Investing in Young Children

New Directions in Federal Preschool and Early Childhood Policy

Edited by Ron Haskins and W. Steven Barnett

Center on Children and Families at BROOKINGS

NIEER
NATIONAL INSTITUTE FOR EARLY EDUCATION RESEARCH

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This research was funded by The Pew Charitable Trusts. Any opinions, estimates or conclusions expressed herein are those of the authors and do not necessarily reflect the position of the Trusts, the Brookings Institution or the National Institute for Early Education Research.

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NEW DIRECTIONS FOR AMERICA'S EARLY CHILDHOOD POLICIES[1]

Ron Haskins and W. Steven Barnett

This volume explores whether the nation's early childhood programs are boosting child development and preparing children for schooling and proposes reforms that would improve the programs. The volume contains contrasting papers on the success of Head Start, Early Head Start, and home-visiting programs and on policies that would improve these three programs. In this overview paper, we detail government spending on early childhood programs, review the number of children enrolled in each type of program, review the papers on the three programs and an additional paper on program coordination, and recommend policies that would increase the returns produced by early childhood programs.

Ron Haskins is a Senior Fellow in the Economic Studies program and Co-Director of the Center on Children and Families at the Brookings Institution and Senior Consultant at the Annie E. Casey Foundation.

W. Steven Barnett is a Board of Governors Professor and Co-Director of the National Institute for Early Education Research (NIEER) at Rutgers University.

The Obama administration has shown a great commitment to expanding and improving early childhood programs and a willingness to make difficult budgetary decisions based on hard evidence about program effectiveness. Thus, with generous support from The Pew Charitable Trusts, the Center on Children and Families at the Brookings Institution and the National Institute for Early Education Research at Rutgers asked several of the nation's leading scholars to examine current policies and evidence regarding the impacts of early childhood programs supported by federal policy and, in light of the best available evidence, to propose reforms they thought would improve current programs individually and collectively. Their reviews cover Head Start, Early Head Start, home visiting, and some discussion of child care in the context of coordinating early childhood policy. There are at least four reasons we believe now is the right time to conduct this review and to propose new directions for federal early childhood policy.

First, most of the major federal policies have been in effect for at least a decade, providing adequate time to judge their value after full implementation. The field of early education now has considerable information on how federally funded programs operate and their effectiveness. Second, despite some common aims, each federal program has a unique history characterized by its own goals, administrative structures, financing, and interest groups. As often happens when policymakers create several policies with similar or overlapping purposes, some trimming or coordination between the programs might be in order. Third, the federal budget is on an unsustainable path creating the virtual certainty that federal taxes will have to be raised and spending will have to be cut soon.[2] Similarly, states collectively face one of their worst fiscal situations ever and can be expected to continue their search for both new revenues and program cuts.[3] Thus, although early childhood programs account for a small percentage of federal and state government spending, the years of steady if somewhat bumpy increases in funding for such programs—including child care—may soon come to an end and the potential is great for cuts in the near future. These fiscal considerations make efficient and effective use of resources for early childhood programs imperative. Finally, the Obama administration has made a commitment to improving and even, at least temporarily, expanding federal support for some early childhood programs despite the fiscal constraints. Congress may be expected to approach such proposals warily, at best. For all these reasons, we believe the time has arrived to provide a frank assessment of early childhood policy and to make recommendations based on program performance and fiscal realities.

We begin by reviewing the most important numbers needed to analyze current policy; namely, government expenditures on the major programs and the number of children receiving various types of services. We then turn to a brief overview of the major programs, with special attention to the evaluations of program effectiveness, the details of which are provided by the papers that follow. Having reviewed demand, spending, and program effectiveness, we conclude with a set of policy recommendations for the Obama administration and Congress.

EARLY CHILDHOOD EXPENDITURES AND ENROLLMENTS

Table 1 presents estimated and projected expenditures for the major federal early childhood programs. Although our projections are rough estimates, it is clear that there has been a substantial infusion of public funds between 2008 and 2011, some of it through the American Recovery and Reinvestment Act of 2009 (ARRA).[4] Although much of the ARRA funding has been spent, the Congressional Budget Office indicates that some child care funds will be spent after 2011. Our projections for 2011 also include increases in the president's 2011 proposed budget, though we do not know as of this writing that Congress will approve the continued funding (we did not include the Early Learning Challenge Grants which appear unlikely to be funded). Early Head Start, Head Start, child care, and home visitation are likely to have received substantial permanent increases by 2011. Preschool special education and early intervention are not expected to receive a permanent increase. It appears that total federal spending across all these programs could rise from just over $17 billion to over $21 billion, an increase of $4.6 billion from 2008 to 2011, not including the increase in tax credits which could add another $2.2 billion.[5] State and local

Table 1: Spending on Children Under Age 5 by Major Federal Early Childhood Programs

Program[4]	2008	2010	2011 Federal Budget
Head Start (excluding Early Head Start)[4a]	$6.2 billion	$6.7 billion*	$7.2 billion*
Early Head Start[4a]	688 million	1 billion*	1.7 billion*
Child Care Subsidies[4b]	5.2 billion	5.7 billion*	6.5 billion*
Child Care Food Program[4c]	1.3 billion	1.4 billion	1.5 billion
Tax Credits (CDCTC and DCAP)[4d]	2.2 billion	2.2 billion	Expected increase since Obama proposal raises CTCDC eligibility limits
DoD Child Care[4e]	300 million	750 million	800 million
Title I Preschool[4f]	400 million	500 million*	550 million*
Preschool Special Education (IDEA Part B, Sect. 619)[4g]	374 million	574 million*	374 million
Early intervention for infants and toddlers with disabilities (IDEA Part C)[4h]	436 million	632 million*	649 million*
Home Visiting[4i]	0	100 million	250 million
*Total***	*$17.1 billion*	*$19.5 billion*	*$21.7 billion****

*Totals include additional ARRA funds for FY 2010 and FY 2011.
**Note that part of the reason for the significant increase from 2008 is ARRA funding, which accounts for $1.4 billion of the 2010 funding and $1.6 billion of the 2011 funding.
***This total includes tax credits continuing at 2010 levels. President Obama has announced his intention to increase the credit amount, "nearly doubling" its value; see Eric Karolak, "FY 2011 Federal Budget Process Begins with Bold Proposal," *Child Care Exchange* (March/April 2010), p. 40.
Sources: See endnote 4.

governments provide additional support for early childhood programs, much of it for children with special needs as federal expenditures for preschool special education and early intervention cover only a small fraction of the costs of these programs.[6] State and local expenditures for pre-K passed $5.7 billion by 2009, up $500 million from 2008, but are not expected to increase appreciably through 2011.[7] State expenditure on child care for children under age 5 is estimated to add at least another $2 billion annually.[8] Thus, total federal and state spending on preschool programs and child care is likely to exceed $31 billion in 2011. A major purpose of this volume is to propose reforms that would increase the returns on this substantial investment in children's development.

Exactly how many children are served by public programs is less easily determined. Table 2 presents participation rates in center-based programs in the two years prior to kindergarten by family income, as reported by parents in 2005. For children who are in more than one arrangement, Head Start is always reported if this is one of the arrangements; otherwise the arrangement providing the most hours is reported. Very few parents reported regular multiple center-based arrangements (supplementary home-based arrangements are more common).[9] As can be seen, roughly 75 percent of children are enrolled in a center during their 4-year-old year and 50 percent during their 3-year-old year. Children also receive care by relatives and non-relatives outside their homes, but rarely at age 4 and somewhat more frequently at age 3. About half of children under age 3 receive nonparental care or education, and this is more likely to be home-based than center care.[10] Infants and toddlers in low-income families are more likely to be at home with their parents; about 40 percent receive regular nonparental care.[11]

The number of children enrolled in Head Start was somewhere between nearly 800,000 and just over 900,000 in 2009, depending on how enrollment is defined (continuously enrolled or enrolled at some time during the year) and reported. However, no matter what figure is used, it is clear that Head Start enrollment declined slightly from 2006 to 2009, and there was no substantive enrollment increase in 2010 (an increase of about 14,500 children is projected for 2011). Most of the increased expenditure for Head Start (not including Early Head Start) has been devoted to cost of living increases for staff, program improvements, staff training, and similar purposes.[12]

From the data in table 2, it appears that there are numerous income-eligible children who are not in Head Start. Since 2005, some of these children may have instead been taken up by the expansion of state pre-K programs, which have not received any targeted funding from the federal government. Early Head Start has been quite small, but is expected to increase enrollment by more than 50,000 children by 2011, a large increase over the 66,000 served in 2009, but a tiny fraction of poor children under age 3.[13]

With an enrollment of even 900,000 Head Start would serve somewhat less than half the nation's over two million 3- and 4-year-olds in poverty (10 percent of Head Start enrollees are permitted to be over the poverty line and additional children may be enrolled up to 130 percent of poverty

Table 2: Ages 3 and 4 Preschool Program Participation, Spring 2005

Type of center	Percent of all children	Percentage within each family income quintile				
		1st (<$20,000)	2nd	3rd	4th	5th (>$100,000)
3-year-old cohort						
Head Start	8	20	9	7	1	1
Special Education	4	1	3	3	3	10
Private—fee paid	32	15	18	27	51	66
Private—no fee	4	7	4	2	1	2
Other Public	3	3	3	4	3	3
Total	*51*	*45*	*38*	*43*	*59*	*82*
4-year-old cohort						
Head Start	13	29	23	4	5	0
Special Education	6	2	5	10	7	4
Private—fee paid	36	12	18	37	52	72
Private—no fee	6	10	6	7	5	3
Other Public	13	11	13	11	16	12
Total	*74*	*64*	*64*	*69*	*85*	*90*

Source: Estimates from the 2005 National Household Education Survey. Data are reports in the spring of 2005 for school age cohorts so that children "age 4" are those expected to attend kindergarten in the fall of 2005 (some of whom have already turned 5 by the time of the interview) and children "age 3" are those expected to attend kindergarten in fall of 2006. Head Start is listed as the participant's primary enrollment whenever it is reported; otherwise primary enrollment is the one in which the child spends the most time. Few children are reported to participate in multiple types of centers.

if all children under the poverty line are served in a given area). However, poverty is a moving target, and perfect targeting is not possible. As family incomes rise and fall, some children who are poor at entry to Head Start will not be poor six, twelve, or eighteen months later, while others who did not qualify at the beginning of the school year will become poor later in the year. This ensures that Head Start will always include some families who are not poor when income is measured later in the year (as in table 2) and will always miss some families who are poor. In addition, a recent Government Accountability Office (GAO) study reported that, at the urging of local Head Start staff, some ineligible families misrepresent their income in order to enroll their children in the program.[14] How much this misrepresentation (as opposed to changing family circumstances) contributes to over-income enrollment is unknown, but the bottom line is that when measured in the spring, about half the children enrolled in Head Start are not poor, and about 18 percent of the children served by Head Start are not even in the bottom 40 percent of families by income considering all children across both age groups. Obviously, some error is possible in the self-report, but the overall numbers are consistent with Head Start's own enrollment figures. Head Start appears to serve many children who are not poor. While most of those are low-income, of the children in the bottom income quintile, all or nearly all of whom are in poverty, Head

Start serves only about 30 percent of children at age 4 and 20 percent of children at age 3.

Of course, not every poor family with a preschooler wants to enroll their child in Head Start. Most Head Start programs are open only on school days. Some offer only half-day services, while most others are open six hours, and some are only open four days per week. These schedules may not provide sufficient child care for some parents. Unless wrap-around care is available for additional days and hours parents may choose other services. Many Head Start eligible families are also eligible for state and local pre-K programs, the majority of which also operate for six or fewer hours per day. Nevertheless, in 2005 about half of 3-year-olds and over one-third of 4-year-olds from families in the bottom fifth of the income distribution (poor families) were not enrolled in any center-based program and most of these were at home with their parents.

In sum, there is a substantial population of children in poverty who could be served by Head Start or some other program, but are not. Head Start could serve many of these children if it were better targeted. However, we do not know how much targeting can be improved at a reasonable cost. Families' incomes fluctuate over time so the target is always moving. Some unserved children in poverty might not enroll if offered the opportunity, though the recent GAO report suggests that many would enroll. Another potential difficulty for Head Start is that its centers (unlike public schools) are located in only some communities, and when families in poverty move to other communities Head Start may find it difficult to recruit and transport children to one of its programs.

Federal child care subsidies (not including tax credits) served about 1.2 million children under five per month (550,000 at ages 3 and 4; 660,000 under age 3) in 2008.[15] Not all families receiving these subsidies are below the federal poverty line. The number receiving subsidies is about 10 percent of all children under age 5 in child care.[16] It was anticipated that the ARRA funds for child care subsidies would increase the number of subsidized children by about 150,000 per month, and 82,500 of these would be expected to be under age 5.[17] Many of the children and families receiving child care subsidies and tax credits appear in the totals in table 2. Children who only receive family home day care or relative care at ages 3 and 4 (and children under age 3 regardless of type of care) do not appear in table 2. As noted earlier, more than half the children under age 5 receiving subsidies are actually under age 3 where informal care is even more common.[18] We note that the number of children receiving a subsidy at some time during the year is considerably higher than the monthly average because of turnover. Eligibility for subsidies is contingent on periodic redetermination of parental work status and income. This also means that many children receive far less than a year of continuously subsidized care. The quality of much subsidized care is not high, and it provides little support for child development.[19] As a result, most of the subsidized child care children from poor and low-income families receive is not an adequate substitute for a regular early education program.

Federal child care tax credits, which reimburse between 20 percent and 35 percent of the amount parents pay for care up to a maximum, helped by far the largest number of children and families. The credit was claimed by nearly 6.6 million families of children under age 13 in 2007.[20] About $2.2 billion of the almost $4 billion in credits were for children under age 5.[21] In contrast to other policies and programs, tax credits favor higher-income families. None of the child care tax credits is estimated to benefit families in poverty, while over 70 percent is estimated to be received by families in the top 40 percent of the income distribution.[22]

Most of the subsidized child care children from low-income families receive is not an adequate substitute for a regular early education program.

State and locally funded pre-K programs serve a substantial portion of the population at age 4. Most target lower-income families, but they are much less targeted by design than Head Start, and in practice participation rates in state and local pre-K are similar for lower-, middle-, and higher-income families. In 2005, preschool special education and "other public" programs facilities served 19 percent of 4-year-olds. Special education and other public programs are primarily administered and funded by state and local education agencies. Enrollment in these state and local education programs at age 4 rose to 28 percent by 2009, but much of this increase appears to have been accompanied by a reduction in private program enrollment or, more precisely, by the incorporation of private programs into state pre-K, usually with higher standards.[23] State and local public programs enroll few children at age 3, and this has changed little for nearly a decade.

OVERVIEW OF MAJOR PROGRAMS

In this section we summarize the following papers on Head Start, Early Head Start, and home visiting as well as the conflicting views expressed on both the purposes of these programs and their effects on children's development. We also comment briefly on the paper outlining ways these programs might be better coordinated.

Head Start

Initiated in 1965, Head Start aims to improve children's school readiness by enhancing their social, emotional, and intellectual growth. The program provides educational, health, nutritional, social, and other services to low-income families and children, primarily those ages 3 to 5 in the two years prior to kindergarten. Annually, Head Start may serve around 900,000 children at a cost exceeding $7 billion.[24] As noted earlier, programs vary in the number of hours per day, days per week, and days per year. Less than half of the children enrolled received a full school day, five days a week during the school year in 2009.[25] The Obama administration expanded Head Start funding with nearly $1 billion in the ARRA and has proposed a permanent increase of nearly

$1 billion for Head Start and Early Head Start (see below) in its 2011 budget.[26]

Following a 1997 Government Accountability Office report telling Congress that the information then available was not adequate to evaluate Head Start effectiveness,[27] in 1998 Congress ordered the U.S. Department of Health and Human Services (HHS) to conduct a large-scale random assignment study of Head Start impacts. The resulting study—the Head Start Impact Study—subsequently conducted in response to the congressional requirement provides longitudinal data on about 5,000 3- and 4-year-old children who applied for Head Start in the fall of 2002 and were randomly assigned to treatment and control groups for one year (3-year-olds in the control group could attend a year later at age 4). Participating children represented 383 centers in eighty-four agencies around the country, making this the biggest study of a representative sample of Head Start children and control children ever conducted. The study collected information from in-person and telephone interviews, child assessments, direct observations of program quality, and teacher ratings of individual children.

Even taking all of the mitigating considerations into account, we conclude that these reports show that Head Start is not fulfilling its promise.

Two detailed reports have now been published about the outcomes of the study. The first report, published in 2005, found some modest impacts on language development and parents' behavior at the end of the Head Start year.[28] The most recent report, published in 2010, found virtually no overall cognitive, social, or emotional impacts at the end of first grade.[29] In assessing these results, it should be recognized that: (a) there were significant crossovers between treatment and control groups (no-shows and control children who wound up in Head Start); (b) there were many control children who attended child care or other preschool programs; and, (c) the public schools children attended after Head Start may have helped control children catch up with children who had attended Head Start. In addition, the study estimated the effects of only one year of Head Start at a time and not the combined effects of two years.

Even taking all of the mitigating considerations into account, we conclude that these two reports show that Head Start is not fulfilling its promise. Even the most favorable estimates of Head Start's initial impacts are far smaller than those demonstrated by the programs that inspired Head Start, including the Child Parent Centers which were delivered to disadvantaged children on a large scale by the Chicago Public Schools.[30] Head Start learning gains also are distinctly smaller than the estimated gains in some state-funded preschool programs for similar populations.[31] The Impact study itself indicates that the learning trajectories of Head Start (and control children) in literacy and math were quite slow at ages 3 and 4 compared to rates of growth for the same children in kindergarten and first grade.

This is consistent with results of the 2003 longitudinal study—the Head Start Family and Child Experiences Study (FACES)—of a random sample of Head Start children that found minimal increases in standard scores for literacy and math from fall to spring.[32]

These findings are troubling. There is evidence of long-term impacts of Head Start from other nonexperimental studies, as discussed in the chapter by Ludwig and Phillips.[33] However, the experimental evidence indicates that Head Start produced at best minimal improvements in short-term educational, social, emotional, and health outcomes in the last decade. There is no plausible mechanism by which substantial long-term impacts could be produced without even stronger short-term results.[34] While some health-related benefits may have been important in the past, advances in access to health care for children in low-income families have obviated much of the reason for Head Start to assist in obtaining health care, as the Impact study suggests.[35] Given that the major purpose of Head Start is to improve learning and development with a view to increasing school readiness, the Head Start program needs major reform.

Early Head Start

Established in 1994, Early Head Start (EHS) began operation with sixty-eight programs in 1995. In 2009, EHS funded more than 650 programs enrolling over 66,000 children under age 3 at a cost of $709 million.[36] Additional funds were made available through the ARRA for 2009 and beyond, and the administration has proposed to fund EHS at $1.3 billion in 2011, exclusive of ARRA funding.[37] This figure is nearly double the level of a few years ago.

In 2008-2009, Early Head Start served about 27,000 children in full-time center-based programs and 23,500 in home-visiting programs.[38] Additional children were served through other modes of service including family home day care, and some children received both home visiting and child care. The EHS program was established at a time of increased attention to the prenatal-to-toddler period as a period of rapid growth and development by the end of which large gaps have opened up between poor children and middle-class children.[39] Earlier intervention to prevent development of the gap was believed to be important and EHS was developed to fulfill the need for such early intervention.

A rigorous evaluation of EHS produced findings that were consistent with the results of other randomized trials of home-visiting and comprehensive two-generational models.[40] Although there were some modest effects on parenting and fewer subsequent births in the two years after program entry, effects on child development by the end of the program at age 3 were small in both absolute terms and relative to the gap with more advantaged children. To put the magnitude of the effects in perspective, the percentage of parents who reported reading to their child every day at age three increased from 52 percent to 57 percent, and children's vocabulary scores increased from the 10th percentile to the 13th percentile. In follow-up at age 5, no lasting effects were found for language or cognitive development, while small effects were found for parent-reported behavior problems and

approaches to learning, but not for other parent-reported measures of social and emotional development. Although it has been reported that some effects are larger for some types of programs or for some subgroups of children, these findings are not the same at age 3 and age 5, suggesting to us that they result from capitalizing on chance rather than real differences in programs or subgroups. It appears that EHS is no more effective at improving children's school readiness than is one year of Head Start. The large increase in EHS funding presents an opportunity for serious evaluation to develop more effective models.

Home Visiting

Among its many provisions, the historic health care legislation enacted by Congress in March 2010 contained a provision establishing a federal home-visiting program with $1.5 billion in funding over five years, starting at $100 million in 2010 and gradually increasing to $400 million in 2013 and 2014.[41] From beginning to end, the story of home-visiting programs is steeped in the social science community's call for policy based on evidence.

Although home visiting has been studied since the 1960s and has been publicly provided on a limited scale for many years, it began to receive greater attention from researchers and policymakers due to findings of positive outcomes for the Nurse-Family Partnership program developed by David Olds in Elmira, New York, beginning in 1978.[42] The fundamental justification for the Olds program—and most other home-visiting programs—is the age-old notion that the best way to reach the very young child is through the mother. The Olds program sends trained nurses into the homes of disadvantaged mothers starting before the third trimester of pregnancy with their first child, and provides guidance to the mother about prenatal care, breast feeding, nutrition, smoking, alcohol consumption, employment, and many other topics vital to child development and the mother's responsibilities and opportunities. The visits continue throughout the pregnancy and, with decreasing frequency, through the first and second years of the baby's life. A major characteristic of the program is that the mother develops a close relationship with the nurse—a respected authority figure—whose major goal is to help the mother make good decisions in her personal life and for her baby.

