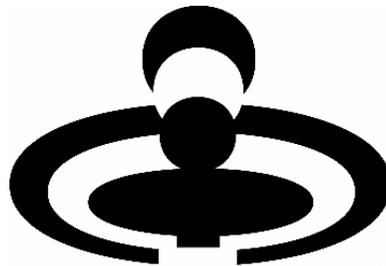


# All Students Achieve Program— Parent Education and Involvement (ASAP-PIE): Management and Outcomes

## *Report 3: Technical Report*

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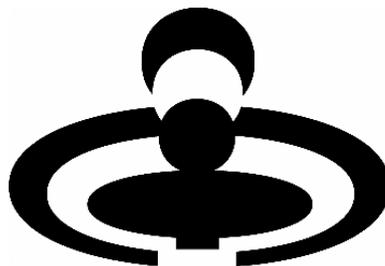
**Institute for Children, Youth & Families**  
*and*  
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**Michigan State University**

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# Executive Summary

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## ***Background***

The All Students Achieve Program – Parent Involvement and Education (ASAP-PIE) was a \$45 million Michigan Department of Education grant program authorized by Section 32b (6) of Public Act 121 of 2001. It served Michigan parents of children, birth to 5 years of age, who resided in the 23 intermediate school districts (ISDs) who received competitively awarded funding. The intended outcomes of the program were:

- Improvements in children’s school readiness
- Reduction in children’s need for later special education services
- Maintenance of stable families by encouraging positive parenting skills

Recognizing that parents are children’s first teachers, the program focused on achieving these outcomes through services designed to enhance parenting skills, promote positive parent-child interaction and provide learning opportunities to promote children’s intellectual, physical, social and emotional growth. Periodic screening of health and development, promoting access to community services, and connecting parents with quality preschool complemented the core services offered to parents and their children.

## **Purposes of the Statewide Evaluation**

The state evaluation of the ASAP-PIE program began in the spring of 2002 almost one year after grantees’ programs began. The main goals of the evaluation were to:

- Analyze the grantees’ success in achieving legislatively required outcomes
- Compare the effectiveness of different service delivery models and service components
- Identify accomplishments and barriers to implementation as well as program strengths and weaknesses

## **Benefits to Children and Families**

With these goals in mind, the state evaluators answered the following questions in this report:

### ***Does a collaborative approach result in better outcomes for families and children?***

The amount of trust among the collaborative partners grew substantially over the life of the program. In 2003, administrators reported that a high level of trust among members had more than doubled since the beginning of the ASAP-PIE initiative.

The benefits to families and children are seen in the results for two collaborative program structures used by grantees, the Community and ISD-Community models, as answered below.

### ***Do different program delivery models (e.g., school-based, community-based) predict differences in the outcomes for children?***

- Community model: Grantees using the Community model were the most likely to show improvements in children whose first assessment indicated developmental delays. They were

more likely to report systems impacts on the community. These grantees had the smallest amount of state and local resources allocated per child. Grantees using the community model were less likely to provide home visits (a reflection of their smaller resources) but more likely to do developmental screening. A majority of these grantees placed primary emphasis on case management in their supervisory sessions.

- Local Education Authority (i.e., school district; LEA model: Grantees using the LEA model had the largest populations to serve. Together with grantees using the ISD model, they provided the largest amount of local funds allocated per child served. They were more likely than grantees using other models to provide parent-child play groups, suggesting a greater emphasis on universal services, and least likely to provide vision and hearing screening. They tended not to report having system impacts on the community. A number of these grantees emphasized administrative supervision.
- Grantees using the Intermediate School District (ISD) model had the smallest populations and the largest amount of resources (state and local) allocated per child served. They served a higher proportion of children eligible for Temporary Assistance for Needy Families (TANF). They were the least likely to provide parent-child play groups and more likely to undertake developmental screening, hearing and vision screening. A majority of these grantees emphasized reflective supervision.
- Grantees using the ISD-Community model served a higher proportion of TANF-eligible children, were more likely to make referrals, and least likely to undertake developmental screening.

### ***Did ASAP-PIE reach all families with children age 5 or younger?***

#### **All Children**

- **On average, grantees served a quarter (24%) of the children and their families.**
- **Penetration rates varied widely among the grantees.** Almost half (11) of the grantees accessed 20-40% of their children, six grantees served less than 20% and three grantees served 60-80% of their available children.
- **The grantees who served the smallest percentage of children in their area were from the largest communities.** However, grantees with the smallest populations did not necessarily have the highest penetration rates.

#### **Children in Poverty**

- **Nearly half (48%) of the children for whom poverty data were available were TANF eligible and received some type of service.** This is 1.6 times the likelihood of receiving services compared to all children served.
- **Penetration rates for children in poverty were even more varied than for all children who received service.** In contrast to services received by all children, where no grantees served over 80% of their children, the largest number of grantees (7) served 80-100% of their children in poverty. An equal number of grantees (5) served 0-20% and 40-60% of their children in poverty.
- **The grantees with the highest penetration rates had the smallest populations of children in poverty,** and, in general, the grantees from communities with higher numbers of children in poverty had lower penetration rates.

### Children with Other Risks

- **ASAP-PIE reached children with developmental delays;** of the 9,200 children who received at least one developmental screen, 23% indicated some developmental delay.
- **The program reached adolescent parents.** For those parents reporting age, only 3% were 18 years or younger. Their prevalence in the population (in these communities ranging from 5.5% to 16.4%) suggests a penetration rate ranging from 18% to 55%.

### *Did ASAP-PIE result in positive outcomes for children and families?*

- Overall, children who received home visiting were more likely to have better outcomes. Children who had developmental delays when first screened and received home visiting were more likely to show improvement in their development when compared with children who did not receive the service. Among children who were screened using the ASQ, the home-visited group had significantly better outcomes in all developmental domains except gross motor skills, and they were also more likely to pass all scales at the second assessment.
- Children with developmental delays who received more home visiting services were more likely to improve. Children who had a delay in some area of development (for example, fine motor skills, communication skills) and subsequently improved tended to receive more home visits than those who did not improve or those who had no delays at the time of the first assessment.
- Children who participated in play groups showed improvements in problem-solving and social skills. Children who had developmental delays and participated in play groups were more likely to improve in the personal-social and problem solving skills, but not in other areas of development.
- Children of families in parent education groups did not show significant improvements in developmental delays. Given a combination of the minimal dosage (1-3 meetings) and high enrollment of parents with children in *Early On*®, it is likely that this service component could not be expected to result in developmental improvements for children.
- Screening appeared to be effective in identifying potential developmental, hearing, and vision problems.
  - **Developmental screening.** Of the children who received developmental screening using the ASQ, 14% had some developmental concern at the first screening. The most common delay was in the domain of communication.
  - **Hearing and vision screening.** Among children who received these screenings, 24% were identified with potential hearing problems, and 20% with potential vision problems. A greater percentage of younger children (under 12 months) were identified in each category. These are children who would ordinarily not be picked up by public health screening programs, which tend to operate in preschool programs serving children 3 and over.
  - Children with developmental delays in communication or problem solving were more likely to improve if they received hearing screening. **It is possible that delays in these areas were related to hearing problems and children who received screening also received medical attention that remediated the problem.**
  - **Referrals were not related in any consistent way to child outcomes.** It is not surprising, given the variety of reasons why families might be referred, that there is no consistency in the outcomes of referrals. For example, a child with a health or developmental concern may be referred to a service for remediation, while another child may be referred to a preschool program because he/she is moving on to a higher

developmental stage. A more appropriate measure of success would be whether or not the child/family received the desired service and whether it successfully addressed the problem. Unfortunately, we do not have information on the outcomes of referrals.

***Is family participation in different service components or different combinations of service components related to better outcomes for children?***

- Children with developmental delays who received home visits in combination with groups were more likely to improve. Children with developmental delays who received home visits and play groups were three times more likely to pass on the second assessment, while children receiving all three services were 2.7 times more likely to meet all developmental expectations. Children receiving home visits and parent education groups also showed improvement but the results were not statistically significant.

## ***Policy and Practice Recommendations***

When the Michigan Department of Education sponsored the ASAP-PIE program, it made a substantial investment in young children and their families. ASAP-PIE has been succeeded by a greatly reduced initiative, Great Parents Great Start. This legislation has retained the expectation of universal services and collaborative partnerships as well as specifying services to at-risk children in order to accomplish the objectives of bringing children to school ready to succeed and maintaining stable families. In a period of limited resources, Great Parents Great Start is a good faith commitment to the educational system's responsibility for 0-5 programming within a community collaboration. In any future development of Great Parents Great Start, we would encourage the following:

### **Cross-Agency Collaboration**

At both the local and state levels, cross-agency collaboration is essential to accomplish the stated outcomes. Good outcomes for children are so inter-related that a solely education-focused approach will not accomplish the initiative's objectives. The Children's Trust Fund, with its concerns for child abuse prevention, and the Michigan Department of Community Health, that oversees infant mental health and maternal and child health services, are obvious partners for this venture.

This cross-agency group could be challenged with elaborating the philosophy of this early childhood initiative as well as promoting cross-agency systems change. Making ASAP-PIE services universally available had the benefit of attracting some families that might not have otherwise received services. However, some grantees also made different levels of service available based on families' needs. While data on outcomes were primarily available for the most intensive services (i.e., home visiting), encouraging grantees to develop different levels of service has the potential for targeting services in ways that can be more helpful to families and make the best use of funding.

