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TO PROVIDE PRESCHOOL PROGRAMS FOR DISADVANTAGED
AND DISABLED CHILDREN TO ENHANCE THEIR SCHOOL READINESS:
BACKGROUND PAPER ON A NATIONAL EDUCATIONAL GOAL

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The first of the National Education Goals recently agreed to by President Bush and the nation's governors is that:

"By the year 2000, all children in America will start school ready to learn" (U.S. Department of Education, p. 4, 1990).

The first objective set forth under this goal is that:

"All disadvantaged and disabled children will have access to high quality and developmentally appropriate preschool programs that help prepare children for school."

This paper seeks to assist efforts to achieve this objective by setting out definitions of key concepts and providing background information on the size of the target population, current levels of preschool participation by disadvantaged and disabled children, and indicators of the quality of the programs they are receiving. In addition, an appendix describes the kind of data system that would be desirable in order to monitor progress toward the objective.

DEFINITIONS OF KEY CONCEPTS AND
ESTIMATES OF THE SIZE OF THE TARGET POPULATION

The first National Education Goal is that all children will start school ready to learn. But what does the phrase "ready to learn" mean? The goal also refers to "disadvantaged and disabled children." To which children do these terms refer? How many of them are there in the U.S. child population? The disadvantaged and disabled children are to have access to "high quality and developmentally appropriate preschool programs." How can one tell if a preschool program has these characteristics? In the pages that follow, we try to provide answers to these questions.

What is the meaning of "ready to learn"?

"Ready to learn" is usually taken to mean is that the child is prepared to deal successfully with the first grade curriculum in a typical U.S. grade school, and with the social demands of the elementary school classroom. Basic proficiency in spoken English is a needed tool, as is a good deal of concrete knowledge. Most 6-year-olds arrive at first grade already knowing things like their own names and ages, the letters of the alphabet, the integer numbers from one to 20, and the words for a variety of shapes and colors.

Perhaps even more important than mastery of simple facts and concepts is attainment of sufficient social and emotional maturity for coping with the challenges that grade school poses

to the child's poise and self-control. The child must be able to be separated from his or her parents for most of the day without becoming upset. She must be capable of focusing attention on what the teacher is saying and doing, without becoming distracted by the intense stimulation that a classroomful of other children provides. She must be willing to follow directions and able to sit more or less still for more than a few minutes, wait her turn, and get along with other children without doing things like hitting, biting, or kicking, on the one hand, or being overly shy or withdrawn on the other. She should show at least mild interest in the subject matter that is taught in elementary school and be able to absorb the material on some level.

Kellam and his colleagues (1975) and Alexander and Entwisle (1988) have found that first grade pupils who display the kind of "personal maturity" attributes described above not only get along better with teachers and classmates, they attain higher scores on standardized tests of reading and arithmetic achievement at the end of the school year.

In recent years, a number of early childhood educators have challenged the concept of "readiness" (Kagan, 1990). Instead of requiring children to be ready for school, these educators say schools should be ready for children. That is, the schools should be prepared to respond to the wide range of variation in young children's development and learning. They should offer high-quality early education to all children, rather than excluding some children on the basis of test scores or

developmental assessments. Programs for young children should also be prepared to nurture children's social, emotional, and physical development, as well as their cognitive development.

Which children are "disadvantaged"?

"Disadvantaged children" are those whose family backgrounds and life circumstances make it unlikely that they will obtain the stimulation and encouragement that help make children successful in school. Poverty is often taken as an indicator of educational disadvantage, as are low parent education levels (neither parent has completed high school), low parental IQ, and recent immigration from a non-English-speaking country. Other, more debatable signs of possible educational disadvantage are minority ethnic status, being the child of an unmarried teen-aged mother, and growing up in a single-parent household.

Educational disadvantage can be assessed directly by means of an instrument such as the HOME scale (Caldwell & Bradley, 1984), which is based on an interview with the mother and direct observation of the physical environment in the household and mother-child interaction during the home visit. An abbreviated version of the HOME has been used to assess the childrearing practices of a nationally-representative sample of U.S. women in their twenties and early thirties (Baker & Mott, 1989; Parcel & Menaghan, 1989). Although the scale is sometimes criticized for having a middle-class bias, HOME scores do predict to children's

grades and achievement test scores, even when parent education and family income are controlled (Moore & Snyder, 1990).