In two carefully controlled randomized trials Olds replicated his Elmira program, with some planned variations, in Memphis and Denver. Meanwhile, his program developed a substantial national following and Olds, eschewing rapid expansion of his model program, tried to control expansion in order to maintain quality. Even so, by 2009 the Nurse-Family Partnership program was serving mothers and children in twenty-eight states, and the program had gained international notice and was being implemented in England, Australia, and other countries.

During the 2008 presidential campaign, Barack Obama stated on several occasions that, if elected, he would fund a national network of home-visitation programs based on the Olds model.[43] True to promise, once elected President Obama included funding for a nurse-visiting program, modeled on the Olds program, in his 2010 budget. Although child advocates supported the

president's proposal to establish a home-visiting program, many of them believed that focusing on the Olds program was too narrow and left out other worthy home-visiting programs.[44] Advocates were particularly concerned about potential disruptions if states already operating home-visiting programs that did not follow the Olds model were forced to change their programs in order to receive federal funds. The administration and Congress, with child advocates playing an important role, worked out a compromise in which the Obama home-visiting initiative would provide two pools of funding for states. The first pool would reserve 75 percent of the funds to pay only for programs shown by random assignment or quasi-experimental designs to have significant impacts. In the case of home visiting, several programs besides the Olds program have shown significant impacts, though not always consistently.[45] Programs that have some but less evidence of success and thus show promise would be eligible for funding from the second pool that has 25 percent of the funds.

The story of home-visiting programs is steeped in the social science community's call for policy based on evidence.

This two-tier structure and funding arrangement for home-visiting programs has been passed by Congress and federal guidelines are now in the process of development.[46] Meanwhile, the Obama administration followed almost the same procedure in funding teen pregnancy prevention programs as part of the 2010 budget. It would appear that the administration intends to fund some social programs based on evidence of success—as indeed both the president and his cabinet secretaries have publicly stated on many occasions.[47] The president has also indicated that the administration intends to improve or reduce funding for programs that do not work.

However, even Olds' Nurse-Family Partnership has not consistently produced overall effects on the cognitive or language development of all children served by the program, although it has shown consistent impacts on the development of children born to poor mothers with fewer psychological resources to manage the care of their children. It has also produced sustained effects on children's math and reading achievement for this vulnerable group in the Memphis trial.[48] The Nurse-Family Partnership has yet to be evaluated by someone other than its originator or as a full-scale routine public program, but the Obama home-visiting initiative will apparently provide just such a broad trial of the program and perhaps other home-visiting programs.

Child Care Subsidies

Federal and state governments provide various subsidies for child care, the largest of which is the Child Care and Development Fund (CCDF) and related state expenditures, including funds from the Temporary Assistance for Needy Families program (TANF). In its budget for 2011 the administration is proposing an increase of $1.6 billion in federal funds for the CCDF (over

baseline funding, not including ARRA funds), which would create funding for around 235,000 additional children, but Congress has not enacted the increase as of this writing. We estimate federal funding (including ARRA funds) on child care subsidies will reach $6.5 billion for children under 5 under current proposals for 2011 (see table 1). The CCDF is relatively free of federal requirements, but states do have to submit an annual report, set aside as much as 7 percent of their funds to improve the quality of care (in part through rating systems and professional development), have minimal health and safety regulations, and offer parents a voucher to purchase care.

Despite the quality improvement set-aside, the quality of care supported by the CCDF has been shown to be mediocre or worse.[49] A major ingredient in quality is well-trained and well-supervised teachers.[50] But many child care facilities, including both centers and family day care offered in the homes of women who run a small business, do not provide an enriching educational experience. The evidence shows that children may receive a slight boost in cognitive development from the average child care center while their social and emotional development is not significantly harmed.[51] Thus, from the perspective of preparing low-income and minority children to better succeed in kindergarten and beyond, routine subsidized child care is at best modestly effective and often does not reach even that level. There is even some evidence that it can be harmful.[52] Under current policies, subsidized child care contributes less to improving child development than does Early Head Start and Head Start. On the other hand, subsidized child care provides a relatively inexpensive and usually safe environment for families to place their children while they work.[53]

Whether the administration will actually defund programs that are not succeeding remains an open question with great implications for Head Start, Early Head Start, and home visiting.

Significantly increasing the quality of the many thousands of subsidized child care facilities around the country would cost billions of dollars and would therefore substantially raise the cost of care. Despite its increases in funding over the years, even now the CCDF does not serve all eligible families. Research finds that child care subsidies reduced the out-of-pocket burden of child care costs by 14 percentage points among low-income single parents who received subsidies.[54] Given constraints on government spending on child care, federal and state policy is encountering a quantity-quality tradeoff in which increased spending on quality improvement would increase the already high number of struggling families paying out-of-pocket costs or shifting to informal, unregulated care that could be of even lower quality.[55] Some parents could even find themselves unable to work because of lack of affordable care. While the magnitude of these negative effects is

uncertain, it remains clear that if public funds are not available to pay for increased quality while maintaining or even increasing the amount spent on child care subsidies, there would be negative as well as positive consequences. On the other hand, if quality is not sufficiently high, increases in child care subsidies could have modest negative effects on child cognitive development and social behavior.[56]

ANALYSIS OF INDIVIDUAL PROGRAMS

Given the significant federal and state resources invested in the various programs to promote child development or provide routine care for children, and the problems with quality and coverage just reviewed, we turn now to a brief overview of the papers that analyze Head Start, Early Head Start, and home-visiting programs and the cross-cutting paper on how early childhood programs can be better coordinated. Authors of each chapter were asked to assess evidence on the effects of the respective programs and to make policy recommendations that would enable the nation to promote the development and school readiness of poor children in the most effective and efficient way possible. We asked two authors or sets of authors to examine Head Start, two to examine Early Head Start, and two to examine home-visiting programs. The authors were selected to provide contrasting views of the evidence and the best policies to improve the programs.

Chapters on Head Start

The Head Start chapters by Jens Ludwig and Deborah Phillips and by Craig Ramey and Sharon Landesman Ramey provide a sharp contrast. The major recommendation made by Ludwig and Phillips, based on four decades of research, is that the impacts of Head Start, though modest, are nonetheless worthwhile and provide children with a boost that can be detected well into the teenage years and after.[57] Thus, they make the interesting argument that the priority for policy should be to ensure that as many children as possible receive a preschool program that is at least as good as Head Start.

By contrast, Ramey and Ramey believe that far too many Head Start centers are ineffective because they are of such low quality. Indeed, they claim that the poor quality and lack of impact of Head Start have been widely known for many years and that a "culture of silence" about these shortcomings has grown up around the program to protect it from being cut. In fact, Head Start's budget has grown every year from 1970 to the present under both Republican and Democratic administrations with the exception of level funding in 1975 and small declines in 1986 and 2008.

Consistent with the Ramey and Ramey claim, there has been little reaction by policymakers to the 2010 longitudinal study report showing that virtually no impacts of the Head Start program on academic performance were found at the end of the first year of schooling.[58] Until this year, there has been no plan for improving the average quality of Head Start, other than to implement the important changes Congress mandated in 2007. The 2007 legislation required that 50 percent of teachers and all education coordinators in centers have at least a bachelor's degree by September 30, 2013. It also

established new procedures for grantee renewal and recompetition.[59] In January 2010, the Obama administration released a document outlining a series of specific changes they were taking to improve Head Start quality.[60] In addition, based on discussions with administration officials, it is clear that further changes addressed to quality are being contemplated. We are encouraged by this information and offer specific suggestions in a later section of this paper for what we think the administration should do about Head Start.

Chapters on Early Head Start

Like the two Head Start chapters, the chapters on Early Head Start (EHS) by John Love and Jeanne Brooks-Gunn and by Nicholas Zill offer a remarkable contrast. Both EHS chapters base their conclusions about effectiveness on a large-scale random assignment study of seventeen program sites. Initiated in 1996, the study followed the same group of children from 14 months to 63 months of age. The children were also followed up for a last time when they were in fifth grade (not yet published). Data were collected on cognitive, language, and social-emotional measures based on direct assessment of the child or on parent report.

Love and Brooks-Gunn emphasize impacts during and immediately following the program at 14 through 36 months of age. The results showed modest impacts on a range of child and parent outcomes including cognitive, language, and social-emotional development as well as attention and engagement. The authors also emphasize that some of these effects—particularly increased attention and reduced behavioral problems—were observed even two years after the end of the program (at age 5), although the effects on vocabulary (except for a few subgroups) and school-related cognitive abilities in literacy and mathematics did not continue. The authors also emphasize the importance of impacts on parenting and the home environment from ages 14 months through age 5 years. Finally, Love and Brooks-Gunn note that these impacts were produced when the program was first created and despite the fact that many children in the control group were in center-based programs other than EHS, thus making it more difficult to show differences between experimental and control children.

Zill on the other hand argues that the EHS impacts are mostly quite small, that many expected outcomes measured at the various assessment points did not materialize (no difference between the program and control groups), and that many of the positive impacts were found only on parent reports while direct assessments of the same or related measures showed no differences. Zill concludes that the “lack of sustained impacts in critical areas of children’s cognitive and language development tells us that the program is not succeeding.” We note that when experts disagree to the degree shown by our two papers on EHS (or for that matter the two papers on Head Start), policymakers are tempted to throw up their hands because they’re not sure what to believe. In such a situation, it is useful to focus on specific quantitative results, as we do later in our recommendations section.

Chapters on Home Visiting

Although the differences between the paper by David Olds and the paper by Deborah Daro and Kenneth Dodge are not as stark as the differences between the two Head Start or the two Early Head Start papers, there are interesting differences nonetheless. Olds, not surprisingly, is fully supportive of the current federal policy approach that focuses on low-income, first-time mothers and concentrates most of its spending on programs with the strongest empirical evidence of effectiveness. Daro and Dodge would like to change federal policy in several major ways. They strongly object to adopting Olds approach as the prevailing model because they believe that many families will be left out, that other programs have good evidence of effectiveness, and that more effort should be placed on screening to determine who needs more extensive home visiting.

More specifically, Daro and Dodge want a universal program of home visiting that would serve as a screening program to determine which mothers and babies need additional help. Under the Olds program, only first-time mothers with income below poverty (or some other low-income cutoff) would be eligible, potentially leaving out more than 90 percent of newborns.[61] Moreover, families winding up in the child protection system may not use prenatal care and could therefore be missed by the Olds program.[62] Daro and Dodge cite evidence that the per child cost of the type of screening they favor would be around $200. Families that were found to be experiencing difficulties in child rearing or related issues would be eligible for a more extensive home-visiting program. Their arguments are primarily based on problems that are or could be preventable. Whether the proposed universal screening and referral to more intensive home visitation could prevent a significant amount of abuse and neglect and contribute to improved child development is largely untested.

Programs are administered by different funding agencies, pursue different goals, have different rules and regulations, and often have different licensing agencies.

Chapter on Coordinating Programs

The early childhood field is populated by a diverse array of public programs. Not only does the field include Head Start, Early Head Start, and home-visiting programs, it also includes major federal spending on child care programs and significant state spending on pre-K, child care, and other programs. In addition, the federal government makes funds available for preschool special education, for the disadvantaged through Title I (though little of Title I's $14.5 billion is spent on children under 5),[63] and for an assortment of other special-purpose programs. These programs are administered by different funding agencies at the federal and state level, pursue different goals, have different rules and regulations, and often have

different licensing or accreditation agencies.

Walter Gilliam's chapter proposes to bring some order out of this unruly mix of programs. His biggest recommendation is to let state pre-K programs continue to expand and eventually serve all 4-year-olds or at least all poor 4-year-olds. Head Start could then focus on what Gilliam says it does best; namely, provide comprehensive services, work with parents, and conduct home visits. He also raises the possibility that Head Start could focus its attention on 3-year-olds and children under age 3. Implicit in this recommendation is the necessity for Head Start and Early Head Start to cooperate even more closely than they do now and extend the cooperation to every state in the nation. He also calls for closer cooperation between child care programs and high-quality programs that provide services for only part of each day. To facilitate full-time work or education by parents, state pre-K programs would work with child care providers to establish wrap-around services for children who attend their part-day program, something they already do on a limited basis. Similar arrangements would also have to be made for children under age 4 with working parents served by Head Start and Early Head Start (about 10 percent of Head Start children currently receive more than eight hours per day). Although Gilliam does not discuss the specifics in any detail, he raises the possibility that both state pre-K programs and Head Start could help child care programs increase the quality of their services through coordinated in-service training and coaching.

An important problem with any coordination effort would be figuring out how to consolidate the many licensing and certification agencies that now operate in the early care and education field. Gilliam points out that some programs must now be licensed or accredited by as many as four different agencies, each with its own standards and requirements. Again, Gilliam does not explore the details of a solution, but he implies that a way should be found to have programs licensed or certified by only one agency and set of standards. This outcome would probably mean that some agencies relinquish control and could be put out of business.

RECOMMENDATIONS

The Obama administration, as the president promised during the campaign, began with more ideas and more specific proposals for early childhood programs than any previous administration. The president put more than $4 billion in the ARRA law for Head Start, Early Head Start, and child care; initiated a home-visiting program through health care legislation; and proposed expanded funding for the child care block grant, the child care tax credit, and Head Start and Early Head Start in his 2011 budget. In addition, he proposed to spend about $10 billion over ten years on a program called the Early Learning Challenge Fund, the major purpose of which would be to help states improve the quality of early care and education programs in their state.[64] Most of the money would be reserved for states that have a plan for coordinating programs and improving quality, although some money would be reserved for states that are just getting started in planning and conducting a broad effort to increase the number of children in

high quality care. The Challenge Fund passed the House, but has not been considered by the full Senate, although the Senate Labor, Health, and Human Services Subcommittee of the Committee on Appropriations approved $300 million for the new program in initial action on the 2011 spending bill. Budget realities are now rising in importance, which could spell difficulty for the Challenge Fund and perhaps other Obama administration early childhood initiatives.

Like many others, we applaud the administration's zeal in supporting policies to improve the development of poor children during the preschool years. We also applaud the administration's emphasis on data-based decision making and willingness to fund or defund public programs based on their effectiveness. In the spirit of friendly advice, we have four sets of proposals—not all of which impose new costs on the already-stressed federal budget—that we bring to the attention of the administration and other policymakers interested in getting the most out of what we spend as a nation on the care and education of children before they reach kindergarten.

Head Start

First, we support greatly increased attention to and bold action in improving Head Start. Judged strictly on the basis of impacts on child development at age 5, Head Start cannot be judged more than modestly effective. Head Start does not accomplish its most important goal because it has only small effects on learning and development at the beginning of school and, at least according to the recent national randomized trial, few discernable effects on academic abilities at the end of either kindergarten or first grade.[65]

We support greatly increased attention to and bold action in improving Head Start.

Although it is not reasonable to expect Head Start to close the entire achievement gap by itself, it is reasonable to expect effects several times larger for both cognitive and social development.[66] If this is to happen, Head Start needs a new approach to encourage innovation, improve average performance, and eliminate persistently poor performance. The current process for ensuring compliance with Head Start's existing performance standards is not producing these desired results. Indeed, it appears that programs with fewer regulations and standards are outperforming Head Start on a regular basis, though the standards they do have are often higher.[67] Head Start should be judged primarily by its outcomes for children based on actual performance, not by its ability to produce a paper or electronic document of compliance. The primary focus should be on learning and teaching in the classroom. However, as others may doubt this view, we recommend that the federal government develop a competitive research program which uses randomized trials to systematically test new models of Head Start services. These trials would also permit generous waivers of the Head Start Performance Standards when needed to implement new models and integrate with other programs.

In addition, the average quality of Head Start would be improved by terminating defective programs. Evidently Congress agrees with this approach. In 2007, Congress directed the Secretary of HHS to appoint a Committee on Re-Designation of Head Start Grantees. The Committee was charged with recommending a system to evaluate every local Head Start program on a periodic basis for the purpose of improving the program, ending the program, or allowing other programs to compete for the Head Start money. The Committee was duly appointed in 2008 and reported back to the Secretary in 2009 at the end of the Bush administration. There are indications that the Obama administration may now be blowing some of the dust off the report. Recently, for example, HHS Secretary Kathleen Sebelius stated that "we are going to fund only high-performing programs," and her staff has indicated to us that they are reviewing the Re-Designation Committee report.[68]

In any case, what we need—consistent with the Re-Designation Committee's recommendations—is a program of continuous evaluation of every Head Start program. We are aware that the National Reporting System, implemented early in the Bush administration and then terminated by Congress, was an attempt to move in the direction we recommend.[69] However, the fate of the National Reporting System should not prevent the administration from creating a continuous improvement system for Head Start that includes more appropriate assessments of the learning and development of children enrolled in Head Start.[70] Such a system would provide feedback to teachers, staff, and administrators on learning, teaching, and other program activities. Teacher coaches are likely to play an important role in such a system.[71] Most programs will improve with feedback, but those that continue to be identified as failing because they teach children poorly and produce little or no gains in learning and development should be replaced.

Any discerning reader can tell that we admire the emphasis the Obama administration has placed on early childhood programs and the capable personnel planning and administering its various early childhood initiatives. It would be surprising if an administration that is rapidly gaining a reputation for the most data- and evaluation-oriented administration ever should take the powerful indications that too many Head Start programs are floundering without living up to its word to do something rigorous about failing programs. Our plan would at least offer a relatively low-cost way to generate innovation, improve the quality of many Head Start programs, and terminate failing programs.

Early Head Start

Our second recommendation addresses Early Head Start. EHS costs more per child than Head Start and produces results for children that may be even weaker than one year of Head Start despite the fact that many EHS children and families receive three years of services. Combined with the fact that the best evaluation is more than a decade old, the evidence of modest to poor results leads us to recommend that the administration take steps to innovate and systematically evaluate promising new approaches as well as the status quo of EHS on program quality and outcomes. The administration is emphasizing rigorous program evaluations as the basis for funding decisions, but in the

case of EHS, there is really no current evidence on which to make decisions. Thus, the administration should create a better system of continuous data collection on child and family progress and on program implementation together with random assignment evaluations of innovative EHS programs. Such an approach is similar to what we suggest for Head Start, though with an even larger scope for innovation and experimentation and with full recognition of the difficulties of adequately assessing the development of very young children.

The administration should give some states the authority to use federal funds to try to build a coordinated early care and education system with an emphasis on program effectiveness.

Home Visiting

Not enough is yet known about how the new home-visiting initiative will be conducted for anyone to recommend major changes. It is difficult not to like the administration's emphasis on home-visiting program models that have been shown by evidence from rigorous evaluation to produce impacts on mothers and children, a decision that should result in this network of programs starting with local projects that are more effective than the initial projects in many other federal grant programs. The trick, of course, will be to figure out ways to ensure that projects are implemented in a manner consistent with the program model they are following, although some room for reasonable local adjustments must be allowed. The administration will have its hands full figuring out how to maintain project fidelity and produce impacts without being subjected to external criticisms at this early point. Advocates, researchers, and members of Congress should be patient for three or four years and see what these projects produce. Rigorous evaluation will be required to determine whether even the Olds' program produces the promised outcomes when implemented as regular public programs with a predefined population. While we agree that programs with the strongest evidence currently should be the presumptive favorites, we also believe that it is much too soon to close the door on alternatives and innovations. Our only recommendation is that the administration conduct some randomized trials to test existing and new approaches, including low-cost screening and referral to home visiting, and collect reliable information on implementation fidelity and a set of standard outcome measures, including assessments of children's learning and development, for samples of children in all programs. Such studies could be randomized by place rather than by individual mothers.

Coordination

Our fourth recommendation is the most controversial. As part of its Early Learning Challenge Fund or some other legislative vehicle, the administration should give some states the authority to use federal funds from the child care block grant, Head Start, Early Head

Start, Title I, and perhaps other federal sources to try to build a coordinated early care and education system with an emphasis on program effectiveness, particularly for disadvantaged children.[72] We do not anticipate that funds necessarily would be withdrawn from local schools and Head Start agencies and given to states, but that barriers to these agencies co-mingling funds and activities as part of a state plan would be waived.

Disadvantaged children are not achieving as they should or could with proper help and preparation during their preschool years.

These efforts, implemented in perhaps three or four diverse states, should include third-party evaluations. States should agree to a minimum set of conditions, including substantial contributions of their own funding to preschool programs, specification of their plan for increasing quality in different types of services, maximization of parent choice, adoption of good measures of learning and development for children participating in programs, and termination of funding for programs that do not meet quality standards or agreed-upon child outcomes. One or two of the states should agree to rigorous evaluations in which they follow children for several years after they enter the public schools and perhaps all the way through their college years. In return for agreement on all these conditions, states should receive additional federal subsidies from the Challenge Fund (or other sources) and the federal government should pay 100 percent of evaluation costs. We realize that what we propose may seem like a daunting challenge and may be perceived as a threat by agencies currently receiving funds. But we also believe that many states and federal agencies would be eager to take up the challenge.

CONCLUSION

The federal government's efforts to deliver on its promise, first made by President Lyndon Johnson in 1965, to help children from poor and minority families arrive on the doorstep of the public schools ready to learn has, for the most part, become stale and stagnant. Neither Early Head Start nor Head Start has delivered much, and the nation's child care programs have been repeatedly shown to be of mediocre quality or worse. The real bottom line is that disadvantaged children are not achieving in the public schools as they should or could with proper help and preparation during the preschool years. Efforts to dramatically improve federal early childhood programs will succeed only if they are tied into ongoing, systematic, rigorous evaluations of alternative approaches. Our four-part plan holds promise for breaking us out of the current stagnation by creating continuous improvement processes and allowing the boldest and most innovative states to use all the resources at their disposal to develop models for coordinating the money we now spend and producing school readiness outcomes we all know should be within our reach.