## Legislative and Grant-Making Practices

There are several improvements in the grant-making process that could benefit the initiative:

- State allocations were not related to the size of the population to be served. Thus it was difficult for large communities to participate. Further, these ASAP-PIE grantees reached 22% of the children in their areas and provided a primary service to 16% of the children. While we recognize that families' choice was a factor in service use, two funding changes could extend the reach of this program. First, **funds could be allocated to communities based on the population of children age 0-5**. In ASAP-PIE, the same amount of dollars was available to large communities and small communities. Second, those **funds could be adjusted for the percent of children in poverty** (i.e., TANF eligible), since these children are more likely to fail in school.
- Communities with little previous collaborative experience were at a disadvantage. Unfortunately, these are likely to be the same communities where families and children can benefit from integrated early childhood opportunities. **Funds should be set aside for planning grants** in these communities so that supportive inter-agency collaborations could be built prior to the initiation of services.
- Many of the ASAP-PIE grantees did an admirable job of working with community service providers to build or expand an early childhood system of care. However, some ISDs or local school districts chose to concentrate on their own delivery of services. This latter is inconsistent with the collaborative cross-department approach recommended above. **ISDs and other community agencies** should be required to **submit a single integrated proposal** to meet the mandated outcomes.
- **Community-based models of service delivery** appear to provide better outcomes for children with a lower investment of dollars. Use of these models should be encouraged.
- The ASAP-PIE program had sufficient **funds for a state-wide evaluation**, but comparatively little **support for technical assistance and oversight**. Both types of support are critical to the success of any initiative and should be funded.
- The state-wide evaluation was funded well into grantees' implementation cycle. This resulted in a wide disparity in the type and degree of outcomes measured and data collected. When a state department makes such a substantial investment in services for families and children, it is critical to plan for the timely investment in a state-wide evaluation. Therefore **the state-wide evaluator should be identified prior to, or shortly after, local contracts are awarded**.
- Collection of data was an expensive activity, in time and/or funds, for most grantees. **A proposal review criterion** should include the extent to which a **realistic plan and allocation of resources is proposed for collecting the data** described below.

## Implementation Guidelines

Here, implementation guidance includes specification of how the services are to be organized, delivered and success evaluated. Overall, the ASAP-PIE grantees had to individually develop their own definitions for services, criteria for enrollment, and parameters for evaluation. Therefore we recommend that the following be part of the expectations in the grant award and/or the state-wide evaluation process.

- **Definitions of age-appropriate and/or developmentally-appropriate success criteria.** The ASAP-PIE initiative described outcomes that might not have been achieved given the duration of the award for all children. Defining “school readiness” differentially, for example for infants, pre-school children and children entering kindergarten, would have allowed grantees to report on their success whatever the age of the children served.
- **Definitions of services, their levels and expected dosage.** For example, there was wide variation in what was considered a play group. Also, grantees were not clear whether a referral meant talking with a family or the family receiving a service.
- **Definitions of enrollment criteria.** The MSU evaluation team queried grantees to identify the services they included in their definition of an enrollment family or child. While there was a common subset of services, overall grantees’ enrollment practices were not consistent.
- **Specification of common participant demographic data to be collected and evaluation tools to be administered across all partners** delivering the related service. This would solve two difficulties encountered by the state-wide evaluation team and the grantees: 1) the dearth of measures that could be used across all grantees; 2) the absence of demographic and outcome data from community partners delivering key services.
- **Home visiting for younger children, particularly those at higher educational risk.** Although our data are only suggestive, it appears that home visiting did benefit children at greater educational risk, and in particular was beneficial to children who had developmental delays. Since these children had more room to improve, the intensive services may have brought about more benefits.
- **Parent-child play groups as part of an array of universal services.** Although play groups tended to serve families with fewer educational risk factors, they did fill gaps in services to children between 12 and 36 months of age and appeared to benefit children with delays in social and problem-solving skills. In combination with home visiting, they appeared to increase the effectiveness of services to children with developmental delays.
- **Screening for children at higher educational risk.** All forms of screening were effective in identifying children with concerns. This was particularly true among children under 12 months of age. Children with no health insurance should be specifically targeted.
- **Outcomes of referrals to community resources.** We know from this report that a variety of community referrals were made and that referrals were not related in any consistent way to children’s developmental outcomes. Given the variety of reasons for which children are referred, this is not surprising. Better measures of access to the community network would be that referrals were completed and that families received the service for which they were referred.

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# Section 1: Introduction

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The first report from the MSU Evaluation Team, submitted September 2, 2002, described the background of the ASAP-PIE program, including the policy context, the initiative's principal features, and the grant award process. It also provided a description of individual ASAP-PIE programs in terms of their distribution of funding, target population demographics, organization of their services, program components, and implementation issues, including management and operations and the balance of service provision.

Grantees differed substantially in the way that they sought to meet the ASAP-PIE mandated goals. Hence, the second report, submitted April 3, 2003, focused on these qualitative aspects of the program evaluation. In particular, Report 2 focused on the grantees' program processes and collaboration, and sought not only to provide a framework to be used to describe the grantees' experiences, but to identify program characteristics that may account for the differences in program outcomes.

This third and final report addresses four areas:

- Program features
  - Management, including staffing, supervision, caseloads, leadership, communication, and using information for program improvement
  - Building a community system of care, including grantees' priorities, perceived impacts, and sustainability of those impacts and of program activities
  - Illustrations of seven program models
- Participants and utilization of ASAP-PIE services
- Effects of ASAP-PIE program on legislatively mandated outcomes of school readiness, reduction of the use of special education, and family stability
  - Overall
  - Differences in demographic subgroups
  - Differences by program characteristics
  - Dosage effects
- Program activities designed to facilitate children's access to quality preschool and beyond

Finally, recommendations are provided for assessing the long-term effects of the ASAP-PIE initiative beyond the evaluation period and for future 0-5 initiatives

This chapter introduces the background and legislation that formed the context for the initiation of the ASAP-PIE program.

## ***Background and Context***

ASAP-PIE (All Students Achieve Program – Parent Involvement in Education) was a state school aid grant program created by section 32b (6) of Public Act 121 of 2001. ASAP-PIE served families with children ages 0-5 residing in 23 Michigan Intermediate School Districts (ISDs) who received funding beginning February 2001.

The ASAP-PIE program charged its grantees and their communities with helping families prepare their young children cognitively, emotionally, and physically for entrance into the K-12 school system. PA 121 mandated that this be done through collaborative efforts that include at least the intermediate school district, “local multipurpose collaborative bodies, local health and welfare agencies, and private nonprofit agencies involved in programs and services for preschool children and their parents” (PA 121, 2001).

In addition to this collaborative approach, the ASAP-PIE program was also unique in its definition of families’ eligibility for services. All interested families were eligible for ASAP-PIE services, and this universality was repeatedly listed as a strength of the program by most of the grantees.

Although the legislation originally authorized ASAP-PIE funding for three years, a series of economic crises and revenue reductions in Michigan resulted in the elimination of the appropriation for the third year. However, PA 191 of 2002 allowed for the carryover of leftover funds. This allowed many of the 23 grantees to continue to offer ASAP-PIE services to families of children ages 0-5, albeit some at a reduced level. This report includes a description of grantees’ use of carryover funds past year three and extending, for some grantees, up to 2005.

## ***The ASAP-PIE program***

Reports 1 and 2 provide extensive descriptions of the goals and components of ASAP-PIE. Here, we briefly outline the program. PA 121 identified four goals for the ASAP-PIE program:

- Improving parenting skills
- Improving children’s school readiness
- Reducing the number of pupils requiring special education services
- Fostering the maintenance of stable families

These goals reflected the philosophy that parents are a child’s first teachers, and that improving parenting skills and parent/child interaction will in turn help children meet the developmental milestones that will ensure their readiness to enter preschool and kindergarten.

### **Required Services**

ASAP-PIE grantees were mandated by PA 121 (2001) to provide five types of services to families with children ages 0-5:

- Home visits by home visitors trained in child development with the goal of maximizing child development through parental knowledge of child development and parental stimulation and responsiveness
- Group meetings of participating families
- Periodic developmental, health, hearing and vision screening
- Connections to community resources that provide services to families with young children
- Connections with quality preschools

This array of services strongly reflected the collaborative nature of the ASAP-PIE program, and emphasized the community’s role in readying children for entrance into the public school system.

## Limitations of the Initiative

The first and second reports outlined limitations of the ASAP-PIE initiative that had consequences for grantees' ability to succeed in meeting their objectives as well as for the MSU Evaluation Team to document their progress. These factors, if left unresolved, are likely to limit the success of future early childhood initiatives and thus are repeated and expanded in this final report. These are presented below as recommendations for future programming.

**1. *The duration of funding did not allow for sufficient time in which to accomplish and validate that change had occurred in children and families.***

**Recommended.** In practice, initiating a new service involves a period of planning/recruitment/training and initial implementation. Outcome evaluation ideally should not start until services are stabilized and should continue throughout the intervention period and at a point in time beyond the intervention period.

Bringing children to school ready to succeed requires building the physical health, social-emotional competencies and cognitive skills during the first five years of life. If the intent of ASAP-PIE was to bring children to kindergarten ready to succeed, then the definitive point at which to assess the effectiveness of 0-5 intervention would be at kindergarten entry.