Studies using the HOME scale and other assessment methods have shown that parents in low-income families in the U.S. are less apt to read to their children or provide other forms of intellectual stimulation compared with parents in non-poor families (Elardo & Bradley, 1981). Additionally, they are more apt to deal with their children in ways that are punitive, unresponsive, or otherwise detrimental to the healthy emotional development of their children (McLoyd, 1990). Among the children assessed in the National Longitudinal Survey of the Labor Market Experience of Youth (NLSY), two-thirds of 3-5 year-olds in low-income families were found to have unstimulating home environments and about one-quarter were in homes that were clearly deficient in emotional support or intellectual stimulation as measured by the HOME scale (Zill et al, 1990). On the other hand, material deprivation does not inevitably imply intellectual impoverishment. There are plenty of examples of immigrant families that have managed to inculcate a strong academic orientation in their children despite a lack of material resources.

Some programs, such as Chapter 1 of the Elementary and Secondary Education Act, have statutory provisions which limit services to certain children. Children must first live in low-income areas where the schools they do or will attend are selected for the Chapter 1 program. Then, to participate in

Chapter 1, a child must be educationally deprived, which the program has defined as children whose "educational attainment" is below the level that is appropriate for children of their age. For very young children, who develop at different rates, appropriate educational attainment is difficult to determine.

How many disadvantaged children are there?

The number of U.S. children who have one or more signs of educational disadvantage in their backgrounds is substantial. For example, nearly one out of every four U.S. children under the age of six, or about five million children, live in families whose incomes are below the official poverty level (National Center for Children in Poverty, 1990). During the late 1980s, one out of every five births in the U.S. was to a mother who had not completed high school (National Center for Health Statistics, 1990). This made for a total of about 800,000 infants per year born with this marker of disadvantage.

Obviously, it is possible to change the size of the child population that is deemed to be "at risk" by using different risk factors or combinations of criteria to define disadvantage. If, for example, educational disadvantage was determined by the family being below the poverty line and the mother having less than a high-school education, the number of young children at risk would be about 45 percent of the total child poverty population, or about 380 thousand children per single year of age. It seems unlikely, though, that even a fairly stringent

definition of educational disadvantage would go much below 10-11 percent of the preschool-aged population.

Which children are "disabled"?

"Disabled children" are those who have a learning disability, a sensory or motor impairment, a chronic illness or other physical, mental, or emotional, condition that interferes with their ability to attend school or do regular school work at grade level. The Education for All Handicapped Children Act and attendant regulations define ten categories of educationally-relevant disability: learning disabled; speech impaired; mentally retarded; seriously emotionally disturbed; hearing impaired; orthopedically handicapped; other health impaired; visually handicapped; multihandicapped; and deaf-blind (U.S. Office of Special Education and Rehabilitative Services, 1982).

How many disabled children are there?

Combining across handicap categories, there were about 4.1 million elementary and secondary students, and 363 thousand preschool students receiving special education services in 1988 (National Center for Education Statistics, 1990, p. 130). The school-aged children receiving special education constituted about 10 percent of total public school enrollment for grades K-12, whereas the preschoolers receiving special education comprised about 3.5 percent of all 3-5 year-olds in the U.S.

The proportion of students participating in special education programs has increased by about 20 percent from the levels of the late 1970s, when the handicapped laws were put into effect (House Select Committee on Children, Youth, and Families, 1989, pp. 142-143; NCES, 1990, pp. 46-47). Much of the increase is attributable to growth in the "learning disabled" category, which increased from about 2 percent to about 5 percent of total enrollment. The learning disabled also constitute the single largest category of handicapped schoolchildren, comprising about 47 percent of elementary and secondary children receiving special education services.

Among preschool children, however, many of the learning disabilities that will eventually be diagnosed are not fully apparent. In the 1988 National Health Interview Survey on Child Health, only 1.6 percent of 3-5 year-old children were described by their parents as having learning disabilities. By contrast, 6.8 percent of 6-11 year-olds were so described (Zill & Schoenborn, 1990). Obviously, many learning disabilities are only detected when the child gets to elementary school and starts trying to read, write, and calculate.

It can certainly be argued, though, that a larger proportion of learning disabilities would be detected before first grade if proper screening procedures were instituted, and that children with currently undetected disabilities could benefit from receiving special education services prior to elementary school. If that were indeed the case, the proportion of preschoolers

eligible for such services could well double or triple in the future.