Notes

[1] The authors appreciate the comments they received on earlier versions of this chapter from authors Deborah Daro, John Love, Jens Ludwig, David Olds, Deborah Phillips, Sharon Ramey, and Nicholas Zill; and from Ben Allen of the National Head Start Association, Ruth Friedman of the House Education and Workforce Committee, Naomi Goldstein of the Office of Planning, Research, and Evaluation in the Administration for Children and Families at HHS, Joan Lombardi and Jeffrey Capizzano of the Administration for Children and Families at HHS, Albert Wat and his colleagues at Pew Charitable Trusts, and Edward Zigler of Yale University. None of them are responsible for any of the content of the chapter. We also thank Julie Clover, Mary Baugh, Alex Gold, and Milagros Nores for their help with research and preparing the manuscript. The authors are responsible for any remaining errors.

[2] Alice Rivlin and Isabel Sawhill, *Restoring Fiscal Sanity: How to Balance the Budget* (Washington, DC: Brookings Institution Press, 2004); Alan Auerbach and William G. Gale, *Déjà Vu All Over Again: On the Dismal Prospects for the Federal Budget* (Washington, DC: Urban-Brookings Tax Policy Center, 2010).

[3] Some states are already beginning to cut funding for pre-kindergarten programs; see Elizabeth McNichol, Phil Oliff and Nicholas Johnson, *Recession Continues to Batter State Budgets; State Responses Could Slow Recovery* (Washington, DC: Center on Budget and Policy Priorities, 2010 [Updated May 27]).

[4] Some figures in this chapter refer to amounts for fiscal years, not calendar years.

Some of the numbers in Table 1 are not originally with respect only to children under 5. We scaled these numbers to reflect either the percentage of children under age 5 or the percentage of federal money that would go to children under age 5; see Matthews, *Child Care and Development Block Grant Participation in 2008*; Administration for Children and Families, "FFY 2007 CCDF Data Tables: Table 15, Child Care and Development Fund, Average Monthly Payment to Provider (Including Family CoPay) by Age Group and Care Type (FFY 2007)," (Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families, 2007). Available at http://www.acf.hhs.gov/programs/ccb/data/ccdf_data/07acf800/table15.htm

[4a] Head Start and Early Head Start:

For 2008 data, see Administration for Children and Families, *Head Start Program Fact Sheet 2009: Fiscal Year 2009* (Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families, 2009). Available at http://www.acf.hhs.gov/programs/ohs/about/fy2009.html. For 2010 and 2011 data, we used a combination of baseline data and ARRA figures. For baseline data, see Administration for Children and Families, *Justification of Estimates for Appropriations Committees, Children and Families Services Programs, FY2011 Budget* (Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families, 2010): 91. For ARRA figures, see Chris Kelly, *Children's Budget 2010* (Washington, DC: First Focus, 2010): 129. Available at http://www.firstfocus.net/sites/default/files/ChildrensBudget2010.pdf.

[4b] Child Care Subsidies:
(CCDF)—Child Care Development Fund
(CCDBG) —Child Care Development Block Grant

For 2008 data, for total level of subsidy, see Matthews, "Child Care Assistance in 2007." Center for Law and Social Policy (September 2009). Available at http://www.clasp.org/admin/site/publications/files/childcareassistance2007.pdf. For proportion of children under age 5, see Ibid., *Child Care and Development Block Grant Participation in 2008*. To calculate expenditure by age, see Author analysis of Administration for Children and Families, "FFY 2007 CCDF Data Tables: Table 15, Child Care and Development Fund, Average Monthly Payment to Provider (Including Family CoPay) by Age Group and Care Type (FFY 2007)," (Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families, 2007). Available at http://www.acf.hhs.gov/programs/ccb/data/ccdf_data/07acf800/table15.htm. For 2010 and 2011 data, both baseline and ARRA (adjusted by percentage of spending on children under age 5), see Kelly, *Children's Budget 2010*, pp. 30, 128.

[4c] Child Care Food Program:

Data was adjusted by percent of children under age 5. For 2008 data, see Office of Management and Budget, *Budget of the United States Government, Fiscal Year 2009, Analytical Perspectives, Table 8-10: Child and Adult Care Food Program* (Washington, DC: U.S. Government Printing Office, 2008).

For 2010 and 2011 data, see Office of Management and Budget, *Budget of the United States Government, Fiscal Year 2011, Analytical Perspectives, Special Topics, Table 17-10: Child and Adult Care Food Program* (Washington, DC: U.S. Government Printing Office, 2010).

[4d] Tax Credits:
(CDCTC)—Child and Dependent Care Tax Credit
(DCAP) —Dependent Care Assistance Program
Data was adjusted by percent of children under age 5. Adam Kent and others, *Data Appendix to Federal Expenditures on Pre-Kindergarteners and Kindergarteners in 2008 and Federal Expenditures on Elementary-Age Children in 2008* (Washington, DC: Urban Institute and The Brookings Institution, 2010).

[4e] Department of Defense (DoD) Child Care:
Data was adjusted by percent of spending on children under age 5. For 2008 data, see Gail L. Zellman and others, "Options for Improving the Military Child Care System," prepared for the Office of the Secretary of Defense by the RAND National Defense Research Institute, 2008 (p. 35). Available at http://www.rand.org/pubs/occasional_papers/2008/RAND_OP217.pdf. For 2010 and 2011 data, see Office of Management and Budget, *Budget of the United States Government, Fiscal Year 2011,Fact Sheets, Department Fact Sheets, Department of Defense (*Washington, DC: U.S. Government Printing Office, 2010). The Department of Defense received an additional $240 million in ARRA funding specifically for the purpose of constructing new childcare centers; see U.S. Department of Defense, American Recovery and Reinvestment Act 2009: Department of Defense Expenditure Plans (Washington, DC: U.S. Department of Defense, 2009): 2. Available at http://www.defense.gov/recovery/plans_reports/2009/march/ARRA_DoD_Expenditure_Plans.pdf.

[4f] Title I Preschool:
For 2008 data, see Sara Mead, "FY2008 Budget Cuts Early Education Funding," New America Foundation, The Early Ed Watch Blog (January 8, 2008). Available at http://oti.newamerica.net/blog/early-ed-watch/2008/fy2008-budget-cuts-early-education-funding-353. For 2010 and 2011 data, see Laura Bornfreund, "A Look at Proposed Federal FY 2011 Funding for Early Education," New America Foundation, Early Ed Watch Blog (July 19, 2010). Available at http://earlyed.newamerica.net/blogposts/2010/a_look_at_proposed_federal_fy_2011_funding_for_early_education-34524. To determine the percent of funding for preschool, see Daniel Ewen and Hannah Matthews, *Title I and Early Childhood Programs: A Look at Investments in the NCLB Era* (Washington, DC: Center for Law and Social Policy, 2007). Available at http://www.clasp.org/admin/site/publications/files/0379.pdf

[4g] Preschool Special Education (IDEA Part B, Sect. 619):
(IDEA)—Individuals with Disabilities Education Act
Kelly, *Children's Budget 2010*: p. 36. Available at http://www.firstfocus.net/sites/default/files/ChildrensBudget2010.pdf. For ARRA data, see U.S. Department of Education, "American Recovery and Reinvestment Act of 2009: IDEA Recovery Funds for Services to Children and Youths with Disabilities," (April 4, 2009). Available at http://www2.ed.gov/policy/gen/leg/recovery/factsheet/idea.html.

[4h] Early intervention for infants and toddlers with disabilities (IDEA part C):
Kelly, *Children's Budget 2010*, pp. 34, 128.

[4i] Home Visiting:
Nurse-Family Partnership, "House of Representatives Passes Historic Health Care Reform Legislation," public policy update, Nurse-Family Partnership (March 22, 2010). Available at http://www.nursefamilypartnership.org/assets/PDF/Policy/NFP_PP_Update_March_22_2010

[5] Eric Karolak, "FY 2011 Federal Budget Process Begins with Bold Proposal," Child Care Exchange (March/April 2010), p. 40.

[6] W. Steven Barnett and Leonard Masse, "Funding Issues for Early Childhood Care and Education Programs," in *Early Childhood Education and Care in the USA*, ed. Debby Cryer (Baltimore, MD: Paul H. Brookes Publishing, 2003).

[7] W. Steven Barnett and others, *The State of Preschool 2009: State Preschool Yearbook* (New Brunswick, NJ: Rutgers University, National Institute for Early Education Research, 2009); Dale Epstein and W. Steven Barnett, *Brief Report: Funding Cuts to State-Funded Pre-Kindergarten Programs in FY 10 &11* (New Brunswick, NJ: Rutgers University, National Institute for Early Education Research, 2010).

Available at http://nieer.org/pdf/Funding_Cuts_to_State-Funded_Prekindergarten_Programs_in_FY10_FY11.pdf. These figures do not include much of the cost of preschool special education that is borne by states.

[8] Matthews, "Child Care Assistance in 2007." States are not required to report amounts spent in excess of federal requirements.

[9] These enrollment statistics differ slightly from others in that they estimate enrollment for school cohorts—4-year-olds are children who will start kindergarten the next year (half of whom have already turned 5 by the spring before kindergarten) and 3-year-olds are those who will start kindergarten in two years (many of whom are 4 by the spring).

[10] Iheoma Iruka and Priscilla Carver, *Initial Results From the 2005 NHES Early Childhood Program Participation Survey*, NCES 2006-075 (Washington DC: U.S. Department of Education, National Center for Education Statistics, 2006).

[11] Kristin Flanagan and Jerry West, *Children Born in 2001: First Results From the Base Year of the Early Childhood Longitudinal Study, Birth Cohort (ECLS–B)*, NCES 2005–036 (Washington DC: U.S. Department of Education, National Center for Education Statistics, 2004); Gail Mulligan and Kristin Flanagan, *Age 2: Findings From the 2-Year-Old Follow-up of the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B)*, NCES 2006-043 (Washington DC: U.S. Department of Education, National Center for Education Statistics, 2006).

[12] Administration for Children and Families, *American Recovery and Reinvestment Act: Improving Children and Community Service: Administration for Children and Families: Head Start* (Washington DC: U.S. Department of Health and Human Services, Administration for Children and Families). Available at http://www.hhs.gov/recovery/reports/plans/headstart.pdf [August 13, 2010].

[13] Administration for Children and Families, *Head Start Program Fact Sheet: Fiscal Year 2010* (Washington DC: U.S. Department of Health and Human Services, Administration for Children and Families, 2010). Available at http://www.acf.hhs.gov/programs/ohs/about/fy2010.html; U.S. Departments of Education and Health and Human Services, *The Federal Budget: Fiscal Year 2011: Promoting Early Learning for Success in School and in Life* (author, July 2010). Available at http://www.ed.gov/sites/default/files/2011-budget-promoting-early-learning.pdf.

[14] Gregory D. Kutz, *Head Start: Undercover Testing Finds Fraud and Abuse at Selected Head Start Centers*, GAO-10-733T (Washington, DC: U.S. Government Accountability Office, 2010). Available at http://www.gao.gov/new.items/d10733t.pdf. The U.S. Department of Health and Human Services has taken several actions in response the GAO study; see U.S. Department of Health and Human Services, "HHS Secretary Kathleen Sebelius Outlines Plans and Steadfast Commitment to Upholding the Integrity of Head Start Program," news release, May 17, 2010, available at http://www.hhs.gov/news/press/2010pres/05/20100517d.html; and Kathleen Sebelius, "Letter to Head Start Grantee," news release, May 17, 2010, available at http://www.hhs.gov/news/press/2010pres/05/head_start_letter.html.

[15] Hannah Matthews, *Child Care Assistance in 2007: Spending Update*. (Washington DC: Center for Law and Social Policy, 2009); Matthews, *Child Care and Development Block Grant Participation in 2008*. An estimated 2.2 million children were subsidized by Child Care Development Block Grants (CCDBG) and Temporary Assistance to Needy Families (TANF) in 2007, 55 percent of whom were under age 5.

[16] Matthews, *Child Care and Development Block Grant Participation in 2008;* National Child Care Information and Technical Assistance Center, *United States Child Care Statistics, an NCCIC Resource Guide* (author, 2010). Available at http://nccic.acf.hhs.gov/poptopics/statistics.pdf.

[17] Matthews, *Child Care and Development Block Grant Participation in 2008.*

[18] National Center for Education Statistics, *Digest of Education Statistics: Table 46: Percentage Distribution of Children at About 2 and 4 Years of Age, by Type of Child Care Arrangement and Selected Child and Family Characteristics: 2003-04 and 2005-06* (Washington, DC: U.S. Department of Education, 2006).

[19] Chris M. Herbst and Erdal Tekin, "Child Care Subsidies and Child Development," *Economics of Education Review* 29, no. 4 (2010): 618-638; Edward Zigler, Katherine Marsland, and Heather Lord, *The Tragedy of Child Care in America* (Ann Arbor, MI: Yale University, 2009); Deborah Lowe Vandell and Barbara Wolfe, "Child Care Quality: Does It Matter and Does It Need to Be Improved?" special report no. 78, Institute for Research on Poverty (November 2000).

[20] Internal Revenue Service, *Statistics of Income—2007 Individual Income Tax Returns: Table 1.3, All Returns: Sources of Income, Adjustments, Deductions, Credits, and Tax Items, by Marital Status, Tax Year 2007*, Publication 1304, Rev. 07-2009 (Washington, DC: IRS, 2009).
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Child at Harvard; see National Forum on Early Childhood Policy and Programs, *Understanding the Head Start Impact Study*, Evaluation Science Brief (2010). Available at http://developingchild.harvard.edu/index.php/download_file/-/view/627/.

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[66] Barnett, *Preschool Education and its Lasting Effects: Research and Policy Implications.*

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GETTING THE MOST OUT OF EARLY HEAD START: WHAT HAS BEEN ACCOMPLISHED AND WHAT NEEDS TO BE DONE

John M. Love and Jeanne Brooks-Gunn

This paper describes impacts of Early Head Start when children were 2, 3, and 5 years old. Some of the most persistent impacts were in domains important for later school success including aggressive behavior problems, which are predictive of later behavior problems and low school engagement, and attention, which is linked to school achievement. Early Head Start also had positive impacts on parents reading to children (and learning stimulation), which is also linked to positive outcomes later on. We note the lack of impacts on achievement at age 5 and suggest the importance of examining impacts for policy-relevant subgroups. Further, findings suggest that providing preschool services before kindergarten, after Early Head Start, may create the greatest opportunity for ensuring school readiness among low-income children.

John M. Love, Ph.D., recently retired as a Senior Fellow with Mathematica Policy Research, Inc., and provides consultation in early childhood program evaluation issues from his home in Ashland, Oregon. jlove@mind.net

Jeanne Brooks-Gunn, Ph.D. is the Virginia and Leonard Marx Professor of Child Development and Education at Teachers College and the College of Physicians and Surgeons at Columbia University where she directs the National Center for Children and Families. jb224@columbia.edu

Like its older sibling Head Start, the federal Early Head Start (EHS) program has enjoyed bipartisan support since its launching in 1995, thirty years after Head Start itself began. Similarly, both Republican and Democratic administrations have funded EHS program evaluations. In this chapter, we describe the results of the EHS national evaluation, for which we have been principal investigators (Administration for Children and Families [ACF] at the U.S. Department of Health and Human Services).[1] We describe the EHS impact evaluation and summarize its results, looking at overall impacts as well as subgroup impacts. We also go beyond the end-of-program focus of many evaluations (that is, a focus on impacts right at the end of the children's and families' enrollment time) and look at the influence that participation in EHS had on program participation during the preschool years (the fourth and fifth years of life) and at the cumulative influences of EHS and preschool attendance on kindergarten readiness. Finally, we suggest implications for EHS programs, including their coordination with other programs, and for future research.[2]

The Early Head Start Evaluation

The EHS evaluation included seventeen sites drawn from the first two waves of programs started more than a decade ago. By design, ACF selected programs that would reflect the range of service options and context of all extant programs rather than choosing a representative sample. The sites were distributed across the country and included rural and urban sites. About 3,000 families were randomly assigned to the treatment or control groups. All were poor. African American, Hispanic, and white families were represented, as well as single- and two-parent households, teenage mothers and older mothers, families receiving welfare and not receiving welfare, employed and not employed mothers. This was the first impact evaluation of services for poor pregnant women and families with children under age 3 in which the program offered center-based services in some sites and at least some home visiting in all sites.

The EHS evaluation was also unique in that it gathered extensive data on implementation via multiple visits at each site. It was possible, then, to categorize sites in terms of the timing with which they fully met the standards: early implementers, later implementers, and incomplete implementers.[3] Since multi-site trials often show variability in impacts across sites, the ability to document fidelity to treatment is critical. Children were assessed at 1, 2, 3, and 5 years of age on a variety of cognitive, language, attention, health, behavioral, and engagement skills; their mothers were assessed for parenting stress and depression, home language environment, parenting, and employment.

Overall Impacts of Early Head Start

Overall, averaging across all program sites and all children and families in the sample, EHS programs showed significant impacts on a wide range of child and parent outcomes when the children were 2 and 3 years old. These included impacts in cognitive, language, and social-emotional development (such as reduced aggressive behavior problems), and approaches to learning (including attention and engagement). The effects tended to appear as early as age 2 and were, for the most part, maintained through age 3. Effect sizes for the most significant impacts were one-fifth to one-quarter of a standard deviation. For the African American subsample, the impacts were larger.

Two years after the end of the intervention (at age 5), significant impacts continued to be seen in social-emotional development (reduced behavior problems), approaches to learning, and observed attention (effect sizes around one-fifth of a standard deviation). However, the former EHS group did not continue to show the impacts on vocabulary seen in the earlier years, except for the children who were still tested in Spanish at the pre-K follow-up, and for the African American subsample. EHS children did not differ from control-group children on measures of school-related achievement.

Averaging across all program sites and all children and families in the sample, programs showed significant impacts on a wide range of parent outcomes when the children were 2 and 3 years old.

Equally important, in our view, were the impacts on parenting and the home environment, as these are crucial mediators of young children's development. The program enhanced parental support for children's language and literacy development, daily reading, and teaching activities at ages 2 and 3, with, for the most part, these effects continuing through age 5.

Growth curve analyses demonstrated that the EHS program had a positive impact over time in four areas. For children's cognitive ability and aggressive behavior, and for maternal supportiveness and the home learning environment the positive program impacts appeared early and the magnitude of the impacts remained relatively constant from age 2 to 5 (although in the cross-sectional impact analyses, the effects for cognitive ability were not found for the total sample at age 5). As other early interventions have found, while it is noteworthy that the program impacts did not diminish with time, neither did they increase.[4]

After the original evaluation ended and children left the program (or control condition) for whatever programs awaited them between ages 3 and 5, we tracked children's program participation. Program group children were significantly more likely than their control counterparts to enroll in formal preschool programs at both ages 3 to 4 and 4 to 5 (47 percent versus 42 percent), although the differences between the groups were small. That is, a large proportion of children in the control group received some preschool education. This might explain why control-group children seemed to catch up to the treatment group children in terms of cognitive and language skills at age 5.

The results reviewed so far are from analyses conducted within the framework of the randomized experimental design. In addition to these, the team conducted nonexperimental analyses to tease apart the contributions of children's experiences birth to age 3 and their post-EHS program experiences age 3 to age 5. The children and families who experienced EHS followed by formal program enrollment (whether Head Start, preschool, or center child care) in the 3- to 5-year age period demonstrated the most favorable pre-K outcomes. These analyses are not based on randomization (that is, children were not assigned to formal programs or not at the end of EHS) and thus are subject to selection bias.

Impacts— "the Median Isn't the Message"[5]

Averages mislead when considerable variability exists within any group. EHS programs and families differ along many dimensions. These include community characteristics (such as urban or rural settings), program characteristics (such as the approaches implemented and patterns of implementation), race and ethnicity of families enrolled, extent to which families experienced various risk factors, and so forth. We focus on the groups defined by the type of program implemented, the quality (or fidelity) of program implementation, the families' race or ethnicity, the families' level of risk, and the intensity of program services received. These analyses lead to important lessons from the impact analyses at age 3.

It is possible that high-risk families take longer to benefit from a program and that the benefits may be in areas other than cognitive skills.

Program approach. When we focused on the age 3 impacts, the lesson was clear. Across the program sites that implemented a mixed approach to providing services, that is, they enrolled families in center- or home-based services or both (either at the same time or over time), the impacts on children and families were stronger. Several of the interaction effects between program approach and impacts were statistically significant—in the areas of children's cognitive and language development and parenting.[6]

Quality of program implementation. As part of the in-depth EHS implementation study, the evaluation measured the extent to which programs met the criteria set forth in the Head Start Program Performance Standards along several dimensions. At the end of program participation the programs we classified as fully implemented had greater impacts on children and families than the programs that had only incompletely implemented the quality standards.

Family race or ethnicity. Subgroup analyses found that EHS had more positive impacts on African American poor families than on Hispanic or white poor families. The effect sizes were often one-third to one-half of a standard deviation. These effects were sustained at age 5. As has been seen in other programs, such as the Infant Health and Development Program (IHDP),[7] the African American families in the EHS study were more disadvantaged than the white and Hispanic families. Perhaps as a result of their level of disadvantage, the African American families in the control group had lower levels of positive parenting, of reading to their children, and of learning activities than the other ethnic groups within the control condition.[8] In addition, the African American children in the control group had lower means on cognitive and language outcomes than did the white children in the control group.[9] If a subset of children and mothers have, in the absence of an intervention, lower scores on outcomes being targeted by an intervention, it is possible that they might benefit more from a particular intervention.