**Actual.** Grantees were given a four month period in which to develop a number of services, including interagency arrangements. Most grantees initiated services sequentially and did not initiate the required screening until September 2002. The period of initial implementation coincided with the legislative discussion about reduced state revenues; uncertainty about program continuation was a pervasive factor throughout the life of this initiative.

Because the third year of funding was eliminated, the *maximum* period during which any child could receive services from ASAP-PIE funded grantees was two years. Since most grantees needed time to get programs in place, most families were not recruited at the beginning of the two-year period. Thus, the majority of families received significantly less service. Although a third of the grantees anticipated continuing services at a reduced level beyond June 2003, the evaluation data on which this report is based does not go beyond June 2003.

### ASAP-PIE TIMELINE

The timeline for ASAP-PIE implementation is presented in Figure 1. The ASAP-PIE initiative was authorized for three years in the School Aid Act for 2000-2001. Grants were awarded in February 2001, with services for most grantees not expected to begin until June 2001 or later. By the end of the first fiscal year, the state of the economy made it evident that the third year's funding would not be available. Grantees were permitted to carry over funding with final reports due June 2003.

**Figure 1  
ASAP-PIE Timeline**

Fiscal Year 2000-01	September	----	ASAP-PIE funds available
	October	---	New fiscal year begins; MDE sends out RFP
	December	----	Applications received
	February	----	23 grantees notified of selection; ASAP-PIE funded flowed to grantees; start of planning and services
	June	----	Grantees are notified that fiscal year 2003 funding will not be available
	September	----	Public Act 191 allows carryover funds to the future
<hr/>			
Fiscal Year 2001-02	October	----	New fiscal year begins; fiscal year 2001 funds are made available
	May	----	Evaluation contract is signed with MSU; work on the evaluation begins
	September	----	First evaluation report
<hr/>			
Fiscal Year 2002-03	October	---	New fiscal year begins; no new appropriation is made; programs operate on carryover funds
	February	----	Second evaluation report
	June	----	June 30 <sup>th</sup> is end date for services for purposes of state evaluation <i>Grantees with unexpended funds as of June 30 reported the amount and projected carryover end date</i>

**2. The evaluation contract began well after the initiation of grantees' contracts.**

**Recommended.** Prior to the implementation of services, the evaluator makes available to grantees standard definitions and protocols including the data to be collected, the instruments to be used, and the times and methods for collection and data entry.

**Actual.** The parameters of the statewide evaluation could not be made clear in specifications or through technical assistance until well into year 2. As a result, grantees did not from the beginning incorporate the basic elements of a consistent cross-grantee evaluation: standardized instruments, ongoing collection of data, and ongoing data entry. Some data that should have been collected in Year 1 was not collected, thus limiting the number of children for whom comparisons could be made across time.

**3. The grantees did not collect data across all ASAP-PIE services.**

**Recommended.** Some data should be collected on all intervention modalities. Depending on the grantee, some community partners received ASAP-PIE funds for specified services to children

and families; others provided match by contributing services to children and families. A comprehensive overview of ASAP-PIE services would require collection of process and outcome data across all agencies whose services were encompassed within the grant. Written agreements with community agencies that received grants or contributed match would specify this expectation.

**Actual.** Collection of outcome data was limited to those children who participated in home visiting under ISD or local education authority (LEA) administered home visiting. Almost universally, written agreements with community partners did not specify provision of process and outcome information, and full information about the extent and impact of 0-5 services was not available.

***4. The sole home visiting model utilized by almost all grantees – Parents As Teachers – is not designed in either frequency of contact or content to change outcomes for the most at-risk children.***

**Recommended.** The concept of universal services includes models of intensive services that have been shown to be effective with children in situations that place them most at risk for school failure.

**Actual.** A limited number of grantees incorporated infant mental health services and other models that are designed for high-risk children and their families.

***5. The components identified in the legislation and the subsequent RFP did not adequately define outcomes and service modalities. This impeded appropriate assignment of resources to accomplish desired outcomes.***

**Recommended.** The specified outcomes (bring children to school ready to succeed, reduce special education, promote stable families) would be articulated and defined in a way that (1) clarified the relationship between the population served, the service modalities, and the specified outcomes, (2) facilitated measurement. Definitions for the service modalities (home visiting, parent groups, referral, screening) incorporating expected dosage and content would be provided to assure comparability of information across grantees.

**Actual.** Grantees were neither given, nor requested to come to agreement on, definitions of either modalities or desired outcomes. In particular, there is no comparability across grantees on what is a playgroup, or in fact any definitions of the various categories of playgroups.

***6. The legislation specified both a local evaluation and participation in a statewide evaluation without clarifying the content or expectations for the local evaluation.***

**Recommended.** A local evaluation paired with a statewide evaluation could be expected to focus on process and to serve as a mechanism for continuous quality improvement.

**Actual.** There was substantial variation in the local evaluations. The delay in initiating the statewide evaluation, as well as the lack of specification, meant that there was no standardized linkage between the local and the statewide evaluation. Although MSU Outreach Partnerships staffed five local ASAP-PIE evaluations and also received local evaluation reports from other grantees, this was not sufficient to create consistency across the state.



## Service Delivery Models

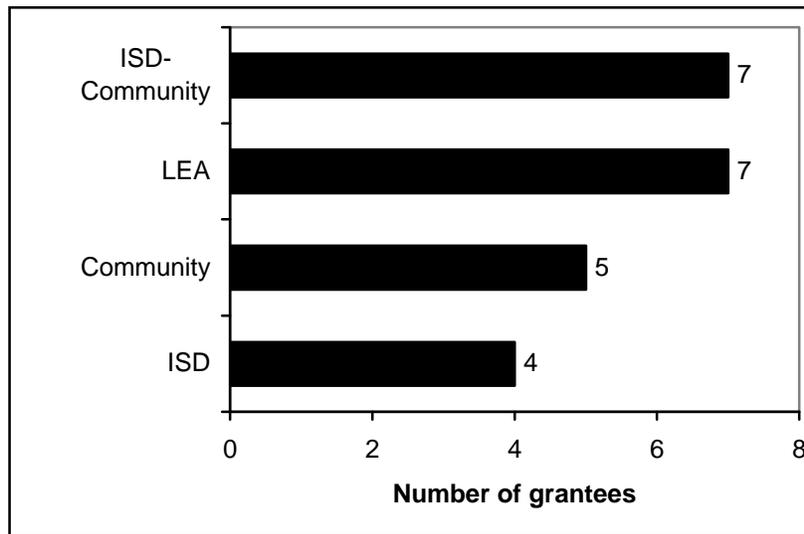
Although grants were awarded to ISDs, service delivery models varied across ISDs. In Report 2, programs were placed into one of four categories based on their organizational structure:

- Educational system-based
  - **ISD:** ISD as organizer, manager, and service provider
  - **Local Education Authority (LEA):** LEAs as primary service providers
- Community-based
  - **Community:** Community agencies as primary service providers
  - **ISD-Community:** ISD and community agencies as primary service providers

### *Number of Grantees by Service Delivery Model*

These categories provide the basis for discussions of service delivery model in the following sections. As shown in Figure 3, ISD-Community and LEA models were most common, and ISD models were least common.

**Figure 3**  
**Service Delivery Model by Number of Grantees**



Note. ISD = Intermediate School District; LEA = Local Education Authority.

### *Populations Available for Service*

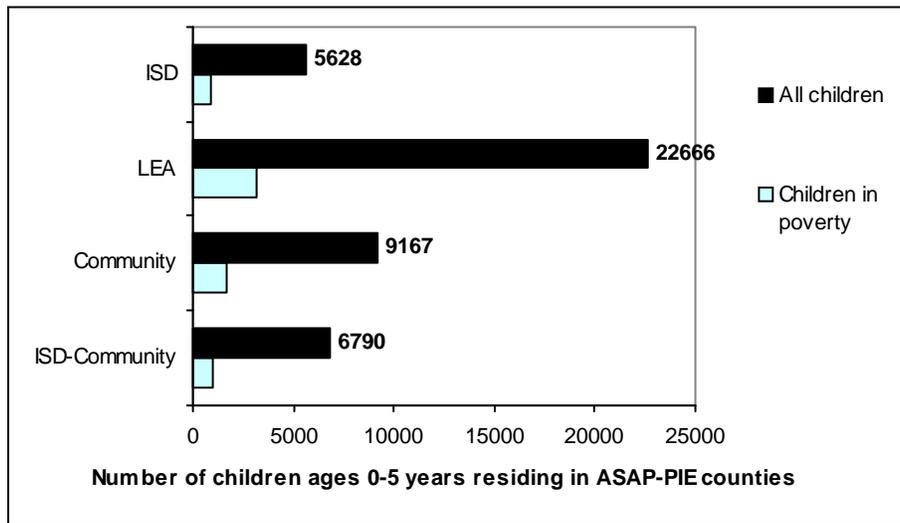
The four service delivery models differed by the size of the counties served by their grantees (Figure 4).

- The average population of young children of grantees utilizing LEA models was particularly large (22,666 children, in contrast to the service delivery model serving the next highest average population of children, the community model, which had an average of 9,167 children available per grantee).

- Far less difference was evident among the populations of children in poverty<sup>1</sup> available for the service delivery models. Although LEAs still had the highest average number of children in poverty available for service, the average percentage of children in poverty ranged from 14% to 19%, with community models having the highest percentage of children in poverty.

**Figure 4**  
**Average Population of Children Aged 0-5 in ASAP-PIE Counties by Service Delivery Model**

Note. ISD = Intermediate School District; LEA = Local Education Authority.