It should also be noted that the proportion of schoolchildren receiving services for the "seriously emotionally disturbed" is much smaller than the proportion who have significant emotional or behavioral problems, according to parent or teacher reports. Expert panels assembled by the Institute of Medicine (1989) and the Office of Technology Assessment (1986) have estimated that 12-15 percent of U.S. children suffer from mental disorders. By contrast, less than one percent of elementary and secondary students receive special education services for the emotionally disturbed (NCES, 1990, p. 131).

In the 1988 National Health Interview Survey on Child Health, 13 percent of 6-11 year-olds, and 19 percent of 12-17 year olds were reported by parents to have had significant emotional or behavioral problems. The proportion of 3-5 year-olds with such problems was about 5 percent (Zill & Schoenborn, 1990). Clearly, this another area where demand for services could grow in the future.

Assessing the Quality of Preschool Programs

Developmental research has demonstrated that exposure to school-like settings prior to first grade can help children to acquire the knowledge and develop the social skills that "school readiness" entails (Howes, 1988). However, large individual differences in cognitive and emotional development will still be

evident, even with uniform preschool experience. The kinds of experiences that help to nurture young children's cognitive, emotional, and social development are more likely to occur if the preschool program is a "high-quality" and "developmentally-appropriate" one.

What is a "high-quality" preschool program?

The quality of a preschool program can be defined by the nature of the interactions the child has in the program with adults, other children, and play and learning materials. These experiences should be intellectually stimulating, emotionally supportive, and responsive to the child's interests, capabilities, and stage of development. There has to be enough order and group control that the interests and behavior of a few children do not monopolize the class agenda. At the same time, discipline should not be harsh or demeaning (Phillips, 1987; Kagan, 1990).

Certain structural attributes and teacher characteristics tend to be correlated with positive preschool experiences for children and are often used as indicators of program quality. The structural attributes include small group sizes, relatively low pupil-to-staff ratios, relatively high wage rates for staff, low staff turnover rates, the availability of a rich variety of play and learning equipment, and flexible and "child-friendly" arrangements of the physical space of the classroom (Whitebook, Howes, & Phillips, 1989; Hayes et al, 1990). Favorable teacher

characteristics include training and experience in early childhood education, intelligence, warmth, patience, and enjoyment of young children (Arnett, 1989; Phillips, 1987).

Standardized procedures have been developed for direct assessment of program quality through on-site observation of classrooms in operation (Harms & Clifford, 1980; Arnett, 1989). Several hours of observation are required to get a sense of the range of activities offered to children, the tone of the caregiver, the safety of the environment, the types and quality of equipment available, the amount of attention paid to language and social development, and the general classroom atmosphere (happy and busy versus chaotic or stressful). The National Association for the Education of Young Children (NAEYC) has a well-respected program for the accreditation of early childhood programs, and the fact that a program has received accreditation from NAEYC is probably a good indication of quality (Bredenkamp & Apple, 1986; Recken, 1989). However, only a small proportion of preschool programs nationwide have gone through the voluntary process of seeking accreditation.

Per-pupil expenditures are at least a rough gauge of program quality. The fact that a good deal of money was spent on teacher salaries and other expenses is, of course, no guarantee that the money was well spent. There are, moreover, geographic variations in wage rates and occupancy costs that have little to do with variations in program quality. But excellence in early childhood education is seldom attained on the cheap. The National Child

Care Staffing study found that, of various structural, experiential, and working-condition factors, staff wages were the most important predictor of child care quality and staff turnover (Whitebook, Howes, & Phillips, 1989).

CURRENT ENROLLMENT PATTERNS

What is the current situation as far as preschool enrollments of disadvantaged and disabled children are concerned? And what is known about the quality of the preschool programs these children attend? Annual data on preschool enrollments are available from questions put to parents in the October supplement to the Current Population Survey (Bureau of the Census, 1990) and from counts of children enrolled in Head Start (Department of Health and Human Services, 1990) or in preschool programs for the handicapped (Office of Special Education, 1990). These data have their flaws, but they provide at least a rough picture of over-time trends and group variations in preschool participation.

Information on the quality of the programs is much more limited, but some indicators such as group sizes, adult: child ratios, teacher salary levels, staff turnover rates, and per-child expenditures may be drawn from administrative records or studies such as the Public School Early Childhood Study (Mitchell, Seligson, & Marx, 1989). Additional data will soon be

available from the Profile of Child Care Settings survey and related studies being sponsored by the Department of Education.

