) whether there are any dramatic gains from Head Start that last beyond the preschool years. Non-experimental studies, though, have found lasting effects into adulthood.

It also appears that Head Start may be particularly beneficial for black and Hispanic children's school readiness. An analysis of 2009 FACES data shows that black (non-Hispanic) and Hispanic/Latino children, compared with children of all other races, demonstrated the greatest gains in several measures of language or math cognitive development by the end of the first year in Head Start.[35] Of all racial groups, black children made the most progress in early writing, while Hispanic/Latino children were the only racial/ethnic group to increase their scores in applied problems in their first year of Head Start. Analysis of the HSIS also found that positive cognitive impacts were particularly strong for Hispanic and black children right before they entered kindergarten. Paradoxically, Head Start has mixed results at pre-kindergarten entry for DLLs (defined by the study as children whose home language is not English). One study using FACES 2009 data found that Spanish-speaking DLLs assessed in Spanish at baseline (as opposed to English) lagged significantly behind their English-speaking Head Start peers in all cognitive domains, and that they made progress in letter-word knowledge across the first year.[35] On the other hand, for 3-year old Spanish-speaking children, in the Head Start group demonstrated positive effects in parent perceptions of children's emerging literacy, as well as significant gains in vocabulary representing a 13% reduction in the gap from national norms on the Peabody Picture Vocabulary Test (PPVT).

Within Head Start, specific small-scale, experimental evaluations of program enhancements targeting a variety of child outcomes, such as social-emotional skills and overweight, demonstrate significant short-term positive impacts in the 1- to 2-year follow-up period. For example, results suggest that exposure to the REDI program (which targeted social-emotional skills) over a 1-year period is positively associated with a number of school readiness measures across language development, emergent literacy, and social-emotional skills.[37] These studies indicate that enhancements can be made in Head Start to further improve children's school readiness and health, at least in the short term.

Interpreting the Research Evidence

Although the empirical results of Head Start studies are, for the most part, not disputed, there is substantial debate about the interpretation of this research evidence and what it means for Head Start effectiveness. This debate is focused on the results of HSIS, which was designed to answer definitively the question of whether Head Start works.

The results of HSIS should be considered within the context of a long history of evidence of Head Start's effectiveness. In 1997, the U.S. Government Accountability Office (GAO) released a comprehensive review of all existing Head Start research and found that no conclusive statement could be made about Head Start effectiveness because of the small number of impact studies, an overemphasis on cognitive outcomes, weak research methods or designs, and lack of generalizable results.[40] In the 1998 reauthorization of Head Start, HSIS was included as a direct response to this GAO report. Yet, to some degree, HSIS has not resolved the debate. Impact studies of other intensive localized preschool programs, such as the Abecedarian and Perry Preschool programs of the 1960s, have shown steady benefits well into adulthood. Some authors note that the shorter-term positive impacts on school readiness and the catching up of non-Head Start participants in elementary school found in HSIS seem negligible in comparison, and that Head Start is ineffective.[41] However, other authors argue that when the entire body of Head Start research is examined (HSIS and non-experimental research), Head Start produces important short-term educational and health impacts related to the program's school readiness goals, as well as lasting effects in adult outcomes.[39]

The debate is fueled by differing interpretations of HSIS research evidence. Traditional "What works?" impact assessments are important and can result in improvements and enhancements that make the programs more effective. For example, the Coalition for Evidence-Based Policy suggested a reasonable conclusion based on its traditional impact assessment: Head Start needs improvements and should allocate funds to test more evidence-based practices (eg, further curriculum enhancements, professional development, mentoring and coaching for teachers), which might make the program more effective and produce long-term impacts. However, for a complex program like Head Start, relying on average impacts to determine effectiveness is a narrow lens for interpreting evidence and may result in the omission of important nuances, such as positive (differential) effects on subgroups of particularly vulnerable children. This could bar the program from the list of top-tier evidence-based programs and result in its losing public support or funding.

In contrast, an examination of the impact study results within the context of Head Start's logic, capacity, and participant characteristics brings to light a more nuanced conclusion of program effectiveness. Since 1997, Head Start's official goal has been to improve child school readiness – not school achievement at third grade or long-term adult outcomes. Moreover, the program's capacity is limited significantly by funding, operations, and quality indicators. For example, Head Start per-student funding is a fraction

of that of the Abecedarian and Perry Preschool interventions,[28] and there is significant variation in child experiences because Head Start functions at a much larger scale. Head Start classroom ratings of instructional and social-emotional quality are average (as are ratings for most preschool programs, a clear indication of the need for improved quality across the board). Within this context of program goals, constrained resources, and high levels of variation, it is remarkable that studies were able to detect overall positive impacts on school readiness at kindergarten entry. Given the size of the effects, this average impact constitutes a modest success. Moreover, the later positive impacts in elementary school for particularly vulnerable subgroups, such as children from high-risk households (defined by five factors, including receipt of Temporary Assistance for Needy Families [TANF] or Supplemental Nutrition Assistance Program [SNAP], parents without a high school diploma or GED, parents who are not employed or in school, single-parent households, and teen parents) and black children, highlight important equity impacts and the role the program may have in closing school readiness gaps.