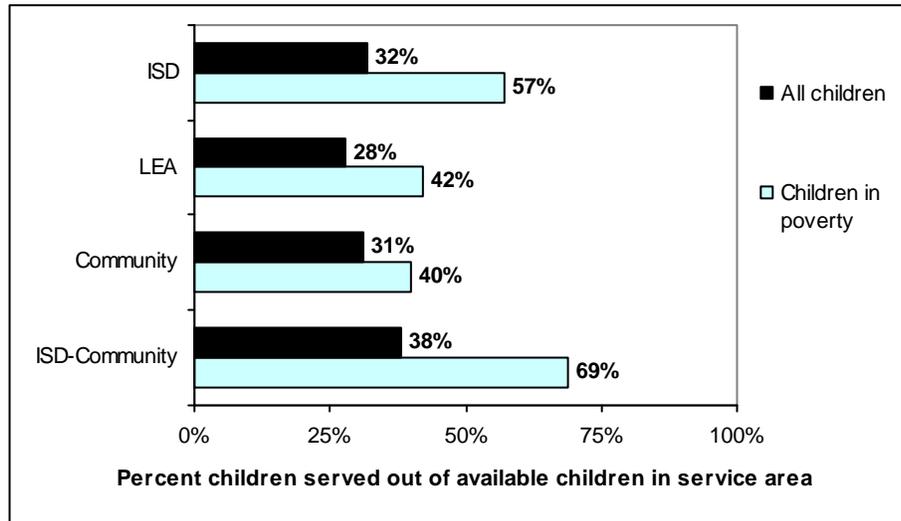
**Penetration Rates**

The four service models had similar penetration rates for their total populations of children, but differed in the percentage of local children in poverty served.

- As shown in Figure 5, different service delivery models served roughly a third (between 28% and 38%) of the children in their areas. The two ISD models provided some type of service to a slightly greater proportion of the children available. These two models also had the smallest populations of children in their counties.
- However, there were large differences in the average number of children in poverty served among the different models. Although all models provided services to a substantial proportion of poor children, the two ISD models served over half of the children in poverty in their communities (ISD-community model, 69%; ISD model, 57%), compared to the non-ISD models (community model, 40%; LEA model, 42%).

<sup>1</sup> Throughout this report, *children in poverty* will be represented in the data by children identified as eligible for TANF, which was required to be reported for ASAP-PIE enrollees. This is recognized to be an estimate for comparisons with county poverty data, which are based on census guidelines for income and family size.

**Figure 5**  
**Penetration Rates for Children Ages 0-5 by Service Delivery Model**



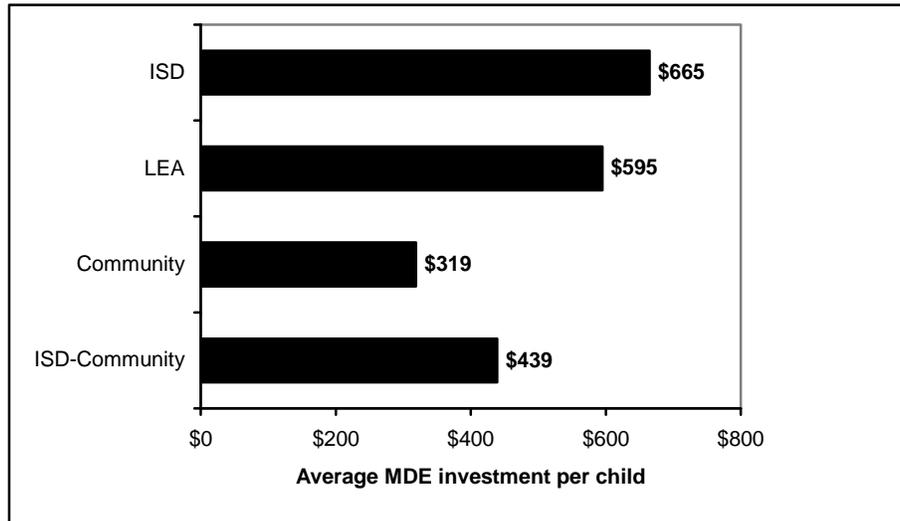
Note. ISD = Intermediate School District; LEA = Local Education Authority.

### ***Investments per Child***

Some grantees had not reported their expenditures of local match funds by the time of this report, which precluded analysis of total funds expended per child. Discussion of investments per child, therefore, focus on MDE funds. Investments per child varied among the four service delivery models (Figure 6).

- Across the four models, an average of \$319 to \$665 in MDE funds was invested per child.
- Grantees using community models invested the least and grantees using ISD models invested the most per child. Grantees from ISD-community and LEA models spent similar amounts per child from local sources; grantees from LEA models expended more MDE funds per child than those from ISD-community models.
- ISD-based grantees had the highest proportion of local funds, which appeared to enable them to invest greater amounts per child.

**Figure 6**  
**Average Spending per Child by Service Delivery Model**



Note. ISD = Intermediate School District; LEA = Local Education Authority; MDE = Michigan Department of Education.

## *Management<sup>2</sup>*

Good management facilitates program implementation and thus can have an influence on program effectiveness. However, management structures and processes varied from grantee to grantee. Many factors, such as previous history of collaborative relationships and the values and resources of the local community, entered into decisions about how programs were organized and staffed.

This section describes several components of quality program management, including the selection, training and supervision of staff, leadership structure and processes, internal and external communication, and use of data for continuous improvement.

### **Staffing and Staff Development**

Well-qualified staff who have access to initial training and ongoing staff development are an essential element of effective programming (Characteristics of Successful Schools, 2000). Evaluations of home visiting programs indicate that the qualifications and training of home visiting staff, as well as factors such as caseload size and quality of supervision, are indicators of effective programs (Tableman, 1999-2000).

Many of the ASAP-PIE grantees used the term “home visitor” to refer to all staff who worked with families and their children, regardless of whether they made home visits or conducted groups. In this discussion of staffing, we use the term “home visitor” when referring to any PIE staff that provided core services to children and families. Home visitors in the PIE programs worked in three service areas: home visiting, parent education groups, and parent-child play groups. We use the term “home visitor” specifically when referring to information obtained from the focus groups held with home visitors.

<sup>2</sup> Data for this section was derived from individual interviews with program administrators, focus groups of home visitors conducted in 2002, and the ASAP-PIE Year Two Narrative Check List Report completed by PIE administrators in July 2003.

### **Qualifications of Home visitors**

Program administrators were asked to indicate the educational level of home visitors in the following categories:

- *Paraprofessional:* Those with a high school diploma and/or an associate's degree.
- *College graduate:* Those with bachelor's degrees in general subject areas, such as social science, but without professional certification.
- *Master's degree or professional:* Those with master's degrees in education, social work or counseling or with bachelor's degrees and professional certification, such as a teaching certificate.

Most grantees used a combination of types of staff to deliver all services, and in many cases more than one agency delivered the services. Grantees varied in the ways they chose to staff their programs. The largest proportion of grantees used combinations of staff from all three educational levels to deliver home visiting (13 grantees), and parent group education or parent-child play groups (8 grantees). For the remaining grantees, there were no discernable patterns in the combinations of staff they used for delivering the core services. Without additional information we cannot interpret the staffing patterns of the grantees. However, staffing decisions could have been based on a number of considerations, such as the risk level of the families served, the staffing patterns of the agencies delivering the services, budgetary constraints, or the available pool of applicants for home visitor positions.

### **Training and Staff Development**

Of the 20 grantee administrators who discussed staff training with us in the summer of 2002, all had a plan for initial staff training, and 16 of the 20 said that the plan was fully implemented in program year 1. In addition, 21 grantees indicated that they also had plans in place for ongoing staff development, and by the end of program year 1, 17 of the 21 had fully implemented the staff development plan.

### **Frequency**

In July of 2003, at the end of program year two, grantee administrators reported on the frequency of training offered to staff over the duration of the program and the content areas that were covered. The majority of grantees (15) offered training to staff at least every month, and three grantees offered training at least quarterly. Five grantees indicated that there was no regular schedule for training; rather they were scheduled "as needed" or as opportunities became available.

### **Content**

Training on a wide variety of topics was offered by all 23 grantees. Every grantee reported offering training in the program curriculum (which, in the majority of cases, was Parents as Teachers, or PAT), child development, developmentally appropriate screening, and effective home visiting strategies. More than 90% also trained staff in health and nutrition, topics of interest to parents, interpersonal skills, and confidentiality procedures. In addition, 87% addressed cultural competency in their training plan. Other topics mentioned by one or more grantees included mental health issues, literacy, child management and discipline, violence prevention, staff safety issues, and procedural issues.

### **Home Visitors' Perceptions**

In the fall of 2002, focus groups of home visitors were asked to discuss their training experiences in the PIE program. In general, participants expressed satisfaction with the amount and quality of training they received. All reported receiving training on the program curriculum, usually PAT,

and many other subjects. Topics specifically mentioned by staff included infant mental health, administering screening tools, home visiting safety, child abuse/neglect recognition and reporting, and helping families with special needs. Several home visitors noted that PIE allowed them to take advantage of professional development opportunities that otherwise would not have been available to them. Some perceived that they had significant input regarding the type of training they received. On the other hand, not all participants felt adequately prepared by their training. Home visitors in one group felt unprepared to work with 3- to 5-year-old children, while others reported that their training in home visiting consisted of “shadowing” other home visitors, who, in the participants’ opinion, had not modeled a high-quality visit. Others felt inadequately prepared to work with special populations, such as grandparents and teen parents, or to deal with mental health issues. One visitor expressed confusion about her role in working with families with mental health issues, and another felt inadequately prepared to perform assessments.