Family risk. One finding that initially surprised us was that the families with the highest risk levels, as defined in this study,

showed no positive impacts of the program when children were 3. Moderate-risk families showed the largest and most consistent impacts. These findings are similar to those from the IHDP, another multi-site randomized trial for children from birth to age 3 (looking at cognitive skills at age 3).[10] An additional follow-up at age 8 suggested that sustained effects of the intervention were seen in mothers who were moderate risk as well.[11] In EHS at age 5, however, impacts for the high-risk group emerged for parenting and home environment outcomes. It is possible that high-risk families take longer to benefit from a program and that the benefits may be in arenas other than cognitive skills. Indeed, in EHS, we found some impacts on reduced violence in the home.

Intensity of services. Administrative data on the number of days children attended EHS centers (or hours at the center per year) were not available. Based on maternal report of average weekly hours, we found that EHS children spent about 1,000 hours in EHS child care in the center-based sites over the life of the program, with far fewer hours spent in child care in the home-visiting and mixed-approach sites (as would be expected). EHS families in home-based sites received an average of seventy-one visits over their twenty-two month enrollment period, or about 3.2 visits per month (home visit rates were smaller in the center- and mixed-approach sites). Thus, about four-fifths of possible visits were completed (based on an expectation of a weekly visit), which is well above the 50 percent rate cited for previous home-visiting programs.[12]

Several studies have found links between number of days in centers and child outcomes.[13] The most sophisticated of these studies involves propensity score matching to examine possible effects of number of days on child outcomes.[14] These nonexperimental analyses suggest that children with more days in the center are more likely to show benefits from the program, both at the end of the program and two to five years later. Long-term large effects (at age 8) appeared only for children who received 300 to 325 days in the center (over a two-year period, or 150 to 175 days per year; effect sizes of more than one-half of a standard deviation). Shorter-term (and smaller) impacts were found at lower levels of center attendance (about 250 days total). The large impacts in Abecedarian and IHDP at the end of each program (on cognitive outcomes, about three-quarters of a standard deviation) are probably due to the fact that so many of the children received a high level of center-based care. Although some EHS children in center-based sites received 175 days per year, over all sites attendance was quite low.

Most of the non-EHS studies focused on cognitive and language outcomes. A significant advantage of EHS is that aggressive behaviors, attention, and approaches to learning also were assessed. It is in these domains that we see sustained effects of EHS. We do not know if these domains are more amenable to lower doses of intervention or if these domains are more influenced by the home-visiting component of the program. It is encouraging, however, to see an intervention that achieved sustained effects in these important areas of school readiness.

Interpretations and Implications of the Findings

The findings described in this paper lead us to six conclusions on the enduring impacts, the community context, the focus on quality and intensity of services, the continuity of interventions, impacts on

Hispanic children and families, and the costs and benefits of Early Head Start.

Enduring impacts. Some of the most persistent impacts were in domains particularly important for later success in school. For example, aggressive behavior problems, which EHS programs reduced at all three age points, are predictive of later behavior problems and low school engagement.[15] Attention, which EHS also influenced positively, is linked to school achievement.[16] Parent reading to children (and learning stimulation) is also linked to positive outcomes later on.[17] Although policymakers need to understand the lack of impacts on achievement at age 5, the sustained impacts on domains that might contribute to school success later on also need to be a focus.

We need programs that are of the highest possible quality and intensity, begin at or before birth, and provide for continuity of services for a five-year period.

Context. When we consider that these impacts occurred when averaged across seventeen program sites that were among the first 143 programs to be funded in a large-scale, nationwide roll-out of a new initiative, they really are quite notable, even though modest when compared with the common benchmark Abecedarian project.[18] It should be noted, however, that the counterfactual, namely, that the types and availability of child care and family services available in communities were vastly different at the time of the Abecedarian study compared with the more-recent EHS evaluation: communities offered more services for infants and toddlers in the 1990s (compared with the 1970s) and many more of the EHS study control-group children were in child care.

Focus on quality and intensity of services. Head Start performance standards define quality very comprehensively and include requirements for certain levels of service breadth and intensity. The standards encompass services that include child and family development services, staff development, community building, and program management; for programs, doing things well means doing as many of the required programmatic activities as possible.[19] Indeed, we found that sites differed as to how well they had implemented the performance standards, which was linked to outcomes at age 3. Another issue has to do with the specific curricula used. In 1997, EHS study programs used various curricula: two programs used the High/Scope approach, three drew on WestEd's *Program for Infant/Toddler Caregivers*, four drew on the *Creative Curriculum for Infants and Toddlers*, and others used a variety of approaches and materials.[20] Current EHS programs are using the *Creative Curriculum* (about four-fifths of center-based and family care programs) and the *Partners for a Healthy Baby* curriculum (three-fifths of EHS home-based programs).[21] A final issue has to do with the appropriate levels of intensity of services for each individual family. More information on attendance would be welcome. No matter how good a curriculum might be, high rates of absenteeism will reduce its impact.

Continuity. It appears to us that following a birth to age 3 program like EHS

with formal preschool programs will create the greatest opportunity for ensuring that children from low-income families start formal schooling on a more positive footing. This finding is important because few programs have attempted a full birth to age 5 intervention within a single program. The fact that links are seen with the robust set of statistical controls we used in EHS leads us to speculate that larger impacts would be seen if continuity of services were provided following EHS. We recommend testing various models for providing continuity of services after children leave EHS and before they enter kindergarten. Granted, a birth (or prenatal) to age 5 program is considerably more expensive than either an infant-toddler or a preschool program. Perhaps as states are now increasingly paying for pre-K programs, the federal government could focus its resources on the early years. We can imagine a landscape in which all children have access to quality, developmentally-focused services from the time their mothers are pregnant until they begin kindergarten, enrolling in federal programs until they turn 3 years of age, and then entering state-sponsored preschool programs. Some variation on this scenario may be possible within current budget limitations, at least for some children.

Enhancing impacts for Hispanic children and families. At age 5, EHS had an impact on receptive vocabulary for Spanish-speaking children, yet impacts overall for the Hispanic subgroup (including both English- and Spanish-speaking children) were not notable. The same was true of the Head Start Impact Study. Much more needs to be done to understand why impacts are smaller for this group of families. We recommend experimentation with intervention models, curricula, and various instructional strategies for English language learners (or dual language learners), to identify best practices (work in this area is currently being funded by the National Institute of Child Health and Human Development and ACF). We also recommend more work to determine why the enrollment rates for these groups are so different.

Costs and benefits of Early Head Start. Programs are frequently asked to justify themselves by demonstrating benefits whose dollar value outweighs the costs of the intervention. The Perry Preschool Project, of course, is continually cited as having a significant monetary return on its investment.[22] It is too early in the lives of the children and families who participated in the EHS evaluation for any benefits to appear with which we can associate dollar values.

Conclusion

Three principles, grounded in recent research on programs serving children who are most in need of support, lead to a clear policy recommendation: To maximize the benefits of early childhood programs in enhancing disadvantaged children's school readiness, we need programs that are of the highest possible quality and intensity, begin at birth (or before), and either continue until the children enter kindergarten or provide for continuity of services across programs throughout this five-year period.

Notes

[1] John M. Love and others, *Making a Difference in the Lives of Infants and Toddlers and Their Families: The Impacts of Early Head Start*, report prepared for the U.S. Department of Health and Human Services, Administration for Children and Families, Office of Planning, Research, and Evaluation, Child Outcomes Research and Evaluation (Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families, June 2002); Administration for Children and Families, "Research to Practice: Preliminary Findings from the Early Head Start Prekindergarten Followup," (Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families, April 2006). Available at http://www.acf.hhs.gov/programs/opre/Early Head Start/Early Head Start_resrch/reports/prekindergarten_followup/prekindergarten_followup.pdf; John M. Love and others, "The Effectiveness of Early Head Start for 3-Year-Old Children and Their Parents: Lessons for Policy and Programs," *Developmental Psychology* 41, no. 6 (2005): 885-901.

[2] These reflections are those of the authors, not ACF, the sponsoring agency.

[3] Ellen Kisker and others, *Pathways to Quality and Full Implementation in Early Head Start Programs*, report prepared for U.S. Department of Health and Human Services, Administration for Children and Families, Office of Planning, Research, and Evaluation, Child Outcomes Research and Evaluation (Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families, December 2002).

[4] W. Steven Barnett, "Long-Term Effects of Early Childhood Programs on Cognitive and School Outcomes," *Future of Children* 5, no. 3 (1995): 25-50; Jeanne Brooks-Gunn, "Intervention and Policy as Change Agents for Young Children," in *Human Development across Lives and Generations: The Potential for Change*, ed. Lindsay Chase-Lansdale, Kathleen Kiernan, and Ruth J. Friedman (New York: Cambridge University Press, 2004).

[5] Stephen Jay Gould originated this phrase as he poignantly fought the central tendencies doctors used to predict his cancer outcome. Stephen J. Gould, "The Median Isn't the Message," *Discover* (June 1985). Available at http://www.stat.berkeley.edu/users/rice/Stat2/GouldCancer.html.

[6] Love et al., "The Effectiveness of Early Head Start for 3-Year-Old Children and Their Parents." We note that families were not randomly assigned to the three program approaches; however, because programs serve families by identifying the mix of program services that would best meet families' needs, assigning families to those services at random would create an unrealistic situation that would not be generalizable to other EHS programs. However, a planned variation experiment could be very useful for documenting what services are most likely to impact children's outcomes for different types of families (and why).

[7] Greg J. Duncan, Jeanne Brooks-Gunn, and Pamela K. Klebanov, "Economic Deprivation and Early-Childhood Development" *Child Development* 65, no. 2 (1994): 296-318.

[8] For a discussion of ethnic differences in parenting, see Jeanne Brooks-Gunn and Lisa B. Markman, "The Contribution of Parenting to Ethnic and Racial Gaps in School Readiness," *Future of Children* 15, no. 1 (2005): 138-167.

[9] For similar findings in longitudinal samples, see Roland G. Fryer, Jr. and Steven D. Levitt, "Understanding the Black-White Test Score Gap in the First Two Years of School," *The Review of Economics and Statistics* 86, no. 2 (2005): 447-464; Meredith Phillips and others, "Family Background, Parenting Practices, and the Black-White Test Score Gap," in *The Black-White Test Score Gap*, ed. Christopher Jencks and Meredith Phillips (Washington, DC: Brookings Institution, 1998).

[10] The Infant Health and Development Program Staff, "Enhancing the Outcomes of Low Birth Weight, Premature Infants: A Multi-site Randomized Trial," *Journal of the American Medical Association* 263, no. 22 (1990): 3035-3042; Fong-Ruey Liaw and Jeanne Brooks-Gunn, "Patterns of Low Birth Weight Children's Cognitive Development," *Developmental Psychology* 29, no. 6 (1993): 1024-1035.

[11] Pamela K. Klebanov and Jeanne Brooks-Gunn, "Differential Exposure to Early Childhood Education Services and Mother-Toddler Interaction," *Early Childhood Research Quarterly* 23, no 2. (2008): 213-232.

[12] Deanna Gomby, "Home Visitation in 2005: Outcomes for Children and Parents," Invest in Kids Working Paper No. 7 (Washington, DC: Invest in Kids Working Group, Committee for Economic Development, 2005); Helen Raikes and others, "Involvement in Early Head Start Home Visiting Services: Demographic Predictors and Relations to Child and Parent Outcomes," *Early Childhood Research Quarterly* 21, no. 1 (2006): 2-24.

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[14] Hill, Brooks-Gunn, and Waldfogel, "Sustained Effects of High Participation."

[15] Avshalom Caspi and others, "Behavioral Observations at Age 3 Years Predict Adult Psychiatric Disorders: Longitudinal Evidence from a Birth Cohort," *Archives of General Psychiatry* 53, no. 11 (1996): 1033–1039; Thomas J. Dishion, Doran C. French, and Gerald R. Patterson, "The Development and Ecology of Antisocial Behavior," in *Developmental Psychopathology, Vol. 2: Risk, Disorder, and Adaptation*, ed. Dante Cicchetti and Donald J. Cohen (Oxford, England: John Wiley and Sons, 1995).

[16] Greg J. Duncan and others, "School Readiness and Later Achievement," *Developmental Psychology* 43, no. 6 (2007): 1428-1446.

[17] Katherine A. Magnuson, Christopher Ruhm, and Jane Waldfogel, "Does Prekindergarten Improve School Preparation and Performance?" *Economics of Education Review* 26, no. 1 (2007): 33-51; Phillips et al., "Family Background."

[18] Frances A. Campbell and Craig T. Ramey, "Cognitive and School Outcomes for High-Risk African American Students at Middle Adolescence: Positive Effects of Early Intervention," *American Educational Research Journal* 32, no. 4 (1995): 743-772.

[19] Administration for Children and Families, *Head Start Program Performance Standards and Other Regulations (45 CFR Parts 1301, 1302, 1303, 1304 and Guidance, 1305, 1306, and 1308 and Guidance* (Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families, 1998) Available at http://www.eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_&ERICExtSearch_SearchValue_0=ED426807&ERICExtSearch_SearchType_0=no&accno=ED426807.

[20] These other materials included *Partners in Parenting Education, Resources for Infant Educators, Hawaii Early Learning Profile, Partners in Learning, Games to Play with Babies, Games to Play with Toddles, Playtime Learning Games for Young Children, Talking to Your Baby, Learning Activities for Infants, Ones, and Twos, Anti-Bias Curriculum*, and Montessori. Ellen E. Kisker and others, *Leading the Way: Characteristics and Early Experiences of Selected Early Head Start Programs, Volume I: Cross-Site Perspectives*, report prepared for the U.S. Department of Health and Human Services, Administration on Children, Youth and Families (Princeton, NJ: Mathematica Policy Research, Inc., December 1999).

[21] Cheri A. Vogel and others, *Findings from the Survey of Early Head Start Programs: Communities, Programs, and Families*, report prepared for the U.S. Department of Health and Human Services, Administration for Children and Families (Princeton, NJ: Mathematica Policy Research, Inc., December 2006).

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TEN IDEAS FOR IMPROVING EARLY HEAD START—AND WHY THE PROGRAM NEEDS THEM

Nicholas Zill

Early Head Start is a federal child development program intended to bolster the early learning and eventual school readiness of infants and toddlers from low-income families. The best available evidence, from a national random-assignment evaluation study, indicates that the program is not performing as intended. This paper suggests ten ways to improve the program, such as by placing more emphasis on family stability, parent-child interaction, and cognitive skills that are predictive of later achievement; using technology to help teach parents and children; employing volunteers to make early intervention less costly; and dispersing more funds to communities with greater need for the program.

Nicholas Zill is a research psychologist and independent consultant based in Washington, DC. Prior to his recent retirement, he was Director of the Child and Family Study Area at Westat. In that capacity, he headed several national surveys and assessments of Head Start program performance.

Early Head Start (EHS) is a federal program intended to address the same social problem that the larger and better-known Head Start program addresses. That problem is that young children from economically and socially disadvantaged families begin elementary school with knowledge and skill levels that are substantially below those of children from more advantaged families. Furthermore, attempts to create equality of educational opportunity have not produced equal educational results.[1] By the later grades of high school, youth from disadvantaged families typically have lower achievement test scores, more grade repetition, higher dropout rates, and lower college entrance and completion rates than youth from more advantaged families.[2] Indeed, study after study has found that the family from which a child comes is a better predictor of educational accomplishment than the schools she has attended.[3]

Like Head Start, EHS is a comprehensive child development program intended for children from low-income families. Comprehensive means that the program provides not only early childhood education services, but also health screening and referral and family support. Whereas local Head Start programs serve preschool children of ages 3 and 4, and 5-year-olds who have not yet started kindergarten, EHS serves infants and toddlers below the age of 3. Whereas local Head Start programs are predominantly center-based, with some providing home-visiting services as well, EHS programs are predominantly home-based, or involve a mixture of home-based and center-based services.

The rationale for having EHS as well as Head Start proper is that the sooner one can provide intellectual stimulation and emotional support to a child who may not be receiving adequate levels of either, the better for the child. Both small-scale observational research[4] and large-scale survey studies[5] have found that young children in low-income, low parent-education families receive significantly less stimulation and support than those growing up in families with higher parent-education and family income levels. According to the Head Start Family and Child Experiences Survey (FACES), at the time children from low-income families enter Head Start, their average vocabulary test scores are one full standard deviation or more below national norms.[6] That is, the number of words whose meanings they know is thousands of words smaller than the number the typical non-poor child can identify at the same age.[7] So there is research evidence supporting the need for efforts to enrich the early home environments of children in low-income families. Whether EHS in its current form provides enrichment that makes a meaningful difference in the development of these children is another question, one I will address in a moment.

The available research evidence suggests that EHS as currently constituted and structured is less than a sterling success.

Prior to the passage of the American Recovery and Reinvestment Act, EHS provided funding to some 650 local programs, whereas Head Start itself supported the operation of more than 18,000 centers and 49,000 classrooms around the country. The annual budget for EHS ($690 million in 2009) was about one-tenth the

size of that for Head Start proper.[8] The American Recovery and Reinvestment Act provided an additional $1 billion for EHS per year in 2009 and 2010. This represents almost a doubling of the program's appropriations, at least for those two years.

Is this massive increase in funding justified, given the available evidence on the efficacy of EHS? What recommendations can we make regarding the design of the EHS program, based on available evidence and practical experience? What policies and practices ought the program put into operation that might improve its long-term impacts on children's school performance and behavior? What kinds of research should the program undertake to inform future policy and practice? These are the questions that this paper addresses.

Evidence on Program Efficacy

The best available research evidence on the efficacy of EHS as currently implemented comes from a national random assignment study of the program conducted by Mathematica Policy Research for the U.S. Department of Health and Human Services.[9] Does the evidence from that study justify the surge in funding that Congress has bestowed upon the program?

The EHS Research and Evaluation Project was conducted beginning in 1996 in seventeen sites representing different regions of the country, program auspices, program models, and racial and ethnic composition of the populations served. Some 3,000 children and families from these sites were randomly assigned either to receive EHS services or be in a control group whose members could utilize any community services except EHS. Children, families, and their child care arrangements were assessed when children were 1, 2, and 3, and 5 years old, prior to kindergarten entry. There was another follow-up study conducted when most of the students were in the fifth grade of elementary school.

Child assessments included cognitive, language, and social-emotional measures based either on direct assessment or parent report. Parent assessments were based on observation (videotapes and by interviewers) or a self-report. Families in the program and control groups were demographically comparable at baseline and assessment points. Several research briefs and a journal article have been published based on findings from the study.[10]

The latest research brief that is publicly available is based on the findings as of the pre-K follow-up study.[11] What that brief tells us is that, by the time of their entry into kindergarten, participation in EHS had no significant impact on children's early reading skills, early math skills, English-language vocabulary knowledge, or ability to pay attention to a repetitive task in a sustained manner.

A landmark review of six longitudinal child development studies compiled by Greg Duncan of the University of California, Irvine, and his collaborators showed that school-entry math, reading, and attention skills were the strongest predictors of later academic achievement.[12] Thus, it is particularly troubling that EHS had no impact on these potent predictors of later achievement. An earlier report of the Mathematica evaluation noted that at age 3, the EHS children scored significantly better than control children on the Bayley Scale of Infant Mental Development (effect size = .10) and the Peabody Picture Vocabulary Test (effect size = .15). The differences were small (in the 10 to 20 percent range) and the scores of the EHS group, though higher than those of the control group, were still well below national norms. However, similar

differences were not apparent by the time of kindergarten entry.

One subgroup did show a difference in language development at kindergarten entry that was linked to EHS participation. There was a significant impact (effect size of .27) on the Spanish-language vocabulary knowledge of Spanish-speaking children. Though this impact was modest, it was actually one of the largest effects found in the pre-K follow-up study. The brief does not discuss why there should be an effect in Spanish but none in English. One may speculate that Hispanic parents were culturally less apt to speak with their children in ways that would stimulate the youngsters' vocabulary development. Participating in EHS may have worked to loosen the parents' reticence in a more pronounced fashion for Hispanic parents than for those of other ethnicities.

The pre-K follow-up found some significant but tiny impacts of EHS on children's problem behavior (effect size = -.10) and approaches to learning (effect size =.12), as reported by parents. But three other measures of socio-emotional behavior and engagement showed no impact. Furthermore, the review paper by Duncan and his colleagues found that measures of socio-emotional behavior in early childhood, including internalizing and externalizing problems and social skills, were generally insignificant predictors of later academic performance, even among children with relatively high levels of problem behavior.

There are a number of findings that can provide guidance as to ways in which EHS can be tailored to bolster its longer-term impacts on children and families.

The pre-K follow-up study also reports some positive impacts of EHS on parental behavior, namely, more daily reading (effect size = .09) and periodic teaching activities (effect size = .09), more supportive home environment (as measured by the HOME scale; effect size = .13), and less depression (effect size = -.10), all as reported by parents themselves. Again, however, the statistically reliable impacts are miniscule in magnitude (effect sizes ranging from .09 to .13). And balanced against these is a lack of any significant impact when the measures of parental behavior are based on direct observation of parent-child interaction (no significant differences in parental supportiveness or negativity during videotaped play), as opposed to being based on parental report.

In sum, the available research evidence suggests that EHS as currently constituted and implemented is something less than a sterling success. If one focuses on the early effects of the program, the program seems to show promise. Even then, however, positive impacts were quite modest. But if one focuses on differences at pre-kindergarten entry (at the average age of 63 months), even these modest differences had disappeared. The best available evidence is that poor children who attended EHS were no better prepared for school than poor children who did not attend.