Preschool Participation of Disadvantaged Children

Data from the Current Population Survey (CPS) indicate that 3- and 4-year-olds in low-income families are significantly less likely to be enrolled in nursery school or pre-K programs than children in families with higher incomes.

- o In October 1986, 27 percent of 3- and 4-year-olds in families with incomes below \$10,000 were enrolled in pre-school, compared with 42 percent of those in families with higher incomes (U.S. House Select Committee, 1989, p. 137).

By contrast, income-related differences in pre-primary enrollment are not found at age 5, when public kindergarten programs become widely available.

- o In October 1986, 86 percent of 5-year-olds in families with incomes under \$10,000 were enrolled in kindergarten or pre-K programs, compared with 87 percent of those in families with higher incomes (U.S. House Select Committee, 1989, p. 137).

Private versus public programs. There are also noteworthy differences by income in the proportion of preschoolers who are attending private as opposed to public early childhood programs.

- o Among white 4-year-olds in 1984, only 12 percent of those in families with incomes below \$10,000 were attending private nursery schools or early education programs. This amounted

to 34 percent of all preschool pupils in this income category.

- o By contrast, 44 percent of those in families with incomes of \$20,000 or over were attending such programs. That amounted to 75 percent of preschool pupils in this higher income class.
- o Among black 4-year-olds with family incomes below \$10,000, 8 percent of all children, or 20 percent of all pupils, were in private programs.
- o Among black 4-year-olds with family incomes of \$20,000 or more, 24 percent of children, and 49 percent of pupils, were in private programs (Pendleton, 1986, p. 127).

Over-time trends in enrollment by income. Another pertinent finding from the CPS data is that recent increases in preschool enrollment have been greater among children from middle-class families than among those from low-income families.

- o Between 1977 and 1986, the pre-primary enrollment of 3- and 4-year-olds in families with incomes of \$10,000 and above increased from 33 percent to 42 percent, a 27-percent increase.
- o Over the same time span, the pre-primary enrollment of 3- and 4-year-olds in families with incomes below \$10,000 went from 26 percent to 27 percent, a 4-percent increase that was

not statistically significant (U.S. House Select Committee, 1989, p. 137).

Differences by race and Hispanic origin. Racial breakdowns of pre-primary enrollment data from the CPS show few differences between black and white children in overall levels of participation at ages 3 and 4. In 1987, for example, 38 percent of white children of these ages and 37 percent of black children were enrolled in pre-K or kindergarten (NCES, 1990, pp. 136-137; U.S. House Select Committee, 1989, p.137).

However, given the fact that average family income levels of black families with young children are substantially lower than those of white families with young children (U.S. House Select Committee, 1989, pp. 102-103), and given the relationship between family income and preschool participation shown above, it must be the case that, at a given family income level, the preschool participation rates of black children are actually higher than those of whites. Tabulations of 1984 enrollment data for 3- and 4-year-olds by race and income seem to confirm this, although the sample of black children was small enough so that the observed differences could not be said to be statistically significant (Pendleton, 1986, p. 127). (The observed differences were also more sizable for 3-year-olds than for 4-year-olds.)

o A difference that was statistically significant was that black children were more likely than whites to be enrolled in public preschool at all levels of family income.

Hispanic children. Pre-primary enrollment levels among Hispanic children have been significantly lower than those for non-Hispanic children.

- o In 1987, 30 percent of Hispanic 3- and 4-year-olds were enrolled in nursery school or kindergarten, as opposed to 38 percent of non-Hispanic children of these ages (NCES, 1990, p. 135).
- o However, pre-primary enrollment levels for Hispanic children of these ages were 50 percent higher in 1987 than they had been in 1977, when they stood at 20 percent (U.S. House Select Committee, 1989, p. 137).

Limitations of the CPS data. As already mentioned, the enrollment estimates given above are based on relatively small subgroups from the CPS October sample, and are hence subject to considerable sampling fluctuation. The data are also subject to error because they are based on parent responses to the question: "Is (the child) attending or enrolled in nursery school or kindergarten?" The Bureau of the Census takes this to include organized educational experiences lasting for children attending prekindergarten or kindergarten classes including Head Start programs. Such programs may be offered by a public or private school or by some other agency. Custodial care in private homes is not included. However, household respondents may interpret the question as they wish, unless they ask for clarification, and errors may occur because of misunderstanding of what the terms in

the question mean. The term "Head Start" does not explicitly appear in the question.