Finally, home visitor safety was a concern for some home visitors. The issue involved both training and policy; in one case, home visitors were not allowed to do home visits in pairs, although they thought this would alleviate their safety concerns.

### ***Staff Supervision***

Regular supervision is one way to support good practice among front-line staff. In many cases, home visitor supervision was provided by more than one agency within each grantee. For most grantees (19), supervision was provided by the ISD and/or contracted partner agencies. Eleven had supervisors from the local school districts, and in four instances a contracted individual provided supervision.

### **Frequency**

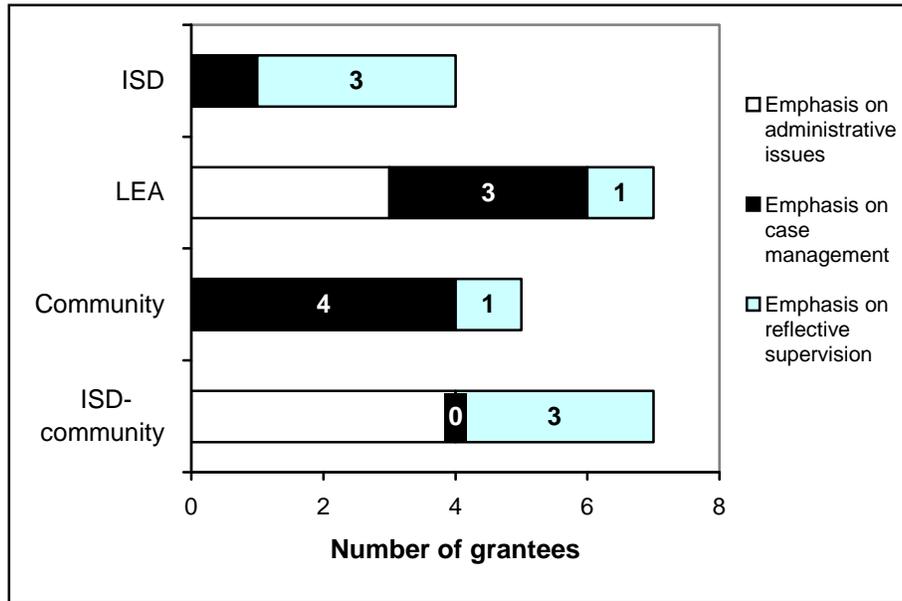
Administrators were asked to describe the type and frequency of supervision their staff received. In all cases home visitors received individual supervision, and 20 grantees also provided group supervision. According to grantee administrators, supervision schedules ranged from weekly to monthly. Most home visitors in focus groups reported having either weekly or biweekly meetings with supervisors and peers.

### **Focus of Supervision**

The quality and type of supervision can influence the effectiveness of home visitors. Reflective supervision, in which a staff member examines his/her thoughts, feelings, and responses to work with a parent and child(ren) with the guidance of an experienced professional, is thought to increase the effectiveness of home visitors’ services (Tableman, 1999-2000). Overall, grantee administrators reported that supervisors placed about equal emphasis in supervision on case management, reflective supervision, and administrative issues. Eight grantees reported spending the most amount of time on reflective supervision.

To examine whether the organizational structure that grantees used was related to the relative emphasis that they placed on each of the three supervisory areas, we examined which grantee types placed primary emphasis on administrative issues, case management, or reflective supervision. The results of this analysis are presented in Figure 7.

**Figure 7**  
**Focus of Supervision by Service Delivery Model**



Note. ISD = Intermediate School District; LEA = Local Education Authority.

Overall, about the same number of grantees placed primary emphasis on administrative issues, case management, or reflective supervision. However, there were differences in the primary focus of supervision by service delivery model. Reflective supervision was the primary emphasis for the majority of ISD-based programs and about just under half of ISD-community models. On the other hand, only one community-based model and one LEA-based model emphasized this approach. LEA-based models were equally likely to place primary emphasis on administrative issues or case management. Community-based models overwhelmingly placed primary emphasis on case management, and more than half of ISD-community combination models placed primary emphasis on administrative issues.

A number of plausible explanations could be proposed for these differences. Based on what we have learned about the grantees, ISD programs may have been more likely to use reflective supervision because of their previous history of managing programs for very young children and their parents. Most ISDs conduct the *Early On*® programs for children 0-3 years with special needs, and by law these programs are very much family-focused. LEA programs tended to target 3-5 year-old children with interventions focused more on helping children be prepared for school and less on promoting family change. Thus, reflective supervision emphasizing relationship building may not have been seen as critical for this group. Most of the community-based models placed primary emphasis on case management, possibly because their focus was on linking families to appropriate services within their community services network.

### **Supervision Quality**

Home visitors who participated in focus groups had diverse views on the utility and quality of supervision they received. They mentioned one of two supervision models: the ISD providing supervision to the entire home visiting staff, or contracted partner agencies providing supervision to their own staff. Some home visitors received supervision from two sources concurrently, and one group stated that they had three supervisors and were confused about the most appropriate line of communication for decision-making.

Home visitors were asked to assess the quality of supervision that they received. On the high-quality side, home visitors from several grantees reported that their supervisors would periodically observe home visits and provide reflective supervision based on the observed interactions. Some felt that supervisors were very supportive and would “drop anything” if staff needed consultation. In contrast, some home visitors reported rarely receiving any formal direction from their supervisors, others reported not being sure who their supervisors were, and a number felt that their supervisors were “unqualified” to provide supervision. In cases where supervision was perceived as less than ideal, staff developed alternative sources of support, such as peers in the program or other professionals in the community.

## Caseload Size

Caseload size and the number of other responsibilities assigned to direct service staff can influence their ability to provide effective services (Tableman, 1999-2000). According to administrators, the size of home visiting caseloads varied across grantees from 7 to 55, with an average of 26 per staff member. In addition, 93% of grantees said that home visitors were also responsible for running play groups. In home visitor focus groups, a few participants reported that large caseloads made them feel overwhelmed and unable to adequately complete their work. The pervasiveness of that feeling among home visitors is unclear.

## Leadership

High-quality, effective leadership is another element of good management (Characteristics of Successful Schools, 2000). Given the complexity of the ASAP-PIE program, a full-time coordinator and strong management structure were likely to enhance effective implementation. Seventy-four percent of grantees had a full-time coordinator for the program. In addition, a number of grantees had a management team made up of either several ISD administrators or a combination of ISD personnel and community partners. School participants on the management teams included *Early On*®, local school programs, Even Start, and other ISD programs. Many community partners were represented on the grantees’ management teams. Those most frequently mentioned included county health departments, Head Start/Early Head Start, agencies concerned with family issues such as Family Independence Agency, MSU Extension, and nonprofit child and family agencies, and Community Mental Health. Only one grantee reported having parents on the management team.

## Communication

Good communication is essential to successful program implementation and helps to build capacity to sustain programs over the long term (Pane, Mulligan, Ginsburg, & Lauland, 1999). Communication among program staff can help retain focus on the goals and objectives of the program, and communication with parents and community partners may assist in maintaining a sense of common purpose and vision.

### ***Communication with Staff***

Staff meetings are one important way in which internal communication occurs among program staff. Most programs reported having weekly, biweekly, or monthly staff meetings. One grantee reported there was no schedule for meetings but that they were called as needed.

### ***Communication with Partners***

Regular feedback to partners of information about program outputs and outcomes is one method of communication that keeps the group focused on program goals and informs them of progress to date. It also provides information to partners that is useful for improving program performance.

In July of 2003, administrators were asked about the types of program information they collected and the uses that they made of that information. Almost all grantees (21) reported information to their collaborative body about program enrollment, and most reported on the number and types of interagency referrals made (20) and child and family outcomes (19). Only nine grantees also reported on the disposition (results) of interagency referrals. They were much less likely to report information on client no-shows, cancellation rates, or participant dropout.

### ***Communication Through Documentation***

In addition, written documentation about programs can be used to communicate with both program staff and the community. Documents about program activities, structures, and processes, such as work plans, “logic models” linking program activities to outcomes, and flowcharts for families’ pathways through services, can help staff understand performance expectations and assist managers in monitoring progress. Documents can also be used to communicate with program partners, parents, and the larger community about program goals, objectives, and service delivery structures. Mission statements, client flow charts, and other documents can be used to communicate with the community at large and to garner support from funders.