Perhaps the biggest take-away from HSIS is not a definitive conclusion about whether Head Start works, but rather a better understanding of how this program should be evaluated and improved. The flexibility inherent in the program's design and substantial variation in how it is implemented (operating schedules, languages, curricula, activities, and other factors) make it difficult to capture a single Head Start experience. The variation may hide important impacts when the overall "Head Start effect" is assessed, as in HSIS. It was with great foresight into the issues encountered by HSIS that the Advisory Panel for the Head Start Evaluation Design Project put forth research recommendations in 1990, stating the following:

> An overall research strategy rather than a single large-scale study is the appropriate framework for addressing critical Head Start research and evaluation questions. The panel recommends strongly against a single large-scale study of Head Start as the principal mechanism for seeking answers. … Head Start is not, in any simple sense, a uniform "treatment."[42]

Indeed, HSIS evaluated an average of so many different experiences that without an accompanying implementation analysis, the study likely overlooked critical nuances in what works for whom and why. On the other hand, smaller, local, and component-specific studies such as the REDI

intervention yield cleaner and more conclusive results about the impacts of particular program components on specific child outcomes. Although not as generalizable, more focused studies may have greater success in detecting important impacts in Head Start because of the breadth and flexibility inherent in the program. In all future evaluations of Head Start, large or small, implementation evaluation should be a key component because research suggests that positive results are more likely to be replicated when the fidelity and quality of implementation are high.[43]

Mirroring the need to hone in on local variation in program evaluations, Head Start should also tap into local variation when making improvements. Along these lines, the Coalition for Evidence-Based Policy and the Rand Corporation's Promising Practices Network ratings of Head Start went beyond average impacts to note that within Head Start there are many different strategies and approaches to early education and care, and that the program should devote resources to expanding those strategies with proven effectiveness.[44] Head Start should create strong incentives to adopt evidence-based curricula that integrate educational and social-emotional components and practices that are proven to work for economically disadvantaged children and for especially vulnerable subgroups, such as children with special needs and DLLs. Ultimately, identifying and expanding successful evidence-based practices within the heterogeneous Head Start population may be the key to improving school readiness for all children and narrowing school readiness gaps for the most vulnerable.

Implications for Reducing Racial/Ethnic and Income-Based School Readiness Gaps

Does Head Start have the design and capacity to make a dent in persistent achievement gaps? The logic of the Head Start program carries an implicit goal of improving school readiness gaps among children by targeting vulnerable groups, which include mostly low-income children and a disproportionate share of racial or ethnic minorities. Although reducing school readiness gaps is not explicit in the legislation and policy guidance, Head Start's design demonstrates the potential to improve equity in child school readiness by providing access for children facing significant cost and participation barriers to early education. Head Start addresses the problem that low-income children have limited access to high-quality early childhood education and demonstrate lower average achievement scores at kindergarten entry in comparison with their higher-income peers. The program alleviates limited access to early childhood education opportunities by eliminating cost barriers. By improving access, Head Start may also help

reduce the racial/ethnic gap in access to early childhood education, given that black and Hispanic families are more likely to be low-income families and therefore susceptible to cost barriers to quality early childhood education.

The research evidence on Head Start's effectiveness and equity impacts reflects both its promising design logic and its constrained capacity. This evidence suggests that Head Start has positive school readiness impacts for children at kindergarten entry, yet these impacts are not enough to eliminate school readiness gaps between Head Start participants and their non-low-income counterparts,[7] or between DLLs and monolingual English-speaking children within the program.[45] Some studies have found that although Head Start does not eliminate school readiness gaps, it does help narrow them, both overall[46] and for specific vulnerable populations within the program.[6] These findings suggest that improvements to the program could result in its greater ability to reduce school readiness gaps.

Further Research to Investigate Ways Head Start Can Reduce School Readiness Gaps

Although Head Start's extensive research findings are encouraging, many questions remain unanswered, and more research evidence is needed to document the program's reduction of gaps in school readiness. Some examples of unanswered questions include the following: What are the size and demographic composition (eg, child race/ethnicity) of Head Start programs' waiting lists? To what extent are programs achieving quality benchmarks? Can parents access this information to make decisions about enrolling their children in a Head Start center? In terms of implementation, what factors account for the variation in Head Start service implementation, including levels of quality, among programs? Does variation in program implementation across sites explain differences in impacts? In terms of program components and services, does exposure to high-quality programs or specialized program components differ by child race/ethnicity? What individualized services do children with special needs receive? What health services are delivered on the ground, and how are they linked to a broad array of parent and child health outcomes measured by biomarkers and medical records, rather than self-report? Do the program's effects on health vary by child/parent race/ethnicity?

This research evidence base could come from new analyses of existing data as well as from new studies designed with a focus on school readiness gaps. Future studies that include more equity-specific research questions will require sample sizes large enough to conduct subgroup and gap analyses of intervention effects (eg, evidence-based curriculum

enhancements). In addition, new studies should pay more attention to interventions and measures specific to more vulnerable subgroups (eg, children with special needs and DLLs), such as the type and quality of instruction that can effectively prepare these children for successful learning.

We recommend three different types of inquiry. First, it is important to determine whether Head Start has positive effects on school readiness for other subgroups of children that have not been studied thus far (eg, immigrant children or first-generation immigrant children). Another line of research should focus on whether Head Start reduces school readiness gaps between the most and least vulnerable participants in the program and between program participants and preschoolers not living in poverty. Lastly, implementation studies are essential to better understand how variation in local Head Start programs and the use of evidence-based practices may affect quality and lead to differential effects on school readiness outcomes. Filling in these research gaps will help Head Start improve its ability to address persistent school readiness gaps and better serve the changing child population.

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