Estimates of enrollment levels from program counts

In addition to the Current Population Survey data, preschool enrollment levels among disadvantaged children may be estimated from participant counts in programs such as Head Start, preschool programs funded under Chapter I of the Elementary and Secondary Education Act, and state- and local-funded prekindergarten programs.

Head Start. In fiscal year 1989, 451,000 children (about 22,000 of whom were non-poor) participated in Head Start in more than 1,200 local programs around the country. Sixty-four percent of the children who participated were 4-year-olds, 25 percent were age 3, and 8 percent were age 5. Most of the programs were part-day classes that operated only during the academic year. Eligibility guidelines for Head Start require that at least 90 percent of the children served come from families with incomes at or below the poverty level, and indications are that these guidelines are being met or exceeded. In 1988, more than 75 percent of all Head Start families had incomes below \$9,000, more than half were headed by a single parent, and about 47 percent were AFDC recipients (U.S. House Committee on Ways and Means, 1990; National Health Policy Forum, 1990).

A frequently cited coverage figure is that Head Start serves about 18 percent of 3- to 5-year-old children living in poor families (Hayes, Palmer, and Zaslow, 1990; U.S. House Committee on Ways and Means, 1990). However, this figure is calculated on the presumption that poor children could receive the service for each of three years (ages 3, 4, and 5). As we have seen, most 5-year-olds from all income and ethnic groups are enrolled in kindergarten. If the participation rate were instead calculated by individual ages, the proportion served of 4-year-olds in poverty-level families would be about 31 percent, while the proportion of 3-year-olds would be about 12 percent.

Both the Administration and Congress are acting to increase funding for Head Start by about \$500 million, with much of the increase to be used for expansion of enrollment. However, a number of educators have argued that at least a portion of the additional funds should be used to upgrade the quality and duration of existing programs (Granger, 1990; National Health Policy Forum, 1990).

The need to upgrade many existing programs is indicated by the current per pupil expenditures in these programs, compared to the estimated costs of high-quality early childhood programs. For example, the average federal cost per child enrolled in Head Start during fiscal year 1990 was about \$2,767. By contrast, the average per pupil expenditure for preschool programs accredited by the National Association for the Education of Young Children (NAEYC) was \$4,200 (General Accounting Office, January 1990).

And the estimated cost in 1988 dollars of providing an early education experience similar to the widely-acclaimed High Scope/Perry Preschool program is \$6,600 (Schweinhart, personal communication, 1991).

Pre-kindergarten programs supported by Chapter 1 funds.

Chapter 1 of the Elementary and Secondary Education Act provides a source of federal funds to state education agencies for the support of compensatory education programs in areas with high proportions of economically disadvantaged children. The funds are to be used at the discretion of local school districts, and supporting pre-kindergarten programs is one way in which they may be used.

In 1986-87, there were some 57,000 children who participated in pre-kindergarten classes, and 291,000 who took part in kindergarten classes, supported by Chapter 1 funds (Steele & Gutmann, 1989). The pre-kindergarten children made up one percent, and the kindergarten children, 6 percent, of the 4.6 million pupils who took part in elementary or secondary programs funded under Chapter 1. Most of the young children who participate in Chapter 1 programs are believed to be from low-income or otherwise "at risk" families, although some participating children have learning disabilities without being from disadvantaged backgrounds.

Assuming that most of the participating children are disadvantaged, and that the majority of those in the pre-K

programs are 4-year-olds, the Chapter 1 pre-K enrollment number is equivalent to about 7 percent of all 4-year-olds from families at or below the poverty level. The Chapter 1 kindergarten enrollment total is equivalent to about 35 percent of all 5-year-olds from poor families. Together, the 348,000 pre-K or kindergarten students comprise about 21 percent of poor 4- and 5-year-olds.

State-funded pre-kindergarten programs. As of 1989, 27 states had pre-kindergarten programs subsidized by state or local funds. In 20 of the states, the programs were specifically targeted at low-income, limited English proficiency, migrant, or otherwise "at risk" children. In 7 states, programs were open to all children in the eligible age-range (Mitchell, Seligson, & Marx, 1989; Education Commission of the States, 1990). Roughly 200,000 children nationwide took part in these state-funded programs, with the majority being 4-year-olds. We estimate that about 100,000 of the children were 4-year-olds from low-income families, which would comprise about 12 percent of all 4-year-olds from poor families.