Ten Ideas for Improving EHS

The lack of sustained impacts in critical areas of children's cognitive and language development tells us that the program is not succeeding in meeting one of

its major goals. The tiny size of the impacts that have been found are also of concern, given the magnitude of socio-economic gaps in children's skills and behaviors at school entry and beyond.[13] Although the program is less than ideal, Congress has provided a substantial chunk of additional money for it. Spending the money simply to fund more programs of the same variety would be a mistake. In the section below, I outline ten ideas that would help make the program more effective.

Learn from evaluation findings. There are a number of findings in the national evaluation study that can provide guidance as to ways in which EHS can be tailored to bolster its longer-term impacts on children and families. Perhaps the most intriguing is the significant impact that was found on the Spanish-language vocabularies of Spanish-speaking children. This finding suggests that the program might do well to expand outreach to and enrollment of not only Hispanic families with young children, but also families of other non-English-speaking immigrant groups. Defenders of EHS have claimed that some subgroups of programs are more effective than others. However, exactly which subgroups are the more effective ones has varied at different data collection points. This suggests that the differences may be due to chance fluctuations. According to the pre-kindergarten follow-up results, home-based program models were more likely to produce sustained impacts through the pre-K period; sustained impacts were more often observed in low- to moderate-risk groups; and full implementation of the Head Start Program Performance Standards was not an important factor in terms of sustained program impacts (though it had been found to be significant in the earlier evaluation).

Build on the basic premise underlying EHS. The basic notion behind EHS is that by enriching the early environment of a child from a low-income, low parent-education family, the program will stimulate the child's cognitive and social-emotional development in ways that will have long-term beneficial consequences for his success in school and in life. This implies that a key focus of the program should be on parent-child interaction and other aspects of the home environment. One cannot hope to have a long-lasting impact on the child's development in the relatively few hours during which the child participates directly in a program like EHS. But by changing parent-child interactions in positive ways, the enhanced and enriched interactions will have continuing beneficial effects on the child's development. So EHS must do more to ascertain what parent-child interactions are like at program entrance, and work to improve those interactions or supplement them with other sources of intellectual stimulation and emotional support for the child.

Use modern technology to help assess and modify parent-child interaction. EHS could benefit from making more extensive use of electronic and computer technology to teach young children basic skills, gain insight into parent-child interaction patterns, and help modify those patterns in beneficial ways. For example, the same videotape of parent and child playing a game together that was used to produce measures of parent and child behavior for the evaluation study could also be used to provide feedback to parents on constructive and not-so-constructive ways in which they are interacting with their child. Other potential applications include use of video games and computer-based teaching programs to help the parent enhance the child's vocabulary, math skills, cognitive flexibility, and executive functioning.

Emphasize skills that are most predictive of later achievement. As described above, longitudinal studies have shown that early math, reading, and attention skills are the strongest predictors of later academic achievement. These skills, or their precursors in the infant and toddler years, are ones that both Head Start and EHS should emphasize. Local programs should assess children's skills objectively at program entrance and exit and evaluate their own performance based on the gains they help children achieve.[14] The skills of infants and toddlers are more challenging to assess reliably than those of preschoolers. That does not mean it should not be done, however, especially when the goal is to evaluate the program's performance, not the individual child. EHS should also seek to incorporate and benefit from ongoing neuropsychological work on the development and improvement of executive functioning in childhood. This concept refers to the set of brain processes or meta-skills involved in selective attention, cognitive flexibility, planning, rule acquisition, and inhibitory control of habitual responses.[15]

Emphasize the importance of family stability for young children. A troubling finding of the longitudinal FACES survey is the degree of flux that took place from visit to visit in who was living in the household with young children from low-income families, especially those in which the parents were unmarried.[16] Other studies have shown that young children are at greater risk of neglect or abuse when they are left in the care of a stepfather or boyfriend of the mother who is not the biological father of the child.[17] Young children in families formed by unmarried teen mothers who have not completed high school have five to six times the risk of growing up in poverty as children in families without these risks.[18] EHS should seek to teach young mothers and fathers about the importance for infants and toddlers of having a stable set of caregivers on whom the mother can rely and with whom the child can develop attachment bonds. EHS might be able to assist parents in achieving this goal by helping to form babysitting cooperatives among program participants. This same principle should guide staffing decisions of Head Start and EHS programs. The programs should strive for continuity of care and try to minimize staff rotation and turnover as far as whom individual children see and interact with on a daily basis.

Emphasize the importance of family-size decisions. Having to deal with a new infant, particularly one by a different father, may make a young woman less able to pay attention to the children she already has. This may, in turn, have a detrimental effect on the cognitive, language, and emotional development of these children.[19] Although the research evidence on this question is mixed, there is little doubt that having a large, closely-spaced group of children has a detrimental impact on a poor family's chances of escaping poverty through the parents' gainful employment.[20] EHS programs should seek to inform young mothers and fathers about the importance of this factor as well.

Support the transition from welfare to work. Head Start had its beginnings as part of President Lyndon Johnson's Great Society and War on Poverty. Even if EHS has only modest direct impacts on children's cognitive skills, it can have a lasting impact on children's development and well-being by assisting their parents to make the transition from poverty and dependency to gainful employment and financial independence. The program can do this by coordinating with job training and adult education programs, by helping to arrange or provide quality child care for working

parents, and by offering employment opportunities to parents in local programs.

Involve fathers. All of the initiatives with parents outlined above should apply to fathers as well as mothers. This should be the case even when the parents are unmarried, separated, or divorced, so long as there is no issue about abuse of the ex-spouse or child. Having the father involved in regular, positive interactions with the child not only provides another source of intellectual stimulation and emotional support for the child, it also increases the chances that the father will continue to contribute to the family's financial well-being. Given their relatively low educational attainment levels, the only way in which many low-income families can earn their way out of poverty is by having both parents employed and helping to support the child.

Early math, reading, and attention skills are the strongest predictors of academic achievement. These are the skills that both Head Start and EHS should emphasize.

Early intervention is costly: find ways to make it less so. Because EHS often involves home visiting, one-on-one counseling, and small group situations with lower child-staff ratios, it tends to be more costly per child served than regular Head Start. In order to serve more children and families, it is desirable for EHS to find and employ ways of delivering quality services in a cost-effective manner. Two potential methods of reducing costs were mentioned above: use of computer technology and employing EHS parents as staff members. Two additional ways of reducing costs have been used successfully by local early intervention programs: the use of Teach for America recruits and Volunteers in Service to America (VISTA) as instructors or home visitors, after a suitable training period and with careful mentoring and supervision.[21] This tactic can actually increase the proportion of program staff who have college degrees and are highly intelligent and motivated, while keeping operating costs down.[22]

Improve funding formulas. Both EHS and Head Start would benefit from the development and application of a revised formula for dispersing Head Start monies across geopolitical areas. The goal is to have more of the funds go to communities where there are programs with waiting lists and less go to areas where programs have to reach up to near-poor or non-poor families in order to fill slots.

Research Program

Efforts to improve EHS should be accompanied and guided by a vigorous research program. Because the key goals of EHS are long-term ones, it takes time and a sustained commitment to learn if new methods and approaches really produce their intended effects. Nonetheless, a coordinated research program is essential, given that what is being done now is not working. Furthermore, prescriptions for fixing the program—such as those offered above—are at this point just informed guesses. Here are several suggestions for design principles that should guide such a research program:

Independence from program operation. Research to inform EHS should be separate and independent from the operation of the program itself. Researchers should not feel obligated to be program boosters and should be free to discover and report negative findings regarding program effectiveness.

Commitment to experimental design. Research to inform EHS should make use of true experimental designs and random assignment of children and families to experimental and control conditions wherever possible. Correlational studies have their uses, but experimental studies produce definitive answers.

Using genetically-informed designs. Because genetic differences play an important role in children's academic achievement and behavioral adjustment,[23] research to inform EHS should make use of methods that take genetic factors into account. Examples are studies using twins and adopted children as experimental subjects.

Encouraging secondary analysis. To maximize benefits from data collected in EHS-related studies, those data should be made available for secondary analysis by researchers other than those who conducted the study. This should be done soon after the data are collected. Of course, data files should incorporate masking of personal identifiers and other adjustments needed to protect the privacy of study participants.

Keeping track of program participants. In order to have more and better data on longer-term sequelae of EHS participation, the Administration for Children and Families should develop and implement a method whereby children who received program services may be identified and studied many years later. The same should be possible for children who served as controls in experimental studies.

At least half of the new funds being provided by Congress to EHS and Head Start should be used to improve program quality, to make needed changes in the program outlined above and to support a vigorous program of related research. If this were done, the benefits would be manifold. Not only would the program eventually do a better job of serving children and parents, it would also contribute to our knowledge about how to improve the life chances of young children in general.

Notes

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LEAVE NO (YOUNG) CHILD BEHIND: PRIORITIZING ACCESS IN EARLY CHILDHOOD EDUCATION[1]

Jens Ludwig and Deborah A. Phillips

This essay confronts the difficult tradeoff that policymakers face regarding how to allocate finite early childhood resources to help poor children: whether to prioritize efforts to improve the intensity of programs, or to direct new funding to improve access to at least moderately intensive programs. While making additional improvements in the intensity of early childhood programs for poor children would almost surely pass a benefit-cost test, the net benefits of additional spending in this area would probably be higher still from improving access—that is, providing modestly intensive services to low-income children currently not enrolled in such programs.

Jens Ludwig is the McCormick Foundation Professor of Social Service Administration, Law, and Public Policy at the University of Chicago, Research Associate of the National Bureau of Economic Research, and Non-Resident Senior Fellow in Economic Studies at the Brookings Institution.

Deborah A. Phillips is Professor of Psychology at Georgetown University and Associated Professor of the Georgetown Public Policy Institute.

During the 2008 presidential campaign, then-candidate Barack Obama pledged to increase funding for early childhood education for low-income children. The question now for President Obama is how to follow through on this pledge.

Many people (including us) would support a truly dramatic expansion in funding for early childhood education (ECE) in the United States in order to substantially improve both access to ECE programming in America for low-income children as well as the intensity of these programs, by which we mean spending per child. A serious effort along these lines might cost as much as $40 billion or $50 billion per year, and would have the long-run effect of dramatically reducing educational (and income) disparities in America and improving the overall competitiveness of the American economy—and pass a benefit-cost test to boot.[2]

For better or worse, however, this type of massive increase in ECE spending is not in the cards, given projected federal budget deficits that are measured in the trillions of dollars[3] and equally grim budget forecasts for state governments around the country. What is on the table are much more modest funding increases for ECE. The American Recovery and Reinvestment Act of 2009 (ARRA) included about $4 billion in added resources for early childhood care and education programs in Head Start and Early Head Start (EHS) ($2.1 billion), and the Child Care and Development Block Grant ($2.0 billion), which is around a 15 percent increase in funding.[4] The Administration also announced in July 2009 the new Early Learning Challenge Fund (ELCF), which would provide around $1 billion per year over ten years to support improving the early learning settings for preschool-age children.[5] These are important and welcome increases to existing ECE funding that we support. They nonetheless leave us short of what would be required to achieve major gains in both access and program intensity.

This essay confronts the very difficult tradeoff that policymakers must make in thinking about how to spend an additional finite pool of early childhood funding: whether to prioritize efforts to improve the intensity of ECE programs, at the expense of leaving hundreds of thousands of eligible low-income preschool-age children unenrolled in any sort of government ECE program, or whether to instead direct a significant portion of new funding to improve access to at least moderately intensive programs. Consider that Head Start's current budget is not even enough to enroll every low-income child into that program. Should we be ensuring that every poor child is receiving a program of at least the intensity of Head Start (with per child spending on the order of about $9,000 per year)[6] before we start providing any children with government programs that have per-child spending of $15,000 or $20,000?

For the purposes of this essay it is useful to decompose what most people mean by program quality into spending per child, or what we call intensity, and the developmental benefits that children receive per dollar spent, what we call efficiency. We wholeheartedly endorse current proposals to improve the efficiency of existing ECE spending through increased accountability efforts and other measures. In principle it might even be necessary to make incremental increases in total program spending to increase the efficiency of each dollar spent (if there are, for example, threshold effects of early childhood interventions on children's life outcomes). The key policy dilemma in our view is how

to choose between substantial changes in program intensity versus expansions in access given current budget constraints in the allocation of any new monies that become available.

We would ensure that every low-income child is enrolled in a program that is of at least the intensity of Head Start, with as high a developmental benefit as possible.

We believe that while making additional improvements in the intensity of ECE programs for poor children would almost surely pass a benefit-cost test, the net benefits of additional spending in this area would probably be higher still from improving access—that is, providing modestly-intensive ECE services to low-income children who are currently not enrolled in such programs. We make this recommendation in the context of prior evidence suggesting that:

—There remains a problem of access to decent early childhood programs by disadvantaged children, including low-income children whose family incomes exceed the eligibility criteria for government programs such as Head Start.[7]

—Even modestly intensive ECE interventions with spending levels on the order of Head Start (or even less), which produce moderately sized short-term impacts, seem capable of improving the long-term life chances of low-income children.[8]

—Variation in the quality of child care and early education programs appears to matter more for the development of low-income children as compared to their higher-income peers.[9]

—There are positive but diminishing returns to increasing the quality and intensity of ECE programs. For example, compared to one year of ECE services, enrolling for two years produces outcomes that are less than twice as good.

We would, as our first priority, ensure that every low-income child in America is enrolled in an ECE program that is of at least the intensity (spending level) of Head Start, with as high a developmental benefit (efficiency) as possible. This would lead to important developmental gains and address the serious inequities in access to good ECE options that currently exist. As part of such an effort, special attention will need to be paid to making existing ECE programs feasible and appealing for low-income families to enroll their children, for example by making ECE center hours fit better with the work schedule of parents and addressing important issues of cultural compatibility. Improving these access and utilization challenges will be particularly important in serving populations that are traditionally under-enrolled in ECE programs, notably Hispanics and other English language learner (ELL) children.

The remainder of our paper is organized as follows. In the next section we argue that even modest short-term impacts can matter for the long-term life chances of low-income children. In the following section we argue that the best evidence suggests that there are diminishing marginal returns to increasing the intensity of ECE programs. This argument implies that the benefit-cost ratios from improving access to decent ECE programs for those children

who currently do not participate in such programs are likely to outweigh the gains from substantially increasing program intensity for just a subset of poor children. In the final section we discuss the implications of this access-over-intensity argument for ECE policy.

Modest Impacts Can Matter

The tremendous enthusiasm for early childhood education in the United States comes in part from evidence of substantial disparities in achievement test scores between rich and poor children even before children reach school age, and in part from the impressive gains in children's short- and long-term outcomes achieved by intensive ECE interventions like Abecedarian and Perry Preschool. For example, the Abecedarian intervention provided very high-quality, full-time, year-round center-based ECE to poor children starting at around 6 months of age through 5 years of age. Abecedarian was implemented as a randomized experiment, so we can have high confidence in what the program accomplishes. Evidence from the experiment suggest that Abecedarian boosted IQ scores by fully 1.2 standard deviations at age 3, a gain that is large enough to eliminate the gap in IQ scores observed between black and white children in the United States. Abecedarian even generated long-term gains in IQ scores, equal to nearly .4 standard deviations measured at age 21, as well as large treatment-control differences in college entry rates (36 percent versus 14 percent) and teen parenthood (18 percent versus 39 percent),[10] with estimated benefit-cost ratios of 1.4 to 3.6.[11] Perry Preschool increased IQ and achievement test scores by nearly as much as Abecedarian did in the short term, and despite some fade out in test score impacts the intervention produced lasting gains in high school graduation and employment and declines in criminal behavior.[12] The benefit-cost ratio for Perry Preschool may be as high as nearly thirteen to one.[13]

By comparison, the estimated impacts for less intensive, larger-scale interventions such as Head Start have struck many observers as disappointingly small. For example, the recent randomized experimental study of Head Start funded by the U.S. Department of Health and Human Services (HHS) and carried out by Westat suggests that the short-term effects of Head Start on children enrolled in 2002 or 2003, relative to whatever alternative center-based or informal care arrangements children would have experienced otherwise, are on the order of .1 to .3 standard deviations for cognitive outcomes.[14] These short-term impacts seem to be of about the same magnitude as what was observed for previous cohorts of Head Start children who were in the program during the 1970s and 1980s.[15] These short-term test score gains generally seem to fade out for program participants, a fade out that we see among children who participated in the program many decades ago, as well as those who are were enrolled in Head Start more recently.[16]

State-funded universal pre-K programs that offer young children focused, high-quality instruction tend to generate larger gains than Head Start in achievement test scores,[17] without deleterious consequences—and perhaps with accompanying positive impacts—on social-emotional development.[18] Long-term developmental impacts, however, remain to be documented. These pre-K programs have not been subject to randomized experimental study, but the results currently available are nonetheless encouraging.

While many people criticize the impacts of large-scale ECE interventions

such as Head Start as being disappointingly small, what is the right standard to use in deciding whether these program effects are large or small? Some observers have used the more-or-less arbitrary standard established in the education research world to call program effect sizes of .2 standard deviations small, .5 medium and .8 or more large.[19] But it seems misguided to judge the value of a program by its benefits alone, without considering costs. Would we really enact a program with an effect size of .8 that cost $14 trillion per year (that is our entire GDP)? Would we really want to trash a program that increased test scores by just 0.2 standard deviations, but cost only a nickel per child?[20]

Even programs whose test score gains fade can produce lasting improvements in life outcomes and the effects need not be enormous for the programs to pass a benefit-cost test.

A different benchmark that some observers have used is relative to the scale of the social problem that is being addressed. For example in his review of the recent Head Start experiment's results, Doug Besharov of the University of Maryland argues "these small gains will not do much to close the achievement gap between poor children (particularly minority children) and the general population. We should expect more."[21] But this is a little like visiting the Mercedes dealer with $9,000 and then walking out disappointed.

The right way to judge public programs is by comparing program benefits to costs, which requires converting both to the same metric, usually dollars—that is, benefit-cost analysis. This sort of analysis involves identifying the benefits to society the program generates over the short, medium and long term, monetizing and aggregating these benefits, and comparing their discounted values to the program costs. It is difficult to carry out this sort of benefit-cost analysis for recent cohorts of children who participate in Head Start or the newer state pre-K programs because they are still children, and so we cannot observe how the programs do or do not impact participants into adolescence and adulthood.

But what we can say is that for low-income children who participated in Head Start in the 1960s through 1980s, the program seems to have generated lasting improvements in a range of other key outcomes that society cares about, including health, educational attainment, labor market earnings, and perhaps criminal behavior as well.[22] Note that there is no randomized experimental evidence for Head Start's lasting impacts because the children in Westat's recent experimental study have been followed up for just a short period of time. The evidence for long-term Head Start impacts comes instead from natural experiments (or quasi-experiments) that we believe are convincing enough to support a persuasive case for lasting program impacts. Our case is strengthened by the fact that evidence for lasting Head Start impacts comes from several different studies that use different research designs and datasets.

Note also that the framework of benefit-cost analysis provides us with a way to judge the mixed pattern of impacts that we observe for Head Start—short-term impacts on test scores that fade out, but long-term persistent impacts on key

behavioral outcomes. People who think that test scores should be the main focus for education policy will view these results as something of a disappointment, while those who hope that ECE can be an effective part of the nation's effort to reduce intergenerational transmission of poverty will be encouraged by some of the lasting behavioral impacts. The right way to adjudicate this dispute is to ask whether the dollar value to society from those outcomes that are affected by Head Start are sufficient to justify the program's costs. Our calculations suggest that Head Start passes a benefit-cost test, at least for children who participated in previous decades.[23]

Our discussion in this section has focused on Head Start because that is the large-scale program for which evidence of long-term impacts is available. But the larger points we make are relevant for other, newer, ECE programs such as the universal pre-K programs that many states have begun to implement: fade-out of test score impacts is not a fatal limitation of these programs, since we have evidence that even programs whose test score gains fade can produce lasting improvements in life outcomes; and moreover the effects of these interventions need not be enormous in some absolute sense in order for the programs to pass a benefit-cost test.

Effects of Improving Program Quality

The argument for substantially improving the quality and intensity of ECE services for poor children stems in part from the striking successes found in small-scale ECE demonstration projects like Perry Preschool and Abecedarian. But more costs more. The gross costs of the Perry Preschool program are about twice as much as Head Start, while the gross costs of Abecedarian are higher still.[24] The key question for public policy is whether devoting additional dollars to increasing program quality or intensity generates higher or lower net benefits compared to devoting those resources to expanding enrollment rates (in other words, access). The answer, as best we can tell, is that expanding access for preschoolers to programs that meet the more modest levels of quality seen in Head Start and state pre-K programs seems to be the more productive use of additional expenditures given evidence that there are positive but diminishing marginal returns to ECE spending on children.