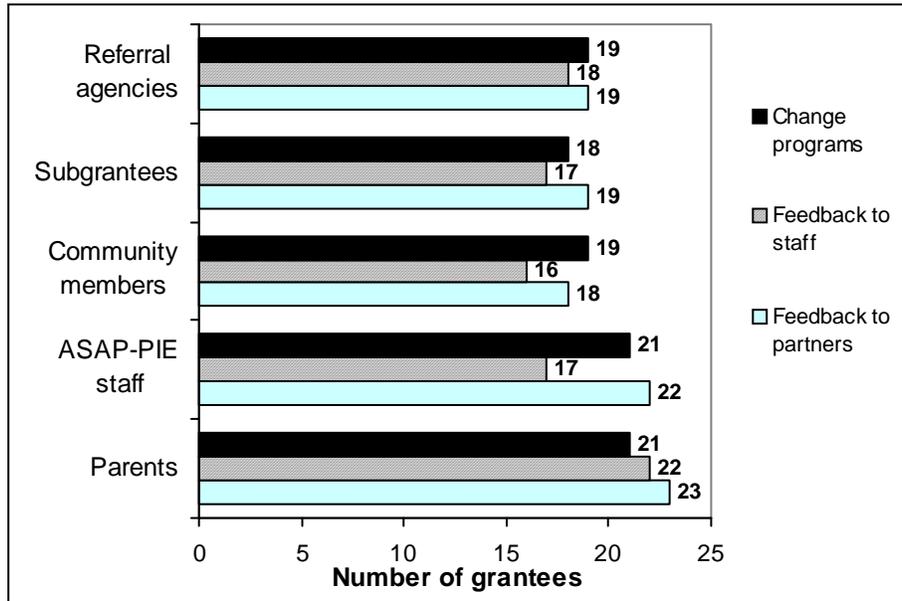
Over half of grantees (13) had a mission statement for the program, and 16 reported having a program logic model. The majority of grantees reported having a work plan (16) and organization chart (18), but only seven had a flowchart of services.

## **Using Information For Program Improvement**

One of the principles of continuous improvement is that information about program progress is gathered on an ongoing basis and used to inform various stakeholders (Pane et al., 1999). To improve performance, information can be used to assess program strengths and challenges and to make changes in areas where problems are identified. For some grantees, the local evaluation may have performed this function. In the narrative checklist, grantees were asked about the types of program information they used, the ways in which they used this information, and the stakeholders who gave input on program performance.

In a community-based program, involvement of various stakeholders in the evaluation and program improvement process is an important key to successful program implementation (Pane, et al., 1999). As shown in Figure 8, ASAP-PIE grantees gathered and used information from a variety of stakeholders. All grantees gathered information from parents and virtually all used this information to change or adapt programs. All but one grantee also collected and used input from staff; and most programs also used information from their collaborative partners, and from the community at large.

**Figure 8**  
**Sources of Input About the Program and Uses of Information**



Grantees were also asked about types of program data that were collected, and the uses made of this information. Table 1 summarizes this information from grantees. Enrollment data is important to program performance because it allows programs to measure their success in reaching their target populations. No/show cancellation rates and dropout rates are important in tracking the “dosage” (e.g., intensity and duration) of program services received, which is likely to have an impact on outcomes. These elements may also be indicators of participant satisfaction. Tracking the number, type, and disposition of interagency referrals allows grantees to assess the functioning of their community services network by giving information about the extent to which participants are getting to and using needed community services. Information about indicators of child and family outcomes will be the long-term measure of program success.

Programs were most likely to collect information on enrollment, interagency referrals and child and family outcomes. This information was frequently used for feedback internally to management and staff, and most also used information about enrollment and outcomes to change or adapt programs (18 and 19 grantees, respectively). Fewer grantees, but still a majority, collected and used information about no-show/cancellation rates, participant drop out and disposition of interagency referrals. Only 11 grantees used information about no/show or cancellation rates to adapt programs, but 14 used participant drop out rates for this purpose. Most grantees (19) collected information about disposition of interagency referrals and used it for feedback to staff, but only 13 used this information to make program adjustments.

**Table 1**  
**Uses of Program Data**

<i>Type of program data</i>	<i>USES OF PROGRAM DATA (NUMBER OF GRANTEES)</i>			
	<i>Feedback to:</i>		<i>Change or adapt program</i>	<i>Other Use<sup>b</sup></i>
	<i>Management</i>	<i>Staff</i>		
Enrollment	22	21	18	5
No show/cancellation rates	14	13	11	4
Participant dropout	16	13	14	4
Interagency referrals – number and type	22	21	15	4
Disposition of interagency referrals	16	19	13	3
Child and family outcomes	21	21	19	5
Other information <sup>a</sup>	4	3	3	1

<sup>a</sup>Other information: Outcomes of interagency collaboration; participant demographics; risk assessment, parenting skills assessment, intake and exit interviews, exit survey, annual satisfaction survey; website contacts.

<sup>b</sup>Other use: Measures of individual family and program progress; evaluation; PAT reports; outreach, outcome feedback to parents and local interagency coordinating council; feedback to referral sources.

## Summary

Although many aspects of program managements varied across grantees, a few general observations can be made:

- Most grantees used staff with varying combinations of education and training to deliver core services
- Grantees offered extensive training opportunities in a variety of programmatic areas
- Home visitors described their professional development experiences as rich and varied; however, some felt they were inadequately prepared in some areas
- Emphasis of supervision – reflective supervision, case management, or administrative issues–tended to vary by program structure
- Home visitors described diverse experiences in the quality of supervision they received
- Most home visitors had additional responsibilities (e.g., play groups)
- Most grantees collected data from participating parents and used it to adapt programs
- Grantees varied in the types of program information they collected and the ways they used the information

## ***Building and Maintaining a Community System of Care<sup>3</sup>***

In addition to changing outcomes for young children aged 0-5 receiving ASAP-PIE services, we suggest that the effectiveness of this initiative can also be gauged by the extent to which grantees moved toward a *community system of care*.

### **The Value of a Community System of Care**

Although the legislation and the request for proposals did not specify the development of a community system of care, all of the values of a community system of care were inherent in the requirements and in the way that grantees implemented them. These values include:

- **Collaboration.** There was a requirement for collaboration with respect to interagency planning, and a number of grantees made extensive efforts to involve a wide array of community agencies in planning and participation. In over half of the projects, the ASAP-PIE collaborative body also served that function for other 0-5 community initiatives.
- **Pooled resources.** Many of the grantees pooled resources by obtaining matching funds from community partners.
- **Inclusive services.** ASAP-PIE was inclusive, specifying the provision of services to all families who chose to participate.
- **Accessible services.** Grantees made services accessible by using neighborhood schools and other community locations as their primary service grantees.
- **Seamless service delivery.** The requirements for developing a community resource network and connections with quality preschool programs pointed in the direction of a seamless system of care with respect to referral interconnections and service transitions.
- **And...** According to service providers, services were designed to be **responsive, user-friendly, and strength-based**.

### **Grantees' Priorities**

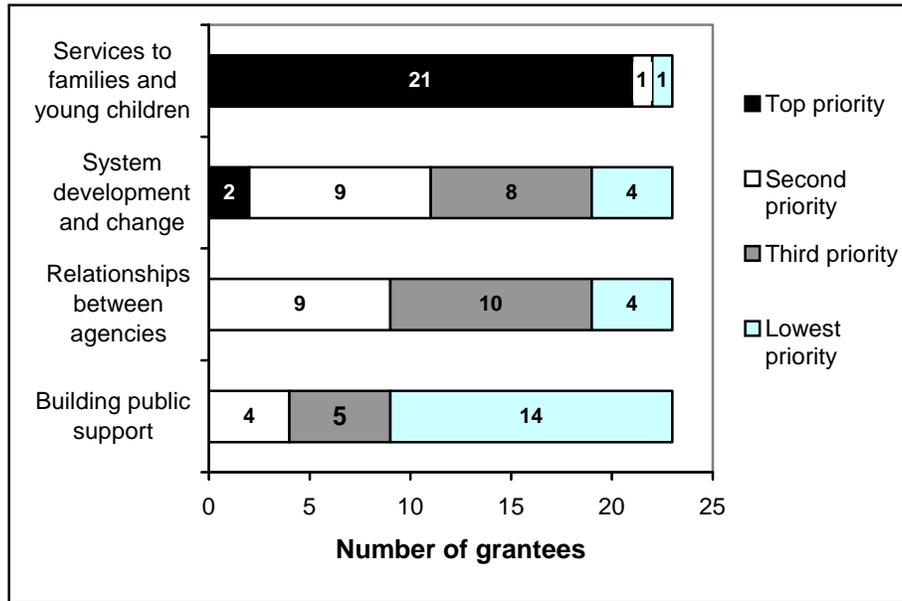
Grantees varied in their programming emphases, as shown in Figure 9. Some perceived the primary purpose of the initiative as providing specified services and supports for parents. However, many grantees reported a secondary emphasis on system development and change or building relationships between agencies, and two grantees indicated that their *primary* priority was on system development and change. As part of the system-oriented focus, grantees sought to:

- Establish or expand a systematic process for connecting with families of newborns (early identification)
- Develop interagency review committees to enable families to access the most appropriate service
- Develop smoothly functioning “no wrong door” and referral processes
- Facilitate smooth transitions to early childhood education and kindergarten
- Deliver cross-agency training to all home visit providers in the community

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<sup>3</sup> Three sources supplied data for this section: grantees' initial proposals, the FY 2001-02 Continuation Grant Applications to MDE and the ASAP-PIE Year Two Narrative Check List Report to MDE 7/15/03.

**Figure 9**  
**Program Emphasis by Service Delivery Model**



- Strengthen collaborative structures

## Effects in the Community

In the narrative checklist, grantees were asked what they felt their program had been able to accomplish through ASAP-PIE funding. As show in Table 2, nearly all grantees reported that the ASAP-PIE initiative had had a substantial impact, affecting a wide variety of areas, including improving services and educational connections, broadening awareness, and expanding the system of care. Just under half of the grantees noted that ASAP-PIE funds had impacted connections to elementary schools or impelled the care system to develop common forms, and 15 (65%) stated indicated that the initiative would have an extended effect on increasing funding for 0-5 services. Overall, grantees were strongly positive about the impact of ASAP-PIE on developing the care system.