When participant count data from the various programs are considered together, it appears that, nationwide, about half of all 4-year-olds in poor families are receiving preschool instruction, either from Head Start (31 percent), Chapter 1 (7 percent), or state-funded programs (12 percent). The same is true for less than 20 percent of poor 3-year-olds. By age 5,

nearly all children from low-income families are enrolled in public school kindergarten or pre-kindergarten programs.

Assessing Preschool Programs

There are certain procedures that school administrators can use to help them assess the strengths and weaknesses of their early childhood programs. Completing the Early Childhood Environment Rating Scale (Harms and Clifford, 1980) is a low-cost way of evaluating different aspects of the program. The scale requires several hours of classroom observation, leading to an overall index of quality and appraisals of specific components, such as fine and gross motor activities, language reasoning experiences, personal care routines, furnishings and displays for children, creative activities, and provisions for the needs of the teaching staff. Another, more rigorous way of evaluating and improving preschool classrooms is to participate in the NAEYC's voluntary accreditation process (Bredenkamp, 1987).

Research has shown that developmentally-appropriate early childhood programs may help children, especially those from disadvantaged family backgrounds, to acquire skills and experiences that are vital for school success. If elementary schools also provide high-quality educational experiences, early gains may be maintained, and the need for remediation reduced. Finally, the whole process works better if parents become active partners in the early education of their children.

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APPENDIX

MONITORING PROGRESS TOWARD THE SCHOOL READINESS GOAL

One of the roles the U.S. Department of Education could play in helping to achieve the National Education Goals is to set up or assist the states in setting up data systems that provide regular, reliable, and policy-relevant information on what progress, if any, is being made toward the goals in the states and the U.S. as a whole. This section describes the kind of data system that would be desirable in order to monitor progress toward the objective of universal access to quality preschool for all disadvantaged and disabled children. It also reviews relevant data collection mechanisms that are currently available and suggests some options for the development of a more comprehensive monitoring system.

A. Desirable Characteristics of A Data System to Monitor the Provision of Preschool to Disadvantaged and Disabled Children

To begin with, a data system on the early childhood education of disadvantaged and disabled children needs consensus on definitions of the terms "disadvantaged" and "disabled" children and procedures for making these definitions operational. The data system has to provide detailed information on how many of the children so classified are participating in what kinds of preschool programs, for how long, at what cost, and with what agencies bearing the cost. The system must also ascertain the

average quality and developmental appropriateness of the preschools the children attend, including characteristics such as group size, adult: child ratio, staff background and training, curriculum and philosophy of early childhood education. The system should reveal how these characteristics vary across different kinds of programs, and how they are changing over time. It would also be very useful, though not essential, if the system could provide follow-up information on the consequences of preschool participation for later academic performance.

In order to furnish these kinds of information, the data system should have the following properties:

- o Recurring collection of comparable data. The data system, whether it be survey-based or records-based, should provide information on preschool participation on a regular, repeated basis and the information should be collected, coded, and analyzed in comparable ways, so that changes in the number and types of children receiving preschool programs can be tracked over time, as can changes in program characteristics.
- o State-level estimates. Because key educational policy decisions are made by state governments, the system should be capable of providing state-level measures of the numbers and proportions of children participating in early childhood education programs, the quality of the programs, and the amounts of money allocated and spent for the programs. Regional and national estimates are not sufficient.

- o Standardization across jurisdictions. Information on children and programs should be collected and tabulated in comparable ways across different school districts and states, so that it is possible to summarize and compare across jurisdictions.
- o Unduplicated counts. The system should be capable of providing unduplicated counts of children participating in various preschool programs and information on the extent of overlap between programs and between different child characteristics. (E.g., How many children fall into both the "disadvantaged" and "disabled" categories?)
- o Information about non-participants. The data system cannot simply sample children who are enrolled in preschool programs. For obvious reasons, it must also provide information about disadvantaged and disabled children who are not currently participating in any early childhood education program.
- o Sufficient numbers of disadvantaged and disabled children. If the data system is based on probability samples of children or preschool programs, rather than complete enumerations, the samples should be designed to insure that there are enough cases of disadvantaged and disabled children to allow stable estimates to be made about these groups. This may require oversampling of these children, or supplementary sampling from special lists or programs, rather than from the population as a whole.
- o Linked information from households and providers. It is usually necessary to seek information directly from the family to obtain accurate data on family characteristics such as parent

education levels, family income and welfare status, and details of a child's medical, child care, and educational histories. On the other hand, it is necessary to go to program providers for valid data on characteristics of particular preschool programs, as well as for information on how given children are being instructed and evaluated within the preschool. In order to see how a particular group, such as educationally disadvantaged children, are faring in the early childhood education system, it would be very useful to be able to link household information with provider information on the same individual children. Synthetic linkage may be feasible, but it does not provide as powerful analytic possibilities as direct linkage.

o Possibility of direct observation of preschool programs.