We can see evidence of these diminishing marginal returns to increased ECE spending per child from comparing the size of the estimated long-term outcomes for Head Start, Perry Preschool, and Abecedarian. Since no one has yet carried out a complete benefit-cost analysis for Head Start, we cannot directly compare benefit-cost ratios across different candidate ECE programs. But we can compare program impacts on those outcomes that are generally available in the different studies of these three programs, including schooling attainment, earnings, criminal behavior, and health. Analysis by David Deming of Carnegie Mellon University shows that Head Start's impact on a standardized index of these adult outcomes seems to be about 80 percent as large as the estimated impact for both Perry and Abecedarian.[25] Deming's finding is quite striking since Head Start costs significantly less than both Perry and Abecedarian, and because Head Start is a large-scale public-sector program rather than a small, controlled demonstration project.[26]

It should be noted that these comparisons across programs are not perfect because the different programs have been administered to very different program populations, have been studied using different outcome measures, and were evaluated at a time when the counterfactuals

(in other words, child care and preschool education options available to the control children) were quite different from what they are today. But other data also point in the direction of diminishing marginal returns to ECE spending per child. For example data from the National Day Care Study found that cutting class sizes in half from twenty-four to twelve children, which would roughly double spending per child on day care, does indeed improve children's scores on both the Preschool Inventory or the Peabody Picture Vocabulary Test but just by 20 percent—that is, doubling inputs increases outputs, but not by twice as much.[27] Similarly, in Perry Preschool, children who participated in the program for two years did indeed experience larger gains than children who enrolled for just a single year, but here again the difference in program benefits was less than twice as large.[28]

Implications for New Early Childhood Initiatives

Our discussion suggests that low-income children and society as a whole will benefit more from prioritizing new ECE funding for expanding access over efforts to substantially improve program intensity beyond current levels. In an ideal world we would spend up to $50 billion per year on intensive ECE programs that serve every low-income child in the United States. Such a policy would have important benefits for the long-term productivity of American workers, have potentially profound impacts on income inequality and disparities in life outcomes across race and social class lines, help reduce the inter-generational transmission of poverty in America, and would even pass a benefit-cost test as well.[29] But in a world of constrained resources—that is, the world that we actually live in—it may be a mistake to not first and foremost ensure that all poor children have the opportunity to receive at least moderately intense, developmentally supportive early childhood educational experiences.

Low-income children and society as a whole will benefit more from prioritizing new ECE funding for expanding access over efforts to substantially improve program intensity.

Such an initiative should obviously go hand-in-glove with efforts to improve program quality, by which we mean maximizing the bang per buck achieved from existing ECE spending, including the creation of stronger incentives for states and providers to make significant quality improvements and to provide parents with transparent systems for identifying programs that pass a threshold of quality that is likely to support positive developmental outcomes. This is one potentially important function of the Quality Rating Systems that states are now putting in place and that could receive support from the Obama administration's Early Learning Challenge Fund (if it is approved by Congress). Such efforts could also include reviewing the types of curricula that Head Start centers around the country are using, trying to improve the measurement and transparency of variation in program quality, and shutting down low-quality programs. It is also true that expanding enrollment rates in our existing set of moderately-intensive ECE programs, including EHS, Head Start, state-funded universal pre-K programs, and the highest-

quality child care programs, could require some design changes that increase their per-pupil costs. For example, in the recent federally-funded Head Start experiment only 86 percent of children assigned to the Head Start program group enrolled in the program. Anecdotal accounts suggest that many Head Start centers around the country are under-enrolled in part because they run part-time programs that do not fit well with the work schedules of low-income parents. Other program design changes might be required as well to increase utilization rates among special priority groups such as Hispanic families and other English learners, which currently have particularly low enrollment rates. But our key argument is that we should make sure that every low-income child is enrolled in some sort of at least moderately intensive, developmentally supportive ECE program before we do even more to substantially increase program intensity.

Notes

[1] Paper prepared for the Project on Current Issues in Child Care and Early Childhood Education, sponsored by the Brookings Institution's Center on Children and Families and the National Institute for Early Education Research at Rutgers University. This paper draws in part on Jens Ludwig and Deborah Phillips, "The Benefits and Costs of Head Start," *Social Policy Report* 21, no. 3 (2007). Thanks to Ron Haskins, Steve Barnett, participants in the Brookings-NIEER conference in January 2010 in Washington, DC, and especially Greg Duncan for extremely helpful discussions. All opinions and any errors are of course our own.

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[23] Ludwig and Phillips, "The Benefits and Costs of Head Start;" Ibid., "Long-Term Effects of Head Start on Low-Income Children," *New York Academy of Sciences* 1136 (2008): 257–268.
[24] Barnett and Masse, "Comparative Benefit-Cost Analysis of the Abecedarian Program;" Ludwig and Sawhill, "Success by Ten."
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[26] Comparing outcomes across programs on an index of adult outcomes is complicated by the sensitivity to impacts on crime. As noted earlier in the paper, Abecedarian has proportionately large but not statistically significant impacts on criminal behavior. But Abecedarian has impacts on a wide range of other adult behavioral outcomes that previous research suggests is strongly predictive of crime, such as IQ scores and drug use. For Head Start the evidence for impacts on crime is mixed: Deming [Deming, "Early Childhood Intervention"] uses a sibling-difference research design and finds no detectable impacts on self-reported criminal behavior in the NLSY, but Garces [Garces, Thomas, and Currie, "Longer Term Effects of Head Start"] use the same research design and find large reductions in self-reported arrests among African Americans in the PSID.
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HEAD START: STRATEGIES TO IMPROVE OUTCOMES FOR CHILDREN LIVING IN POVERTY

Craig T. Ramey and Sharon Landesman Ramey

Head Start has inspired early childhood programs for forty-five years, yet evidence reveals its quality is unacceptably uneven and intended benefits are not realized. Head Start must (1) promote large improvements in staff knowledge and performance; (2) collect, analyze, and report reliable data about program implementation and impact; and (3) identify effective versus ineffective instructional strategies. Exemplary Head Start programs should serve as mentors, while failing programs must be transformed or terminated promptly to prevent harm. The culture of silence shielding abysmal program conditions must end. Head Start has an unprecedented opportunity to demonstrate integrity and fulfill its congressional mandate.

Craig Ramey is the Founding Director of the Georgetown University Center on Health and Education (with Sharon Ramey) and Distinguished Professor of Health Studies and Psychiatry at Georgetown University.

Sharon Landesman Ramey is the Founding Director of the Georgetown University Center on Health and Education (with Craig Ramey) and the Susan H. Mayer Professor of Child and Family Studies and Professor of Psychiatry at Georgetown University.

The Head Start Act (Public Law 110-134) declares that the purpose of Head Start (Sec. 636): "[is] to promote the school readiness of low-income children by enhancing their cognitive, social, and emotional development— (1) in a learning environment that supports children's growth in language, literacy, mathematics, science, social and emotional functioning, creative arts, physical skills, and approaches to learning; and (2) through the provision to low-income children and their families of health, educational, nutritional, social, and other services that are determined, based on family needs assessments, to be necessary."

In this paper, we argue that ample evidence supports the underlying premises of Head Start: namely, that providing a positive learning environment for young children and addressing the comprehensive service needs of young children and their families are essential to the school readiness of low-income, and indeed all, children.[1] Further, when children enter good schools in good health and with age-appropriate cognitive, social, and emotional skills, they are far more likely to experience early and continued school success, as well as later positive outcomes as healthy adult citizens.[2]

Meeting the multiple needs of children under age 5 living in poverty has direct implications for the future of Head Start and all publicly funded early childhood programs.

Poverty rates are highest among children under 5 in our country; the 2008 national rate of 21 percent is alarmingly high and consequential.[3] States face differing magnitudes of challenge to address children's needs. Beyond simple poverty numbers, the diversity of family needs is substantial, including parents' mental and physical health, literacy and language skills, availability of social support, knowledge about child development, participation in the workforce, and provision of learning and literacy activities.[4]

Head Start's budget (now greater than $7 billion per year) has increased with strong bipartisan support since its inception. Head Start grantees do not have a per child cost formula.[5] About half of Head Start's programs operate only half-day; most operate fewer days than a local full school year. Children spend an average of twenty-five hours per week in Head Start, with a majority spending another eighteen hours per week cared for by another publicly-funded provider. Nationwide, the majority of Head Start programs readily admit they struggle to fill their funded slots.[6] An independent federal study revealed only 11 percent of grantees reported enrollment levels confirmed by attendance records; and questioned 26 percent of Head Start grantees in terms of their ability to even maintain accurate attendance records.[7]

The position we advance about meeting the multiple needs of children under age 5 living in poverty has direct implications for the future of Head Start and all other publicly funded early childhood programs: no matter where a young child spends time, the adults responsible for the child's care and education must be highly capable individuals who are responsive and interactive with each child and are physically and mentally capable of

providing and actually provide the types and amounts of positive learning experiences—cognitive, linguistic, social, and emotional—known to be essential for all children's development.[8]

When children do not receive essential early learning experiences—that is, when their care is neglectful, inadequately stimulating, overly harsh or punitive, or unpredictable and inconsistent, they can be harmed in permanent ways.[9] Conversely, receiving high-quality care yields large and lasting benefits in school readiness, school achievement, and adult economic and social well-being.[10] We note that young children do not know (and cannot control) the administrative authority overseeing the places where they live, learn, play, and receive specialized treatment.[11] Accordingly, it is time to develop and enforce common standards to protect and promote the well-being of young children in all publicly supported early childhood programs including Head Start, public and public charter pre-K, and community-based child care.

Historical and Current Contexts

Since 1965, many Head Start advocates have been true pioneers in calling for high-quality early childhood education and providing multiple family social, health, and nutritional supports to young children living in poverty.[12] Head Start has helped promote national understanding that human development is the product of intergenerational, biological, social, cultural, and economic forces. The evolution of Head Start has also been closely intertwined with that of the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD): both organizations have been committed to discovering and applying knowledge about how young children learn and the factors that promote lifelong learning, health, and well-being.

Head Start and NICHD were created in an era when our nation became acutely aware of the serious toll that poverty takes on the lives of young children.[13] Further, there was new scientific evidence in the 1960s that poverty was associated with increased risks for many childhood disabilities, at a time when children with disabilities were widely and routinely excluded from attending public schools. Head Start thus became our nation's first large-scale effort to prevent school failure and to include children with disabilities. Over the decades, Head Start has endorsed the importance of meeting children's comprehensive needs.[14] The distinguishing cornerstones of Head Start programs are:

Early childhood education. Directly serving children in early childhood learning centers to improve their "school readiness"—a composite construct encompassing children's social, emotional, language, cognitive, and physical development (now expanded to include the readiness of families, schools, and communities to meet the individual needs of children).

Parent involvement. Actively promoting parents in their natural role as children's first and continuous teachers to support their children's learning and development and including parents in formal governance of Head Start programs.

Nutrition. Directly providing good nutrition and advocating for families to do the same at home.

Health. Providing or making referrals for screening for vision and hearing, immunization, routine health care,

dental screening, and mental health services for young children.

Social services for families. Providing additional social services to families, based on an individualized family needs assessment.

Other services as needed. These other services can span widely from helping parents obtain educational and vocational services, housing, transportation, alcohol and substance abuse treatment, to programs to help parents improve their literacy and English language competence.

Head Start substantially increased its efforts to study the quality of programs and to answer questions about its impact on children and families.

Head Start's substantial and enduring contribution to the field of early childhood education has been this total child and family perspective: a child's progress depends on both the family and on the direct provision of multiple learning, social, and health supports in a coordinated and timely manner. Historically, this Head Start model was innovative and profound; today, the conceptual model is widely adopted by state and local early childhood and pre-K programs. In 2003, a major federal report concluded that most state pre-K programs mandate services in the same areas as Head Start does; further, the report indicated that state pre-K programs met or exceeded almost all of the Head Start program standards.[15] A 2000 landmark synthesis by the National Research Council and Institute of Medicine, titled *From Neurons to Neighborhoods: The Science of Early Childhood Development* provides the single best resource validating Head Start's total child and family perspective.[16]

Head Start and School Readiness

For years, leaders in the field of early childhood development lamented the lack of sound research and evaluation about Head Start and its impact. In the past decade Head Start, with a congressional mandate, substantially increased its efforts to study the quality of its programs and to answer questions about its impact on children and families.[17] The findings from multiple reports show that Head Start programs are highly uneven in the degree to which they provide low-income children with the mandated supportive early childhood learning environment.[18] In fact, an unacceptably large (and difficult to quantify precisely) number of Head Start programs are failing to produce measurable benefits—particularly in terms of the cognitive, social, and emotional domains identified in the Head Start Act as goals of the program.

We do not favor trying to reach consensus about how successful Head Start has been. This is because the evidence is compelling that Head Start is not a single, uniform, or constant program in terms of implementation or impact. That is, Head Start programs appear to vary as much in their quality as do public schools, charter schools, private schools, and child care settings. Much of the criticism and scandal about some Head Start programs has been vigorously (and understandably) hidden from congressional and public scrutiny. Even now, there is a long and unexplained failure to publish the spring outcomes data, due in 2008, about classroom quality and child outcomes in the 2006 Head Start

Family and Child Experiences Survey (FACES). Similarly, no explanations have been forthcoming about why the first grade outcomes of the Westat Head Start Impact Study were delayed so long before they were finally released in the spring of 2010. These missing or late reports were to be the first to include crucial, in-depth, valid measures of classroom quality as well as improved measures of children's school readiness in multiple domains.

Do the available findings collectively suggest that Head Start is no longer needed as a distinct program or cannot continue as a national leader? Not necessarily. We judge that Head Start has been highly effective in calling attention to the needs of children and families affected by poverty, leading to the spread of good ideas and adoption of practices endorsed and publicized by Head Start. The ideal that Head Start endorses has evolved and remains excellent. What is unacceptable is the discrepancy between the ideal and the reality of program implementation.

There is, however, ample good news about children living in poverty. Somewhat surprising to many is that young children living in poverty, whether enrolled in Head Start or not, are highly likely to be fully immunized, to attend a pre-K program at age 4 followed by full-day kindergarten, and to be screened for vision, hearing, dental, and mental health referrals—even more so than their agemates from middle class families. Further, almost all children living in poverty (except those from undocumented immigrant families) receive stable, financially covered health care that parents judge as being good to excellent in quality.[19]

In marked contrast, the evidence about the school readiness of children who receive Head Start services is not positive. Head Start children on average score substantially below national norms on almost all measures of cognitive and language development and there is not good evidence that Head Start has had a meaningful impact on school readiness during the year before kindergarten. Although the studies indicate that children may make some minor gains during their time in Head Start, these gains tend to be very modest and not necessarily replicable from study to study. Above all, the magnitude of gains of Head Start children—when these occur—in nationally representative samples is considerably below the magnitude obtained in the more rigorously conducted experimental or model demonstration studies that provide the long-term longitudinal findings repeatedly cited as justification for continued national support of Head Start. The best known studies include the Perry Preschool Project, the Abecedarian Project, Project CARE, and the Chicago Child-Parent Centers.

Head Start versus Model Programs

For decades, many reports issued by Head Start claimed that lack of funding was a leading reason why their programs could not produce large school readiness benefits for participating children. We think that funding levels per se, at least for many Head Start programs, are not the sole or even primary barrier to excellence in classroom quality or to producing measurable benefits to children. In table 1, we nominate nine distinguishing features of the so-called landmark studies (launched in the 1960s and 1970s) as factors likely to account for their success. These features could serve as guideposts for considering a comprehensive assessment of individual Head Start grantees and for developing a strategic initiative for improving program effectiveness nationwide.

Table 1. Some Hallmarks of Successful Early Childhood Interventions that Produced Major and Lasting Benefits for Children under 5 Living in Poverty

1. Highly knowledgeable, stable leadership. Program leaders had strong backgrounds in early childhood development and a strong primary professional commitment to the successful implementation and rigorous evaluation of the program.
2. Program grounded in scientific evidence about how young children learn. The content of the programs was based on existing scientific findings and scientific theory about how young children develop and the strategies that promote optimal learning at different ages and stages, rather than ideology or philosophy alone.
3. Multi-faceted program (not academic only). The programs addressed the complexity of children's needs by offering multiple components that were individually tailored to children's needs in the domains of language, cognition, social, emotional, and physical development. The programs also coordinated with the children's families and helped to improve the family's life situation.
4. Expert outside review and community support prior to launching. Experts (through external scientific peer review) and/or local and community leaders actively supported the programs before they were launched, and remained supportive throughout.
5. Adequate funding to implement the planned program. Peer reviewers agreed that funding was "in the ballpark" to permit implementing the programs and services as planned, and thus to potentially achieve the desired results. (Note: at time of launch, the funding was not necessarily known to be stable for the future course of the programs).
6. High levels of initial staff training followed by ongoing professional development. Program leaders and staff had a thorough grounding in the program, the science behind it, what they were supposed to do and how to do it well, why they were supposed to do it, and what measurable educational processes and outcomes were expected.
7. Sufficient intensity or "dosage" of the program to meet children's needs. The amount of the programs was well-matched to the program goals and needs of the participants. Dosage refers to the hours per day, days per week, weeks per year, and number of years. (Often the dosage of these model programs is vastly reduced when others try to replicate them in other community settings. Sometimes this "watering down" is attributed to the emphasis placed on serving large numbers of children, regardless of the dosage or intensity of the services actually delivered).
8. High levels of individual participation. Attendance of children was strongly supported throughout the programs. Potential barriers such as need for reliable transportation for children and parents were anticipated and provided.
9. Rigorous documentation, regular assessment, and timely reporting. Many aspects related to implementation of the programs were openly and clearly documented. Measuring the progress of individual children was considered vital to the programs, and the results were analyzed in ways that ensured high integrity and objectivity. Findings about the impact of the programs were frequently reported and published.

Considering these nine features, Head Start already officially embraces the value of having their programs be solidly grounded in scientific knowledge about how young children learn and providing a multi-faceted early childhood program that integrates daily activities to promote social, emotional, cognitive, language, and physical development. The features of successful model programs that are among the most problematic for many Head Start programs include: having high levels of initial staff training with ongoing and effective professional development; offering sufficient dosage by providing full-day, full-year, and multi-year programs that ensure high and regular participation of all enrolled children and parents; and rigorous unannounced classroom assessment and timely public reporting about program quality. An increasing number of observational procedures exist for this purpose. The four classes of observable classroom behaviors we judge to be particularly important are health and safety practices, adult-child behavioral interactions, teacher and parent communication and interactions, and language and learning activities.

Improving Head Start Outcomes

We think that Head Start's ability to deliver on its congressional mandate of promoting school readiness depends on making major changes, so that it: (1) realizes rapid and large improvements in the knowledge, skills, and performance of its early childhood workforce; (2) collects, analyzes, uses, and publicly reports trustworthy data about its programs' performance and impact on the development of children and families; and (3) uses effective strategies to improve classroom quality and links these to children's measured cognitive, social, emotional, and physical development.

Head Start has long recognized the importance of professional development, training, and technical assistance and spends large sums on these activities. Yet there has not been systematic measurement of the effectiveness of the large investments in improving the work performance of Head Start directors, teachers, and staff. Further, there have been many failed efforts to implement improved data collection methods about Head Start programs and their impact. Frankly, the Head Start grantees and the National Head Start Association have effectively lobbied against these efforts, offering claims that these measurement systems are a veiled attempt to de-fund their program or to justify moving the program to the U.S. Department of Education or converting it into a block grant.

The present Head Start reporting systems are widely known to be flawed and not subject to straightforward and useful interpretation. Further, these reports are not subject to periodic and ongoing audit. Finally, we note that despite Head Start's unjustified pride in engaging parents, parents are not informed in any standard way about the needs or progress of their children in terms of school readiness. Rarely are parents required to participate meaningfully in their child's education. In fact, our own professional work with Head Start programs in more than forty states identified Head Start's inability to engage the majority of parents as the most frequent concern expressed by Head Start directors and teachers. This means that Head Start needs to direct new efforts and research toward understanding what approaches work best with what types of families and children and which program features are not working and should be dropped or changed.

We favor engaging communities in nominating programs of excellence, as well as programs in need of urgent improvement.

We have observed some Head Start programs that are close to exemplary; these should be systematically identified in every state and territory. These programs should be celebrated and assisted to serve as models and mentors for other programs that choose to improve. This identification could be facilitated by an ongoing comprehensive national reporting system that is regularly subject to audit.

We also favor engaging communities in nominating programs of excellence, as well as programs in need of urgent improvement. This process could engage many stakeholders and serve to inform educators, clinicians, administrators, and parents about evidence-based early childhood practices and could create natural

opportunities for professional mentoring and cross-program collaborations. Vigorous and inspirational national leadership coupled with an emphasis on program effectiveness and efficiency will be needed to maintain and expand a commitment to excellence and a rapid end of all poor-quality programs.

The 2007 Head Start legislation provides a roadmap that can support excellence, innovation, and partnering with local and state early childhood initiatives, as well as the child care subsidy program and other existing and newly proposed federal initiatives (for example, the Obama administration's Early Learning Challenge Fund, if enacted, will provide $10 billion over ten years to help states improve early learning programs) that share Head Start's goals of school readiness and providing comprehensive services. It is time to escape and demolish the culture of silence that has shielded the abysmal conditions that exist in far too many early childhood care and education settings, including many Head Start classrooms.

We recommended launching a highly visible national initiative, coordinated by the secretaries of the U.S. Department of Health and Human Services and the U.S. Department of Education, to ensure that all families, programs, and communities know about and have adequate resources to provide young children with the resources and experiences they need to thrive, regardless of their family's income, language, culture, race, or geography. We specifically recommend that this agency initiative do the following:

—Engage in statewide and national cross-program coordination with state and local pre-K initiatives to improve the quality of child care education and services, including those provided by Head Start, Early Head Start, Early Reading First, Title I, Special Education, and subsidized child care.

—Conduct a comprehensive and public review and evaluation of standards and operations—considered by many to be unnecessarily complex, cumbersome, and uneven in their rationale.

—Launch a new program intended to identify and celebrate highly successful Head Start programs that are truly improving children's odds of school readiness.

—Implement strong measurement systems of program components and children's development, perhaps through comparing several different models and procedures via research, and assist local grantees in acquiring data analytic skills to promote using program measures and child assessments to inform improvements and to recognize progress.

By taking these actions, Head Start could demonstrate its integrity and vision consistent with its celebrated history of concern for children affected by poor economic conditions and developmental disabilities. Such actions would be both compassionate and wise. Our primary concern is whether the political will and leadership exist to improve the lives of poor children now.