Grantees using a community model were most likely to respond affirmatively that they had made an impact in each of these areas. Those using an LEA model were three times less likely to do so, suggesting a narrower interpretation of the intent of their ASAP-PIE initiative.

**Table 2**  
**Areas Impacted Through ASAP-PIE Funding**

<i>Focal Area</i>	<i>Specific Areas</i>	<i>Number of Grantees</i>
<b>IMPROVEMENTS IN SERVICES</b>		
Added service capacity	New services for families with young children	23
	Filled gaps in existing services	21
Expanded families' access	Expanded or improved information available on services	22
	Assisted families to locate services	21
	Facilitated transitions for families/children from one service to another	19
<b>IMPROVEMENTS IN CONNECTIONS TO EDUCATION</b>		
Facilitated transitions for families/children to educational programs	To preschool	21
	To kindergarten	19
Improved connections among families, service providers, and educational programs	Pre-schools	19
	Elementary schools	11
<b>IMPROVEMENTS IN SYSTEM OF CARE</b>		
Improved agency relationships	Among providers of 0-5 services	22
	ISD relationship with other agencies	21
Promoted a system of care	Began community systems change efforts to build a community system of care	19
	Provided a catalyst for working toward common intake or other forms	11
<b>IMPROVEMENTS IN FAMILY &amp; COMMUNITY AWARENESS</b>		
Promoted family activity	Helped families participate in a variety of activities with their children	23
	Helped families connect with other families	23
Improved community awareness and support	Improved community awareness of the importance of 0-5 services	23
	Increased financial support for 0-5 services	15

Source: ASAP-PIE Year Two Narrative Check List Report to Michigan Department of Education (July 15, 2003).

## **Sustaining the Achievements**

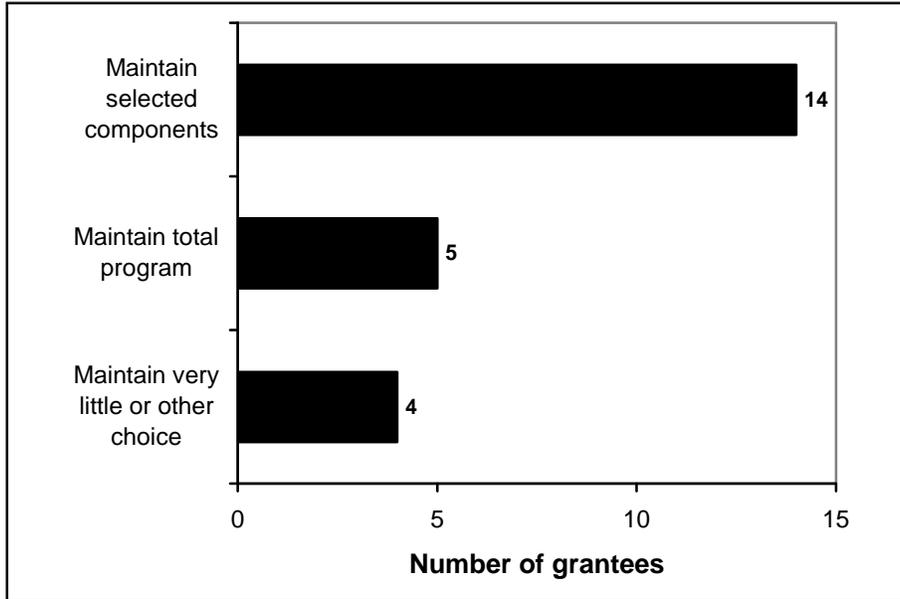
### ***Maintaining the Effort***

Grantees had been aware since their initial year that the third year of funding would not be forthcoming. This knowledge put pressure on grantees to identify pathways to sustainability early on and affected the ways in which they implemented their programs.

### **Maintaining Services**

In summer 2003 grantees reported the choices they have made regarding the maintenance of their ASAP-PIE efforts. As shown in Figure 10, most grantees indicated that they would be continuing to provide selected service components, and five (22%) expected to be able to continue the total program for a period.

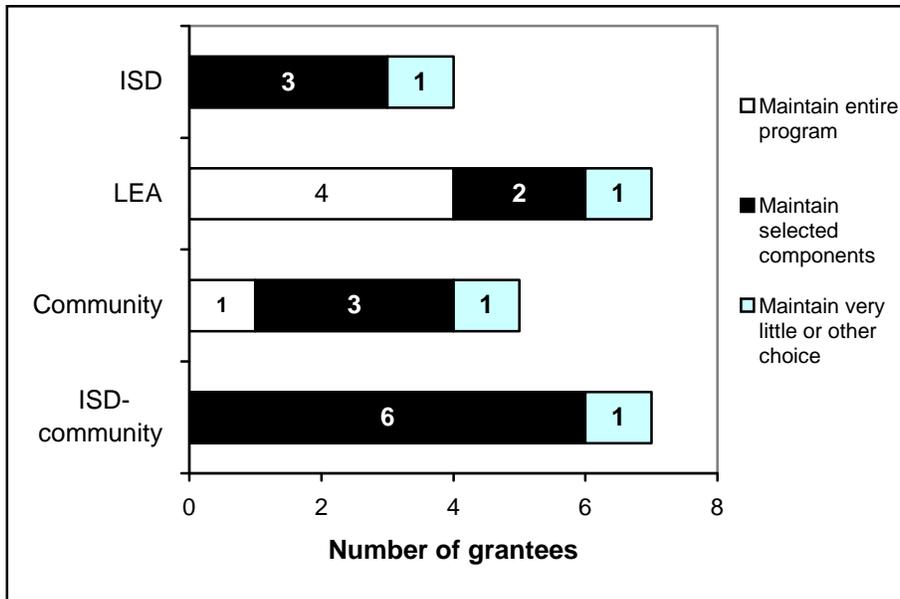
**Figure 10**  
**Maintenance of Program After End of Funding**



Note: The *very little* and *some other choice* options were combined based on the similarity of the comments made by the four grantees selecting these choices.

It also appears that among the four organizational types, grantees using the LEA organizational model were the most likely to continue their entire program (Figure 11).

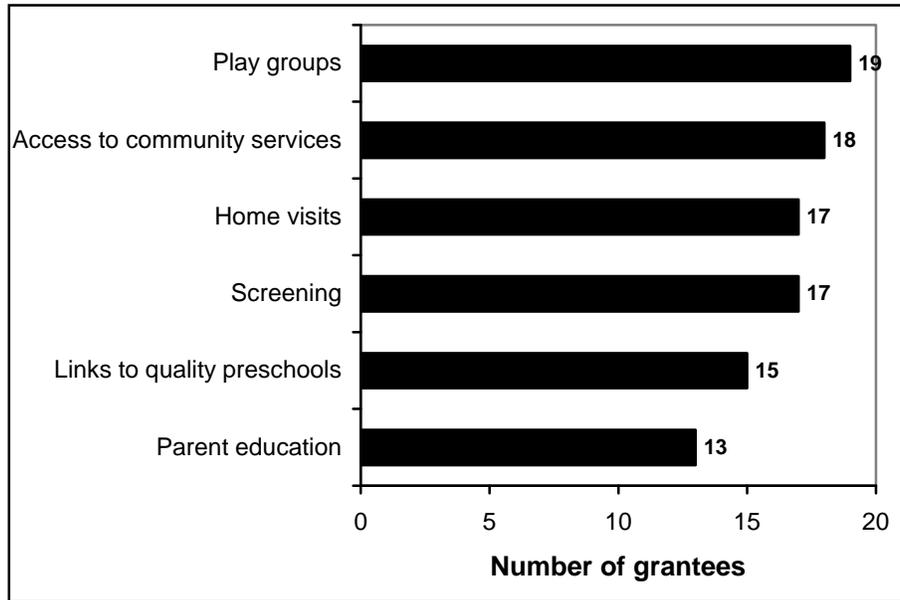
**Figure 11**  
**Maintenance of Program by Service Delivery Model**



Note. ISD = Intermediate School District; LEA = Local Education Authority.

Figure 12 shows the number of grantees planning to maintain the various service components. Most grantees planned to continue play groups; and, to a lesser extent, most also proposed to provide access to community services, home visits and screenings. While approximately two thirds of the grantees expect to continue their programming to link with quality preschools, these linkages are likely to be maintained largely by their community partners, as described in section 3 of this report. As discussed in Report 2, parent education, excluding parent-child play groups, was the least well-developed component in the ASAP-PIE program and was the least likely to be continued.

**Figure 12**  
**Service Components to be Maintained**



### Carryover Funds and End Dates

In the Narrative Checklist, grantees not only provided projections on the amount and array of services to be maintained but also gave estimates of their carryover funds and predicted end dates. MDE also provided information it received from grantees on the amount of MDE funds and total funds (both MDE and local match funds) that were unexpended as of June 30, 2003 and the predicted end dates. For 17 of the 23 grantees (74%), there were no substantial differences in both the amount of funds carried forward and the end date proposed between these two sources. For an additional four grantees, the differences reported by MDE were larger, i.e., more funds or more funds and longer service periods. We expect that this can only work to the benefit of children and families in their communities. However, for two grantees, the situation was reversed. Based on the MDE information, these grantees expected to end their programs in June 2003, one or two years earlier than they had predicted in the Narrative Checklist. The early end dates were accompanied by a substantial reduction in funds for one and the complete expenditure of funds by the other grantee. We expect that each of these grantees had to make drastic changes in their plans, especially the grantee that planned to continue all of its services, and therefore we have omitted them from the following analyses.