Because the most valid assessments of the features and quality of preschool programs are based on direct observation of the program in action, the data system should permit such assessments to be made on a periodic basis on representative subsamples of programs. It may eventually be possible to identify good surrogate measures of program style and quality that do not require as much time and effort to collect. For the present, however, an observational capability is definitely desirable.

o Possibility of longitudinal follow-up. In order to gain information on the longer-term consequences of exposure to different types and amounts of preschool, the data system should allow for longitudinal follow-up of a subset of children, at least through the late elementary grades. This may make it

necessary to obtain parental permission and family information that would facilitate tracing and recontact, or the addition of identifying information to children's school records.

B. Existing Data Collection Mechanisms

There are a number of national data programs that currently supply useful but limited information about young children and their participation in nursery school, kindergarten, or Head Start, and about the characteristics of preschool programs. These data programs include: the annual School Enrollment Supplement to the Census Bureau's Current Population Survey; state counts of children participating in special education programs under the Education for All Handicapped Children Act; Program Information Report Questionnaires sent out from the Head Start bureau of the Department of Health and Human Services to Head Start grantees around the country on a yearly basis; the National Child Care Survey sponsored by the Department of Health and Human Services and the related Profile of Child Care Settings sponsored by the Department of Education; the Common Core of Data collected by the Department of Education; and two new programs of the National Center for Education Statistics: the National Household Education Survey (NHES), and the Schools and Staffing Survey (SASS), whose components include a survey of local education agencies, surveys of public and private schools, and surveys of principals and teachers.

Even without modification, these data programs, or at least those that are carried out on a recurring basis, will provide some indication of the nation's progress or lack of progress toward the objectives of expanding access to and improving the quality of preschool programs for "at risk" children. In several instances, more insight could be obtained if relatively simple and inexpensive modifications or additions were made to the data programs. For a full picture of progress toward the objectives, however, a more comprehensive data system is needed.

C. Toward A Comprehensive Monitoring System

There are several potential methods for collecting more comprehensive information about the early childhood education of disadvantaged and disabled children in the U.S. One is to let the states do the work; i.e., for the federal government to impose increased requirements on state and local education agencies for the gathering and reporting of the desired preschool data. States are already required to produce counts of children served under the Education of All Handicapped Children Act. Why not simply mandate a whole series of additional reporting requirements?

This appears to be a tempting option because, in theory, it leads to the production of a great deal of useful information, including state and perhaps even local estimates, at relatively little cost to the federal government. In reality, of course, such a mandate would impose a paperwork burden on state and local

agencies that the agencies would first resist, and then demand compensation for. So the strategy would probably not be without cost to the federal government after all.

This approach has additional drawbacks. The process of getting all the states to agree to a specific set of data elements is likely to be arduous and time-consuming. The data elements that wind up actually being collected are likely to be many fewer than those originally proposed. The most important shortcoming is that it would be difficult to exercise effective quality control over the collection of the data by a multitude of local and state agencies. Moreover, it simply is not necessary to collect much of the information on a universal reporting basis.

Options that seem more promising are: 1) a recurring sample survey of school districts and other local agencies around the country that run (or could run) either public school pre-kindergarten or Head Start programs; 2) a recurring survey of preschool and Head Start providers, with follow-up surveys of parents who have children in the programs; and, 3) a recurring household survey of families with young children, with a follow-up survey of the preschools that children in the sample attend.

The school district survey could be conducted along the lines of the district survey component of the Public School Early Childhood Study (Mitchell, Seligson, & Marx, 1989, pp. 20-23), but would include districts that do not (yet) have preschool or Head Start programs, as well as those that do. The survey would

also resemble the local education agency component of NCES's Schools and Staffing Survey, and could, in fact, be carried out in conjunction with that data program. Mailed questionnaires to district superintendents would be used to gather data about the types of preschool programs in the district, coordination between them, funding sources, the total number of children served by age and, if possible, disadvantage and disability status, and plans for expansion or upgrading of program quality. If the district did not have preschool programs, the superintendent would be asked whether there were any plans to start such programs in the near future.