Notes

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THE NURSE-FAMILY PARTNERSHIP

David Olds

The Nurse-Family Partnership (NFP) is a program of prenatal and infancy home visiting by nurses for low-income first-time mothers. NFP nurses help parents improve 1) the outcomes of pregnancy by helping women improve their prenatal health; 2) children's subsequent health and development by helping parents provide competent infant and toddler care; and 3) parents' economic self-sufficiency by helping them complete their educations, find work, and plan future pregnancies. In three scientifically controlled trials the program produced benefits in each of these targeted areas. Today the NFP is serving over 20,000 families, and is likely to grow substantially with the support of health care reform.

David Olds is Professor of Pediatrics, Psychiatry, Public Health, and Nursing at the University of Colorado at Denver, where he directs the Prevention Research Center for Family and Child Health.

For more than three decades, our team has developed, tested, and replicated in community settings a program of prenatal and infancy home visiting by nurses known as the Nurse-Family Partnership (NFP). This work is founded on four principles: develop the program well before testing it; test it thoroughly before offering it for public investment; replicate it carefully; and improve it continuously. This approach has contributed to the NFP's being identified as the only early childhood program reviewed to date that meets the Coalition for Evidence-Based Policy's "Top Tier" of evidence,[1] as the program with the strongest evidence that it prevents child abuse and neglect,[2] and as a program that produces significant economic return on investment.[3]

Given our nation's huge disparities in health and educational outcomes and soaring budget deficits, a strong case can be made for focusing scarce public resources where they are most likely to reduce disparities and costs, and for developing effective early childhood services following the approach outlined here, which aligns with recommendations of the National Academies.[4] The goal of this approach is to develop a system of effective, complementary services grounded in scientific evidence that they work.

The Nurse-Family Partnership

Our team carefully developed the NFP before testing it and offering it for public investment. NFP nurses have three major goals to promote: better pregnancy outcomes by helping women improve their prenatal health (for example, cutting down on smoking and obtaining prompt treatment for obstetric complications); children's subsequent health and development by helping parents provide competent care of their infants and toddlers; and parents' economic self-sufficiency by helping them develop a vision for their future and make decisions about staying in school, finding work, and planning future pregnancies that are consistent with their aspirations. The nurses follow detailed visit-by-visit guidelines that they adapt to parents' needs and interests. Using strategies that capitalize on parents' intrinsic motivation to protect themselves and their children, nurses join with parents to improve their prenatal health, care of their children, and economic self-sufficiency.

The goal is to develop a system of effective, complementary services grounded in scientific evidence that they work.

The NFP focuses on low-income women bearing first children for three reasons. First, maternal and child health problems and educational disparities are greater among poor families living in concentrated social disadvantage. Second, women bearing their first children (who account for about 40 percent of the births in the United States) have a natural sense of vulnerability that increases their willingness to engage in this program, in part because it is delivered by nurses who can address with authority their concerns about pregnancy, labor, delivery, and care of fragile newborns. And third, the program is designed to achieve many of its most long-lasting effects by helping parents clarify their aspirations for themselves and their children; this often results in parents choosing to delay future pregnancies until they are positioned to assume responsibility for another child, with benefits likely

carrying over to subsequent children. Today, the program is estimated to cost $4,500 per year per participant over an approximately 2.4-year period.

Evidence of Impact on Health and Costs

The NFP has been tested in three separate scientifically controlled trials over more than three decades with different populations, living in different contexts, and at different points in U.S. social and economic history. The first randomized trial was begun in 1977 in Elmira, New York, with a sample of low-income whites (N=400); the second was begun in 1988 in Memphis, Tennessee, with a sample that was 90 percent African American (N=1,178 for the prenatal phase of the trial and 743 registered in the postnatal phase); and the third was begun in 1994 in Denver, Colorado, with a sample that was 46 percent Hispanic (N=735). The Denver trial systematically examined the relative impact of the program when delivered by paraprofessionals (who lacked college degrees, but were trained and supported well in delivering the program) and by nurses. Before offering the program for public investment, we wanted to make sure that it would work in different contexts and with different populations, and that we had reliable procedures for replicating the model tested in the trials. In at least two of the three trials the NFP produced significant impacts in eight areas, described below.

Improving Prenatal Health. Prenatal health improvements include reductions in prenatal tobacco use, hypertensive disorders of pregnancy, and kidney infections; and improvement in diet.[5] In the Denver trial, for example, nurse-visited women identified as smokers at registration had a reduction (effect size = .50) in cotinine (a biochemical marker of tobacco use).[6] Corresponding effects were found in the Elmira trial.[7] Prenatal tobacco use increases the risk of preterm delivery, low birth weight, and adolescent crime, and is substantially more prevalent in low-income than high-income women.[8]

Reducing Childhood Injuries. In the Elmira trial, there was a 56 percent relative reduction in emergency department encounters for injuries and ingestions during the children's first two years of life.[9] In the Memphis trial there was a 28 percent relative reduction in all types of health care encounters for injuries and ingestions, and a 79 percent relative reduction in the number of days that children were hospitalized with injuries and ingestions during the children's first two years.[10] In both of these trials the impact of the program on injuries was more pronounced among children born to mothers with fewer psychological resources to manage the care of their children while living in concentrated social disadvantage. Injuries are the leading cause of death in children and youth.[11]

Increasing Inter-birth Intervals. Across all three trials, nurse-visited women had longer intervals between the births of first and second children, due to better pregnancy planning. In the Elmira trial, nurse-visited mothers who were unmarried and from low-income households at registration, compared to control-group counterparts, had a 12.5 month greater interval between birth of the first and second child by the time the first child was 4 years of age (effect size = .69);[12] in the Memphis and Denver trials the corresponding increases in interval were 3.7 and 4.1 months (effect sizes = .21 and .32, respectively).[13] Short inter-birth intervals (less than two years) are associated with poor subsequent pregnancy outcomes, a host of child health and development problems,

and compromised parental economic self-sufficiency.[14]

Increasing the Stability of Partner Relationships. Women from the Elmira trial who had been unmarried and from low socio-economic households at registration were over two times more likely to be married fifteen years following the birth of the first child than their control-group counterparts.[15] In the Memphis trial, nurse-visited women were 60 percent to 70 percent more likely to be cohabiting with someone or with the father of the child at child age 5.[16] At child ages 6 and 9, nurse-visited women had more stable partner relationships than did women in the control group (effect size = .23).[17] Marriage and stable partner relationships predict better child and family functioning.[18]

A dedicated source of federal dollars will be essential for the NFP to achieve greater scale and reduce societal costs.

Reducing Families' Use of Welfare (Cash Assistance, Supplemental Nutrition Assistance Program [SNAP], and Medicaid). In the Elmira and Memphis trials, nurse-visited women used government assistance (especially Aid to Families with Dependent Children/Temporary Assistance for Needy Families [AFDC/TANF] and SNAP) for fewer months than did women in the control group.[19] At child age 12, the nurse-control difference in use of AFDC/TANF, SNAP, and Medicaid led to government savings in welfare expenditures that exceeded the cost of the program after discounting and adjusting costs to the same year.[20] The program impact on use of welfare did not hold in the Denver trial, which began just before federal welfare reform was passed and just as the U.S. economy moved into a period of rapid growth in the late 1990s. Nurse-visited women did, however, improve their economic self-sufficiency to a greater extent than women in the control group, while paraprofessional-visited women did not. The return on investment in this area alone exceeded the cost of the program from a societal perspective.[21]

Increasing Maternal Employment and Earnings. Nurse-visited low-income, unmarried women in the Elmira trial worked 82 percent more than their control-group counterparts through child age 4;[22] those in the Memphis trial were twice as likely to be employed at child age 2;[23] and in Denver, there were similar effects for nurse-visited women over time.[24]

Improving Child Language, Cognitive and Academic Functioning among Children Born to Mothers with Fewer Psychological Resources. In the Memphis trial, nurse-visited children born to mothers with low psychological resources had higher levels of academic achievement in the first three years of elementary school compared to their counterparts in the control group (effect size = .33).[25] In the Denver trial, nurse-visited four-year-olds born to mothers with low psychological resources had better language development and executive functioning than control-group counterparts (effect sizes = .31 and .47, respectively).[26] There were no benefits of the program for these types of outcomes among children born to mothers with relatively high psychological resources, that is, those with greater wherewithal to manage caring for their children while living in poverty.

Other Outcomes. In addition, in the Elmira NFP trial, where families have been followed the longest, the program produced long-term reductions on state-verified rates of child abuse and neglect (a 48 percent reduction), and mothers' and children's arrests through the first child's fifteenth birthday (60 percent to 70 percent reductions),[27] and on children's arrests (40 percent) and convictions (60 percent) by age 19 (effects due entirely to reductions among girls at age 19).[28] In the Memphis trial of the NFP, children in the control group were 4.5 times more likely to die in the first nine years of life as were children who had been visited by nurses, a difference in mortality accounted for by deaths due to prematurity, Sudden Infant Death Syndrome, and injuries.[29] Finally, in the Denver trial families opened their doors more to nurses than to paraprofessionals,[30] and nurses produced larger and more consistent effects on maternal and child health and development than did paraprofessionals.[31]

This set of findings has led to acknowledgment of the program's significant impacts by several reviewers.[32] What distinguishes these reviews is their adherence to a similar set of high evidentiary standards: well-conducted randomized trials, replicated effects with different populations, enduring impacts on outcomes of clear public health importance, and programmatic procedures for rigorous replication. Moreover, the Washington State Institute for Public Policy and the Rand Corporation estimate returns on investment in the NFP of about $17,000 per family served, or between $2.80 and $5.70 per dollar invested, with greater returns when the program is targeted on those in greater need.[33]

National and International Replication

As evidence-based programs are moved into policy and practice, there are pressures to water them down as they are scaled up,[34] and it is likely that some attenuation of impact will occur.[35] The economic evaluations produced by the Washington State Institute for Public Policy have built such attenuation into their estimates of return on investment.[36] We have structured the replication of the NFP to resist these pressures and to improve its performance over time.[37] The NFP national replication effort is built upon three principles: that in order to achieve its promise, the NFP must be replicated with fidelity to the model tested in the randomized trials, focusing particularly on high-quality nurse education and support; that programs must monitor implementation and outcomes with NFP's web-based clinical information system; and that resources must be focused on improving implementation and conducting rigorous research to improve the underlying program model. We think of the NFP as a work in progress, and have organized the NFP national replication effort to monitor performance, to understand implementation and program vulnerabilities, and to work constantly on building the next generation of the NFP.

We also are working with the British, Dutch, and Australian governments to develop the NFP in those countries in order to help close gaps in health and education for their most disadvantaged populations.[38] Our model for international replication calls for careful program adaptation to local contexts, formative evaluation of the adapted program, rigorous testing in randomized controlled trials, and faithful replication of the NFP if it improves maternal and child health and is cost effective.

Integration with Existing Public Policies

The NFP draws upon a number of public funding sources to support its current operations, including TANF, Medicaid, tobacco taxes and settlement dollars, child abuse and neglect prevention, juvenile justice, the Social Services Block Grant, and the Maternal and Child Health Block Grant, among others. The NFP provides one mechanism through which public dollars in these funding streams can be spent on evidence-based services consistent with their missions. Current NFP expansion efforts have relied on these funding streams as the program has gone from enrollment of zero families in 1996 to 20,000 at the end of 2009. Having a dedicated source of federal dollars, such as the maternal and child health home-visiting provisions included in the health care reform legislation passed by Congress in early 2010, will be essential for the NFP to achieve greater scale and reduce societal costs at a more accelerated pace. As the national home-visiting program is being implemented, it is useful to examine some of the ways in which the NFP overlaps with current policies aimed at improving the health, education, and economic self-sufficiency of the disadvantaged. What the NFP brings to the domestic policy agenda is a program with unusually rigorous evidence that it can help parents become more competent in caring for themselves and for their children. It complements public policies aimed at improving maternal and child health, promoting school readiness, and reducing poverty.

A fundamental question has to do with who qualifies for the NFP and how they might be registered. A natural point of contact with low-income pregnant women is through their enrollment in prenatal care and the Special Supplemental Nutrition Program for Women, Infants and Children (WIC). Since 90 percent to 95 percent of teen mothers register for prenatal care before the third trimester of pregnancy,[39] enrolling Medicaid-eligible women in the NFP as they register for prenatal care is sensible. In some states, Medicaid is used to fund part of the cost of the NFP because many NFP services are covered by Medicaid. One provision included in the House-passed health care reform legislation would have simplified Medicaid coverage of prenatal and infancy nurse home visits by giving states the option of covering all eligible nurse home-visitation services under one category rather than the multiple categories currently used,[40] but this was not included in the final bill passed by Congress. If Medicaid funding can be used without compromising the essential elements of the NFP model, Medicaid will be an effective way for states to make this service available to a larger number of families.

One also might make the NFP a home-based option under Early Head Start (EHS). While there is some overlap in the missions of the NFP and EHS, there are differences in program design and delivery standards so some modifications of EHS standards would be required in order for the NFP to be delivered with fidelity to the model tested in the trials. Given strong NFP outcomes in early school readiness and educational achievement, the NFP also may be funded as part of broader efforts to improve education policy and practice.[41] This might include covering the NFP as an evidence-based element in the Promise Neighborhoods initiative,[42] or under the Early Learning Challenge Fund being considered by Congress.[43]

TANF has been used to support the NFP in some states because NFP nurses help low-income families become more economically self-sufficient. The NFP also can be linked with other local, state, and federal sources of support aimed at

increasing low-income parents' completion of community college and improving career development. Nurses help families choose child care options that are safe, developmentally enriching, and available during the hours parents must be away from their child, so the nurses' work aligns with efforts to secure quality preschool and family-based child care for low-income families. Policies aimed at reducing family poverty and promoting healthy marriages and father involvement have missions that overlap with the NFP, and are sensible sources of support given that the NFP helps achieve these goals.

The nurses' work aligns with efforts to secure quality preschool and family-based child care for low-income families.

Finally, the NFP has been identified as having the strongest evidence of any intervention tested to date that it prevents child abuse and neglect,[44] and thus is a natural candidate for funding under the Child Abuse Prevention and Treatment Act. The complexities of channeling many funding streams into the NFP can be so challenging, however, that any further expansion of the program will require a single, dedicated funding stream that recognizes the potential of this program to help improve the life chances of the disadvantaged.

While the nursing shortage may impose some constraints on NFP expansion, especially in rural areas, this issue should be put in perspective. If NFP enrollment were 100,000 families, the program would consume 0.4 percent of the existing nursing workforce.[45] National strategies to address the shortage of registered nurses have called specifically for creating a larger pool of nurses prepared for the NFP, and the Division of Nursing in the Bureau of Heath Professions within the U.S. Department of Health and Human Services is focusing its resources on increasing the number and diversity of well-prepared nurses. Our experience is that over the past decade, increasing numbers of individuals have entered the nursing profession specifically to work in the NFP program. While working in the NFP is not for every nurse, for those committed to serving the disadvantaged it provides a career option with deep personal meaning. These factors make us optimistic that the nursing workforce can be expanded over time to meet the needs of the program as it provides a secure source of employment and opportunity for career development.

Conclusion

Poor children and families in the United States deserve programs that work and taxpayers need to know that their dollars are being spent wisely. The NFP provides a model for serving a segment of the population of vulnerable children and families at a critical stage in human development that can have long-lasting and far-reaching effects in reducing health and educational disparities. The approach outlined here holds promise for developing other effective services for vulnerable populations.

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STRENGTHENING HOME-VISITING INTERVENTION POLICY: EXPANDING REACH, BUILDING KNOWLEDGE

Deborah Daro and Kenneth A. Dodge

Many argue that the expansion of home visitation should be built solely around programs that have been proven through carefully structured clinical trials that engage a well-specified target population. We believe this approach is valuable but insufficient to achieve the type of population-level change that such reforms generally promise. We propose a home-visitation policy framework that embeds high-quality targeted interventions within a universal system of support that begins with an assessment of all new parents. This assessment process would carry the triadic mission of assessing parental capacity, linking families with services commensurate with their needs, and learning to do better.

Deborah Daro is a Research Fellow at Chapin Hall at the University of Chicago.

Kenneth A. Dodge is the William McDougall Professor of Public Policy, Psychology and Neuroscience and Director of the Center for Child and Family Policy at Duke University.

A common vehicle for reaching families as early as possible is offering pregnant women home-visitation services. No other service model has garnered comparable levels of political support nor generated more controversy.[1] Today, home visitation is viewed by some as a critical linchpin for a much-needed coordinated early intervention system and by others as yet another example of a prevention strategy promising way more than it can deliver.[2]

Several national models (for example, Parents as Teachers, Healthy Families America, Early Head Start, Head Start, Parent Child Home Program, SafeCare, HIPPY, and the Nurse-Family Partnership) are now widely available across the country.[3] These programs compete for access to the same population based on age and socio-demographics. In other ways, however, they are complementary and components of a potential comprehensive array of services across early childhood. In addition, more than forty states have invested in home visitation and the infrastructure necessary to ensure that these services are of high quality and are integrated into broader systems of early intervention and support.[4]

Effective public policy requires a solid idea which links actions to desired impacts, an implementation plan that extends support to the full population in need, and a research agenda that supports the learning necessary to guide innovation and efficient investment. The field of home visiting still has a long way to go to meet these conditions. One strategy is to build the policy using the traditional scientific framework, beginning with carefully crafted clinical trials of clearly defined service models which focus on a well-specified target population. Once proven, these models are then broadly adopted with the expectation that impacts will expand accordingly. This approach was reflected in President Obama's initial FY 2010 budget in which he advocated for the broad expansion of early home visitation by nurses. Although the proposal did not explicitly limit support to a single model, the program elements and evidence base proposed in that request mirrored the core characteristics and research agenda of the Nurse-Family Partnership (NFP).[5]

In response to this proposal, we and others argued that such an approach would not achieve maximum impacts and benefits for the next generation of young children for four principal reasons:

—Building a national initiative solely on the basis of a single model's limited target population (that is, low-income primiparous women who voluntarily commit to home visits for twenty-seven months) will leave most high-risk infants unserved and will limit the likelihood of community-level change in available services and supports for parenting.

—Building a national initiative solely on the basis of evidence generated by small randomized clinical trials with volunteer subject groups at limited sites provides little guidance on how to bring the model to sufficient scale to serve the national interest.

—Building a national initiative based solely on past evaluations of impact on a select group of women who consented to a research study fails to hold the initiative accountable for impact on the current population, particularly on previously untested subgroups.

—Building a national initiative that fails to understand that all parents face challenges in raising their children undermines collective responsibility and will

not ignite the political support necessary to create a robust early intervention culture that can sustain public investment in this area and foster behavioral change.[6]

As the policy agenda for home visitation moves forward and the impacts of this strategy are evaluated in terms of secular change in a broad set of population-level indicators such as child maltreatment and child development, we fear that population-level indicators will not change and the movement may become at risk. Therefore, we believe a distinctively different practice and research framework is needed. Specifically, our home-visitation policy framework would embed high-quality targeted interventions within a universal system of support that begins with an assessment of all newborns and their families. This assessment process would carry the triadic mission of assessing parental capacity to provide for a child's safety and healthy development, linking families with services commensurate with their needs, and building new evidence-based services to address identified unmet needs. Further, the research base promoted and valued under this system would not simply be one that presumes impacts that had been achieved in past trials but also places equal value on learning what is needed to do better.

Limits of the Targeted Approach

Many argue that the most efficient and prudent policy path, particularly in tough economic times, is to focus on expanding services to the most vulnerable populations. The logic underlying this approach is that because these groups are in greatest need, the opportunity for achieving measureable reduction in costly child and family outcomes is greatest through targeted interventions. The strategy also represents a more just policy in that public dollars are being directed to those least able to secure resources on their own. Investments in replicating Head Start and more recently Early Head Start (EHS) to increase access to high-quality early learning opportunities for the disadvantaged reflect this policy approach.

Targeted interventions, by definition, leave many families not eligible for service.

Although the exclusive replication of any intensive and well-researched home-visiting intervention that targets only one segment of the at-risk population may well achieve substantial change for many of its program participants, we believe that this approach, as public policy, will not generate impacts of the magnitude that are necessary to achieve and sustain substantial population-level change. The limit of this approach goes well beyond the financing that would be necessary to bring a program to full scale. The problem is that, even at full scale, there would be little impact on the population rate of maltreatment.

Targeted interventions, by definition, leave many families not eligible for service. In the case of NFP, services are limited to first-time low-income mothers who can be identified before the end of the second trimester of pregnancy and who voluntarily consent to participate in home visiting for twenty-seven months.[7] Based on the 2006 birth data available from the Centers for Disease Control, a unique focus on first-time parents would leave about 62 percent of newborns ineligible for service (about 2.7 million births annually). Further, infants in the foster care system, certainly a population at high risk for multiple negative outcomes,

are eight times more likely than other infants to have mothers who received no prenatal care—a reality that would have precluded these women from accessing NFP or other models offered only during pregnancy.[8]

Achieving efficiency is best done through a comprehensive assessment that identifies the specific needs of participants and refers them to the most appropriate service.

Demonstrating through a clinical trial that a program model is efficacious with its targeted volunteer population is no guarantee that if widely disseminated the program would achieve these same impacts with the larger population. Even within the context of a clearly specified target population and transparent eligibility criteria, full penetration is difficult to achieve. Populations demonstrating the greatest risk for maltreatment such as substance-abusing mothers and those involved in child welfare services are known to have relatively low rates of enrollment in voluntary programs.[9] These parents often find it difficult to focus on their children's needs and therefore are often less motivated to seek out and use supportive services.[10]

Once enrolled, families often do not remain enrolled long enough to achieve maximum impacts. Wide variation in retention rates exist across voluntary home-visitation programs, and many model home-visitation programs struggle to deliver supportive services to their target populations.[11] One study of a multi-year home-visitation program found the average study participant remained enrolled in services for a little over a year. Of the families in the study sample who had the opportunity to enroll for at least two years, only one-third achieved this service threshold.[12] Even a highly effective program is unlikely to alter population-level rates on core outcomes when it leaves many in need of assistance ineligible for enrollment or unwilling to enroll, and fails to retain the majority of those they do engage.