The survey of preschool program providers would resemble the program questionnaire component of the Public School Early Childhood Study (Mitchell, Seligson, & Marx, 1989, p. 23) and the schools questionnaire component of the Schools and Staffing Survey (National Center for Education Statistics, 1990, pp. 27-42). As in these existing studies, the provider survey could be nested within the district survey outlined above. Mailed questionnaires to program administrators would gather information about the number and ages of children served in the program, and the proportions disadvantaged or disabled; hours of operation and day and year length; ratios and class sizes; support services; accommodations to working parents; funding sources; cost per child; eligibility criteria, staffing, hiring requirements, salaries, and staff turnover; program accreditation; early childhood education philosophy and program curriculum.

A subsample of providers could be selected for visits by trained observers who would make direct assessments of the content and quality of program activities. A mechanism could also be developed for the random selection of a small number of students from each preschool program, including procedures for oversampling pupils classified as disadvantaged or disabled. The parents of these students would be contacted and asked to participate in a follow-up survey that would collect family background information not available in school records, details about the child's earlier child care and preschool experiences, and measures of parental participation in and satisfaction with the current preschool program. The parent follow-up survey could be conducted by mail, telephone or, if necessary, through in-person interviews.

The household survey of families with young children would reverse the order of the provider survey, beginning with the family, finding out whether the child is currently enrolled in a preschool program and, if so, collecting follow-up information from the program provider. The method resembles that used in the 1989 National Child Care Survey (NCCS) and the related Profile of Child Care Settings (Hofferth & Miller, 1989), except that the NCCS relied exclusively on random-digit dialing and the medium of the telephone to obtain its household sample. Given the substantial proportion of low-income families that do not have telephones, it seems advisable to make use of at least some in-

person screening and interviewing in a survey that has the disadvantaged child population as a major focus.

An obvious advantage of beginning with a household sample and then going to providers is that the sample includes children who are not enrolled in any prekindergarten or Head Start program, as well as those enrolled in small, informal programs that may be missed in listings of preschool providers. If interviewing is done in person, a household survey also affords the opportunity for observation of the home environment and individual testing and assessment of the child, which bolsters the analytic and monitoring capabilities of the data set.

In other respects, however, the household-first strategy has significant drawbacks. To begin with, it is costly, especially if extensive in-person interviewing is done. A great deal of screening would be necessary to locate the minority of households that contain young children and the even smaller subsets of low-income households and households with handicapped children. A very large sample would be needed if state-level estimates were to be produced. And the risk of getting a parent interview and then having the education provider not cooperate with the follow-up survey is greater than the risk of getting a provider interview and then having the parent not cooperate.

The survey of program providers is inherently efficient because a large number of children are connected with each preschool, inexpensive mail and telephone methods work well with education providers, and preschools have a lot of information

about their pupils that can be used in carrying out the follow-up survey of parents or in estimating the characteristics of parent non-respondents. There is, however, one major drawback to a provider-based survey: it does not include children who are not enrolled in any preschool program. Some sort of supplementary survey mechanism would have to be developed to get information on the number and characteristics of disadvantaged and disabled children in an area who were not taking part in any early childhood program. This is not an insurmountable problem, but it does detract from the overall efficiency of the provider-based method.

In addition, the success of a provider-based survey depends on how well various early childhood programs in a sampling area can be enumerated to form a comprehensive sampling frame for the survey. If the survey is nested within a survey of public school districts, children in programs that are not connected with the public schools may be totally missed or under-represented in the survey. There are also questions on the extent to which child care providers should be included in the frame. Obviously, many institutions that call themselves child care centers also provide sound educational experiences to young children.

All things considered, though, a provider-based survey nested within a survey of school districts seems like the most cost-effective method for monitoring progress toward the objective of universal access to high-quality and developmentally appropriate preschool for all disadvantaged and disabled

children. The provider-based survey should be large enough to produce reliable state estimates, but it could be supplemented by a more limited household-based survey aimed at measuring the extent of non-participation in early childhood education among the target groups. A regular series of supplemental questions on the Current Population Survey or the National Household Education Survey could be used to produce periodic estimates of non-participation for the nation as a whole.

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