Although targeted services offer assistance to populations known to be at higher risk for specific negative outcomes, the strategy provides no support for segments of the population who rise in risk after the enrollment period due to life circumstances or are at risk based on criteria other than income. For example, maltreatment and poor parenting skills are not limited to low-income families or single-parent families and can surface in families across the income spectrum.[13] Risk varies across subgroups and may be more or less elevated as family circumstances change or a child's developmental needs vary. Many high-risk groups can be identified outside of the bounds of eligibility for prenatal home visiting with primiparous low-income mothers. Later-born infants in these same families, infants born at low birth weight, infants born to mothers who had experienced maltreatment as children, infants born to mothers who initiate prenatal care in the last trimester or not at all, and infants whose mothers display parenting deficits are all at elevated risk. Similarly, no risk assessment tool has perfect predictability and most fail to identify a significant proportion of families in need of assistance and inappropriately label others.[14] Sorting out eligibility and establishing selective recruitment strategies are costly and may, in the end, again fail to yield the

type of coverage and enrollment levels needed to achieve population-level reductions in key outcomes.

Beyond these implementation challenges, targeted programs, which require that families be identified as having certain economic or personal deficits can be stigmatizing. The very families one hopes to engage in such efforts may refuse participation for fear of being labeled as being inadequate parents. Also, the possible self-identification of a mother as being singled out because she is at risk might inadvertently enhance risk in a perverse self-fulfilling prophecy.

Finally, an assumption of targeted programs such as NFP is that the community context and community service capacity are sufficient to support the program. As David Olds of the University of Colorado, Denver, and his colleagues note, the NFP nurse refers mothers to community services such as substance abuse and mental health treatment to accomplish core outcomes.[15] The nurse relies on these services to be available and of high quality. When programs such as NFP are relatively few in number, providers make limited demands on fragile local service systems. As these targeted models are taken to scale, however, the demands for specialized clinical services dramatically increase, with providers competing with each other to secure the slots that are available for their specific clients. Providers focusing on serving an individual family cannot contemplate system or policy change. Programs operating in isolation play no role in enhancing community service systems, levels, and culture. This political reality may further limit service availability for the most isolated families who are unlikely to seek out and enroll in voluntary programs or who fall outside eligibility boundaries.

Creating A Universal System of Support

Starting in the mid-nineteenth century, our nation made a commitment to public education for all children. The nation persisted in this goal based on the compelling public interest in having an informed electorate and a literate workforce. We did not create a public education system for poor children; we created the standard for all children. At the time that universal public education was debated, it was argued that it should be mandated only for low-income families because wealthier families would meet their educational needs anyway by private sources. That argument lost in favor of the overall public good. By mandating public education to be universal, all children were equally valued and their education was deemed society's collective responsibility. Today, this commitment and collective responsibility is being gradually extended to children between birth and age 3.

Promoting this extension by simply implementing one or even several targeted home-visitation models will not shape the robust prevention system of care required to foster early learning opportunities capable of reducing the performance gap. Extension of model EHS programs has not dramatically improved the kindergarten readiness of the nation's population; expansion of charter schools has not altered the average performance in the nation's urban education programs; and expansion of targeted violence prevention programs has not reduced the nation's violence rate. This is not to say that individuals enrolled in these programs have not benefitted. Unfortunately, these gains, from a population perspective, have been modest and far from transformative.

At present, states are making substantial investments in supporting individual home-visitation models, as well

as developing early intervention systems that support a continuum of services for new parents. Based on reporting from thirty-one states, the National Center for Children in Poverty found the aggregate annual level of support for home-visiting programs in these states exceeded $250 million.[16] A similar survey of twenty-six states conducted by the National Conference of State Legislatures pegged investment levels at $281 million in FY 2008.[17] Although no comprehensive figure is available with respect to the number of families these investments reach, the Congressional Research Service estimates that no more than 3 percent of families with children under the age of six, or 7 percent of those same families with income below 200 percent of the poverty line, are being served.[18]

Realizing population-level change will require communities to develop a preventive system of care that expands access to a range of evidence-based programs.

Even if federal investments in home-visitation services reach the most optimistic levels being proposed in Congress, these resources would allow for doubling the number of families reached, to a total of 6 percent of all families with young children and 14 percent of those living in poverty. Given all the challenges inherent in accurately targeting those at highest risk, in enticing them to enroll and remain in voluntary programs, and in achieving core outcomes, it remains unlikely that even this level of investment will produce population-level change.

The relatively high costs of these interventions underscore the importance of identifying an efficient way to match families with appropriate levels of support. Achieving this level of efficiency is best done, not through an eligibility system based on demographically-based risk, but rather through a comprehensive assessment that identifies the specific needs of participants and refers them to the most appropriate service. Although the cost of such a system has not been well specified, the per participant cost for these assessments is substantially less than providing intensive home-based interventions. For example, Cuyahoga County, Ohio (Cleveland) implemented a two-tiered home-visitation program in 1999 which included a single nurse visit to all first-time and teen parents, followed by more intensive services for those at high risk. Over a five-year period, the universal program screened 34,279 newborns at a cost of $6.3 million ($184 per participant). The county also invested almost $28 million dollars in its intensive home-visitation option which served 9,585 families during the same period at an average cost of $2,921 per participant.[19] In Hawaii, a universal screening program assessed roughly 13,500 newborns annually in FY 2007 and 2008, at a per participant cost of $147.[20] A new universal program in Durham County, North Carolina is devoted to having nurses visit every newborn family one to three times and then matching families in need with community-based services. The universal nurse portion of the program costs approximately $350 per family.[21]

Communities which provide a limited number of home visits to all or most new parents, such as the efforts undertaken

in Cuyahoga County and Durham County, offer opportunities to understand better the needs of new parents and the extent to which resources exist to address these needs adequately.[22] The eventual impacts of this type of embedded system on child development outcomes and parental behaviors are not yet known because studies are now in progress. In part, impacts will be a function of implementation quality, the screening system's ability to identify accurately those in need, and the capacity of local formal and informal resources to meet identified demands. Realizing population-level change will require communities to develop a preventive system of care[23] that expands family access to a range of evidence-based programs.

Sensible Evidence-Based Practice

Defining the evidentiary base necessary for estimating the potential impacts of a given intervention is complex and particularly challenging when the reform involves multiple strategies. Randomized control trials are often the best and most reliable method for determining whether changes observed in program participants over time are due to the intervention rather than to other factors. Maximizing the utility of program evaluation efforts, however, requires more than just randomized clinical trials. As noted by the American Evaluation Association in a February 2009 memo to Peter Orszag, the Director of the Office of Management and Budget:

> "There are no simple answers to questions about how well programs work, and there is no single analytic approach or method that can decipher the complexities that are inherent within the program environment and assess the ultimate value of public programs."[24]

Echoing a similar sentiment, a recent report by the Government Accountability Office concluded that requiring evidence from randomized studies as the sole proof of effectiveness would "likely exclude many potentially effective and worthwhile practices."[25] Although randomized trials offer the most rigorous method for establishing that assignment to a program results in positive outcomes, other research designs and statistical controls may be necessary in some contexts, and they may still allow program evaluators to make reliable and valid estimates of program effects.

Beyond determining program impacts on participants, research is needed to assess how program models or practice innovations address implementation challenges such as staff retention, participant enrollment and retention rates, collaboration with other service providers, and securing diverse and stable funding. Such information is needed not only during the initial stages of implementation but also over time. This type of documentation is essential for determining an intervention's continued viability in light of the inevitable changes that occur within the social fabric and public policy arena.

Conclusion

Empirical evidence supports the efficacy of home-visiting programs and their growing capacity to achieve their stated objectives with an increasing proportion of new parents. Maintaining this upward trend requires more than the dissemination of evidence-based models. Equally important is the task of assessing parental capacity to provide for a child's safety and linking families with services commensurate with their needs. For some families, the matching will be enrollment in intensive home-based interventions. For most families, this process

will serve as a way to raise awareness of local resources that are available in a community to help parents effectively meet the needs of their children and find assistance in times of stress. For the entire community, these assessments will grow service capacity where it is needed most. We believe that approaches that couple universal screening with targeted program delivery are most likely to achieve population-level improvement in child outcomes.

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COORDINATING AMERICA'S HIGHLY DIVERSIFIED EARLY CHILDHOOD INVESTMENT PORTFOLIO

Walter S. Gilliam

The United States has a complex array of preschool programs that includes Head Start, state pre-K, private and public child care, and preschool special education that costs about $32 billion a year in public funds. Efforts toward coordination are sporadic and poorly supported. The result presents a confusing array of services that are difficult for families to navigate and waste resources and opportunities for greater comprehensiveness of services. This chapter presents several creative suggestions for how programs could be better integrated and regulations and accountability systems aligned to create a more cohesive system of early education and care.

Walter S. Gilliam is Associate Professor of Child Psychiatry and Psychology at the Yale University School of Medicine and Director of the Edward Zigler Center in Child Development and Social Policy.

Over 12 million American children under the age of 6 are provided some type of out-of-home services. These services take many forms—child care offered in centers or in the homes of others aimed at keeping children safe and well-cared-for while parents work or attend college; primarily educationally-focused services in public or private schools (for example, state- and district-funded pre-K); programs designed to provide a wide array of services to facilitate the overall development of children and families (for example, Head Start and Early Head Start); specialized services for children with developmental disabilities (for example, early intervention and preschool special education services); and services that are hard to categorize by their features, aims, or funding source. All of these services provide at least some amount of child care (some enough for parents to work, some not), and some are designed specifically to be of added educational or developmental value to children.

These services represent a multi-layered national investment in our children's success in education, work, and life.

Each year over $32 billion of federal and state funds are invested in this complex portfolio of early childhood services. On the federal side, starting with the U.S. Department of Health and Human Services (HHS) about $10 billion is funneled into providing child care for families in or near poverty, through the Child Care and Development Fund (CCDF) and Temporary Assistance to Needy Families (TANF). For just over $7 billion per year (in FY 2010), nearly a million children and families are provided the comprehensive services of Head Start and Early Head Start (EHS). Federal appropriations for young children through the Department of Education are more modest than those of HHS. A little more than $0.8 billion of federal funds partially supports early intervention and special education services for children under 6, while about $1.3 billion supports other educational services for preschoolers, such as early and family literacy, comprehensive school programming, and child care for the young children of college students. States contribute about $3 billion toward matching federal child care subsidies and $5.2 billion to provide state-funded pre-K to over 1.1 million preschoolers in a variety of settings, most commonly in the public schools.[1] None of this counts the $14.5 billion of Title I funds for high-poverty schools and school districts, of which a portion is used to support preschool programming; the roughly $4 billion of one-time additional funds from the American Recovery and Reinvestment Act of 2009 (ARRA) that have been designated for child care, Head Start and EHS, early intervention and preschool special education, nor the additional funds for pre-K and preschool special education provided by local school districts.

Clearly, these services represent a multi-layered national investment—an investment in our children's success in education, work, and life; an investment in the ability of parents to use stable and reliable child care to maintain employment or further their own education; and an investment in the current workforce of teachers, child care providers, and support staff that provide this care and education. The children and families eligible for these services vary significantly across programs, for example, young children from families in or near poverty, children with disabilities,

and—in a few cases—any young child. Taken together, the annual investment may appear rather large and spread across a dizzying array of programs and support services.

The services themselves, however, generally fit into one of three categories based on their primary aim—providing safe child care so that parents may work or go to school, providing educational services to improve school performance in all young children or those at risk of educational difficulties (for example, pre-K, early intervention, and preschool special education), or providing a comprehensive array of child- and parent-focused services to support families living in poverty (for example, Head Start, EHS, and many home-visiting programs). The aim is often tied closely to the goals of the departmental agency that funds the service and the type of local setting and administrative agent (for example, public school, community action setting, or private child care center) that hosts it.

At present, families must generally choose which of these three aims best address their most pressing needs—assuming an availability of options exist within their community. Parents may find themselves placed in the position of choosing between the child care hours they need to work versus a classroom experience with a highly trained teacher in the school where the child will later be attending versus the comprehensive services and parent involvement opportunities that the parents may value. The challenge, then, is to create an overarching infrastructure that supports all of these service options in a way that reduces duplication and facilitates the coordinated sharing of resources.

A Case for Coordinating Resources

As comprehensive, two-generation programs, Head Start and EHS policies mandate far more comprehensive health, mental health, and parenting services than state-funded pre-K and other forms of care and education for young children.[2] These additional services include health, vision, dental, and mental health screenings and referrals, assistance accessing social services, adult education for parents, nutritious meals, and opportunities to become actively involved in parent governance of the program. Indeed, these comprehensive services and parent involvement opportunities are a hallmark of Head Start and EHS. Conversely, state-funded pre-K programs, typically administered by the state department of education and usually located in public schools, have policies that tend to stress teacher educational levels and minimize non-educational services. However, due to their primary location in schools, they often have more access to special education supports than Head Start.

A 2008 study using data from 3,898 randomly selected and nationally representative state-funded pre-K teachers found that about 59 percent of state-funded pre-K classes are located in a public school, 9 percent are located in Head Start grantees, and an additional 9 percent were located in Head Start grantees that were also public schools—an instance where the resources of Head Start and the public schools were blended to at least some degree.[3] The remaining 23 percent were in a variety of community-based child care centers.

When the various types of programs were contrasted, the results were as would be expected from the policies. Classes located in Head Start grantees were far more likely to offer each of thirteen

comprehensive services, relative to those in the public schools—health screening, dental screening, mental health screening, vision and hearing screening, developmental screening, speech and language screening, immunizations, family social services, parenting education, family support and case management, adult education and job placement, home visits, and nutritious meals. Furthermore, Head Start had significantly smaller classes and more favorable student-teacher ratios, relative to classes in public schools. Only 6.7 percent of Head Start teachers reported having more than twenty children in class at any time during the day, as compared with more than three times as many public school pre-K teachers (21.7 percent). Public school pre-K was also more than twice as likely to have more than ten students per adult relative to Head Start (27.6 percent versus 13.2 percent). Conversely, lead teachers in public school pre-K classes were far more educated, relative to Head Start teachers. More specifically, 89.7 percent of public school pre-K teachers held a bachelor's or master's degree, as compared to only 36.7 percent in Head Start programs that were receiving state pre-K support. In addition, preschool teachers in public schools were over seven times more likely to have a master's degree. When only degrees specific to early childhood education are considered, public school pre-K teachers were still far more likely to have a bachelor's degree or higher, relative to their Head Start peers (39.5 percent versus 13.4 percent).

More interesting, however, is that the pre-K classes where Head Start and public school resources are blended—Head Start grantees that were also public schools—seemed to exhibit the strengths of both and the weaknesses of neither. Overall, the combined model tends to resemble Head Start in its strengths regarding comprehensive services, retain much of Head Start's advantage in class size and student-teacher ratios, and have teachers whose education levels (although falling short of those in the public schools) are a significant improvement over those of Head Start teachers not located in a public school. The results provide encouragement for a stronger partnership between Head Start and the public schools—one in which Head Start's comprehensive services are combined with the teaching workforce of public school pre-K programs.

This study also found that the child care centers that were a part of these state-funded pre-K systems, but were neither in a public school nor a Head Start grantee, were open more hours per day and more weeks per year (including the summer months). Many of these child care centers that were subcontracted into the state-funded pre-K systems were receiving support from CCDF or TANF. As a result, hours were optimized for the child care needs of working families beyond the hours provided by many Head Start and public school pre-K classes.

The Challenges of Coordination

Of course, some degree of coordination between Head Start and state-funded pre-K is already happening—about 17 percent of Head Start grantees are public school systems and about 18 percent of all state-funded pre-K classes are located in a Head Start grantee.[4] But this level of coordination is modest in comparison to the degree of resource sharing that could exist.

If state-funded pre-K systems continue to grow and expand into universality in some states, the most useful future role of Head Start becomes a question of growing importance. At least three potential responses have been proposed, each aimed at Head Start repositioning itself either to focus on populations not currently

being targeted for services by state-funded pre-K or to provide services that are not commonly offered by state early education systems.[5] The first option is for Head Start to essentially concede the preschool years to the states and focus on the greatly underserved population of infants and toddlers by placing its full emphasis on EHS. This option is appealing because EHS currently serves less than 3 percent of the eligible infants and toddlers and state pre-K systems serve very few children in this age range (about 3,400 in 2009).[6] A second option is to focus on populations that are difficult to serve or require special supports. Rather than targeting children with disabilities that make them eligible for early intervention or preschool special education, perhaps Head Start could focus more attention on its mental health component and target children with challenging behaviors that make it difficult for them to maintain their placement in other programs.

Despite the appeal of these two options, a third option may prove the most beneficial to building a cohesive system of early education and child care supports—facilitating greater collaboration between public school pre-K, Head Start, and child care. Specifically, public school-based pre-K would focus on its strength by providing the classroom academic components, including the qualified teacher and access to school support staff and special education services. Head Start would focus on its strengths by providing the comprehensive services, parent-involvement components, and home-visiting services. Although child health, family well-being, and parent involvement are widely believed to be important facets of early childhood education and development, as well as integral components of preparing children for school, schools have rarely made these goals central to their mission. Federal child care subsidies and quality set-asides could also be a part of the package to provide resources for extended wrap-around child care hours, with families paying part of the cost for the extra child care hours on a needs-based sliding fee scale. Examples of Head Start and the public schools blending resources in a collaborative effort to create a coordinated array of services clearly exist,[7] and the Head Start state collaboration office in each state is the logical facilitating agent.

Toward Common Program Standards

Two clear challenges to fostering greater collaboration are: (1) differences in program standards across Head Start and EHS, state pre-K systems, and the far less regulated child care system; and, (2) differences in eligibility criteria that determine which children and families may be served by these three types of programs. Differing program standards likely would need to be reconciled in order for funds to blend easily. If Head Start were allowed to focus only on the comprehensive services and parent involvement components, as described above, with the public schools focusing on the classroom components, the differing program standards may not matter. However, differences in eligibility criteria would still need to be reconciled.

The challenge is to create an overarching infrastructure that supports all of these service options in a way that reduces duplication and facilitates coordinated sharing of resources.

Currently, a myriad of monitoring and accountability requirements vex early education and child care staff and represent a significant duplication of effort. Many child care programs are required to be licensed by state departments of health. Head Start and EHS have their own monitoring and accountability systems. Public schools are regionally accredited. Programs that accept state-funded pre-K dollars are often required to satisfy state monitoring requirements that may include quality rating systems. Some programs also have a history of voluntary accreditation through agencies, such as the National Association for the Education of Young Children or the American Montessori Society. It is not uncommon for a program to be monitored or accredited by four or more different organizations. Some degree of regulation and monitoring is necessary to ensure safety, inform consumers, and ensure that public funds are used appropriately. Multiple monitoring systems that exist solely because of the existence of multiple funding streams, however, may lead to wasted resources and effort for little added benefit. Movement toward greater collaboration and sharing of resources should be accompanied by a concomitant movement toward common program standards and a reduction in duplicative monitoring, potentially saving state and federal funds and staff time.

Coordination with Early Intervention and Preschool Special Education

Perhaps the most integral component of early intervention and preschool special education services for children with disabilities is the child-find system—one way children who are entitled to particular services are identified. Screening for developmental disabilities and referral to early intervention and special education services are other ways in which our early education and child care systems could better collaborate.[8] Child care programs provide underutilized opportunities for supporting educational service delivery and should serve as hubs for linking families to other necessary services, such as early intervention and preschool special education.[9] Unfortunately, current state child care licensure laws do not support child care functioning as a reliable source of identification and referral for young children with developmental disabilities.

Challenges to fostering greater collaboration are differences in program standards and eligibility criteria.

Increasingly, state pre-K systems have provided a way for state educational objectives to be embedded in child care systems. Most state pre-K systems target low-income children, but non-targeted applications of pre-K are becoming more prevalent. When early care and education settings participate in these statewide systems, they generally must agree to provide certain levels of quality in classroom and support services. Although developmental screening is required by only twenty-nine state pre-K agencies, its provision could be incorporated into state mandates everywhere. The federally-funded Head Start (serving children 3 to 5 years old) and Early Head Start (serving children birth to 3 years) have performance mandates to provide regular developmental screening and to target services to children with disabilities. Since most publicly-funded preschool programs have collaborative agreements with special education preschool programs in the public schools, it should be

possible to design appropriate articulation between screening and service delivery in these settings.

Conclusion

The United States has a complex array of early education and child care systems. It would be nice to believe that these programs are woven into a cohesive fabric, where the strengths of one system are combined with the strengths of another and where resources can be combined to meet the individual needs of the families being served. Unfortunately, we are far from this level of coordination of effort and resources, with the result being a confusing array of services and programs for families to navigate and the constant potential for unnecessary duplication of effort and gaps in availability. Rather than focusing our efforts solely on the creation of more or different services, the time has come to make the most of the investments we have already made through a better coordination of the aims, services, and regulation and monitoring of our current investments.

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The Center on Children and Families
The Brookings Institution
1775 Massachusetts Avenue NW
Washington, DC 20036
202.797.6069
www.brookings.edu/ccf

National Institute for Early Education Research
Rutgers, The State University of New Jersey
120 Albany Street, Suite 500
New Brunswick, NJ 08901
732.932.4350
www.nieer.org