Two of the three grantees with the most money available (70%-87% of their original grant funds) plan to continue all of their services and two plan their end date to be June 30, 2005. The one other grantee who plans to provide all of its ASAP-PIE-funded services through June 30, 2005

reported raising additional funds to supplement the approximately 50% it carried forward. (The final grantee who planned to continue all services did anticipate expending all funds by June 30, 2003, but had raised additional funds from unspecified sources.) The grantees predicting to offer services through June 30, 2004 end date averaged 34% of their original grant funds; the range was 18%-50%. There was no difference between the grantees who were maintaining some versus very little of their program based on the amount of money they were carrying forward. There was a small difference between these two groups in their reported success at fund raising: 36% of those continuing selected components of their programs had garnered additional funds compared to 25% of those continuing very little of their program. It is not surprising that the three grantees with the least amount of funds (10% or less) anticipated their end date to be summer 2003.

### **Additional Funding Sources**

Grantees provided information on commitments they had as of July 15, 2003 for continuation funding. The nine grantees with additional funding reported diverse sources of financial support. Five report receiving additional funds from their ISD and/or LEA. The local funding partner for one grantee includes the United Way and for another two county health departments. Two grantees reported that state dollars had been received from Children's Trust Fund, FIA and 0-3 Secondary Prevention funds. One grantee reports having received funds from a national foundation and the U.S. Department of Education, and another has received a grant from the U.S. Department of Health and Human Services. In addition, at least three of the grantees have submitted grants for additional funds.

### ***Sustaining the Impact***

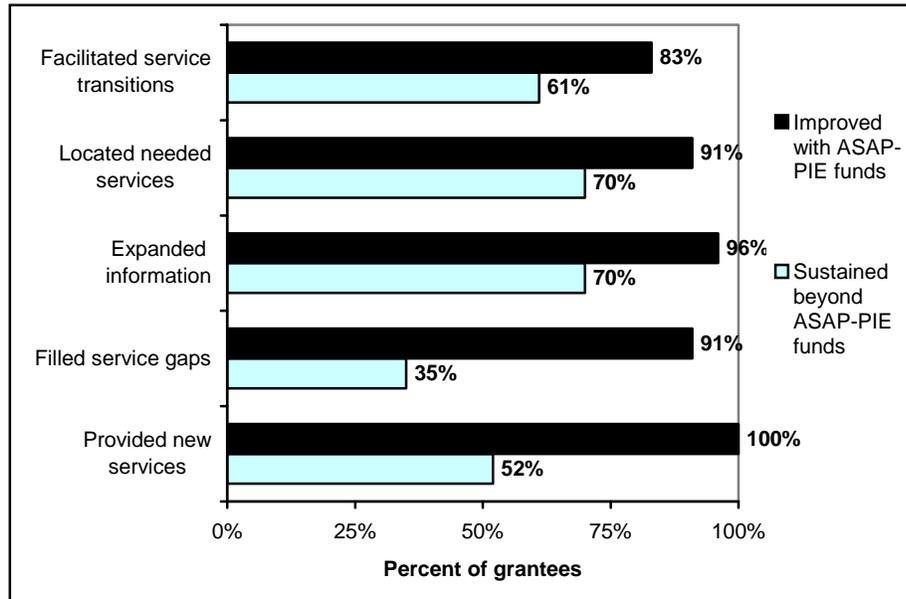
With the loss of ASAP-PIE funds to support their efforts and the low level of commitment for continuing funds, it is not surprising that grantees were less optimistic about their ability to *sustain* the impacts achieved as a result of ASAP-PIE programming. We discuss the maintenance of the impacts in four improvement categories: Service, connections to education, the system of care, and community awareness. The promotion of family activities has been omitted; although we see this as an important by-product of the other impacts, it was not a target of the ASAP-PIE legislation. In Figures 13-16, the total represents improvements achieved with full ASAP-PIE funding compared to the program components grantees expected to maintain beyond their ASAP-PIE funds.

### **Improvements in Services**

Service improvements, including both added capacity and access, are generally reduced with the loss of funds. Figure 13 shows that slightly over half of the grantees planned to sustain the new services added compared to one third who planned to sustain their expanded services. New services were often those added to the educational system (LEA/ISD), such as home visitors. The services already being delivered in the community, and thus available to be expanded, were usually those provided by community partners.

The largest proportion of grantees expected to sustain improvements in information for families and service transitions. With regard to all service improvements, those grantees that had a secondary emphasis on systems development and change (recall that almost all had a primary emphasis on services to families with young children) were more likely than their colleagues to anticipate sustaining these impacts.

**Figure 13**  
**Expected Sustainability of Service Improvements**



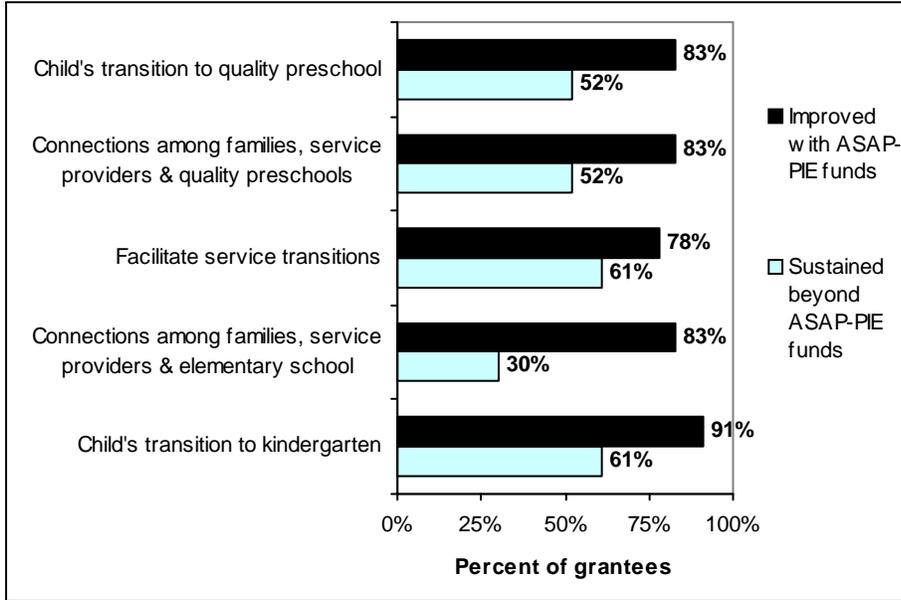
### **Improvements in Educational Transitions**

Efforts directed toward educational transitions and interconnections were among the least likely to be sustained after the end of ASAP-PIE funds. Approximately half of the grantees expected to continue their efforts to help families and their preschool children make an easier transition to quality preschool and to continue to work toward improving connections among quality preschools, families and service providers (see Figure 14). Interestingly, whereas grantees using an LEA model were most likely to anticipate continued interconnections among elementary schools, their families, and other service providers, those grantees utilizing community or ISD-community models were most likely to plan to smooth incoming kindergarten students' transition to elementary school.

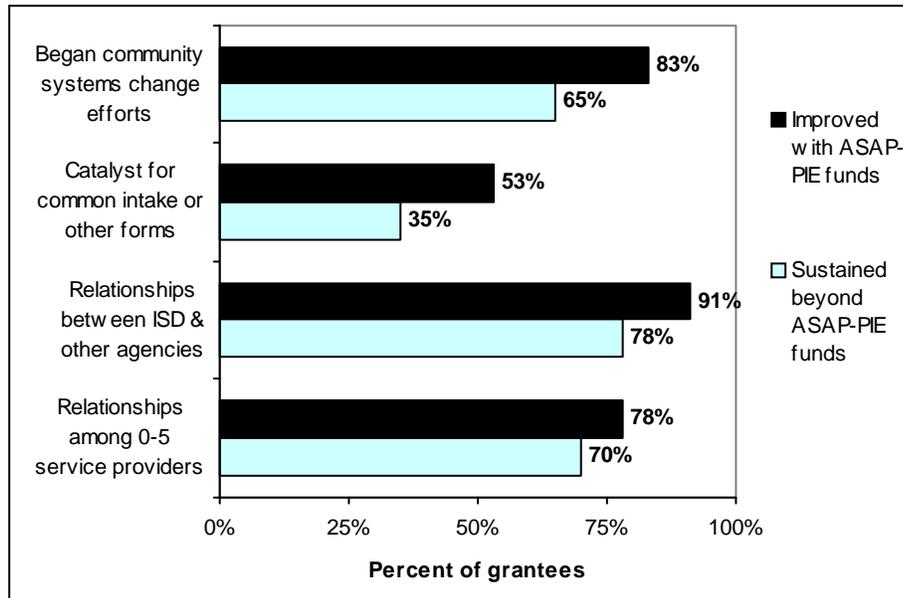
### **Improvements in Community System of Care**

Improved agency relationships can be considered a component of the collaboration necessary to build a community system of care. Trust is an important building block for interagency relationships, and grantees reported a shift in the amount of trust among members over the course of their ASAP-PIE experiences. At the beginning of the initiatives, 65% reported low or variable trust among members and the balance (35%) reported a high level of trust. At the "current time," as of June 2003, the level of trust had reversed: 74% reported a high level of trust among members and the balance (26%) reported variable trust. Improved relationships among the 0-5 service providers and between the ISD and other service providers were expected to be sustained beyond the ASAP-PIE funds (see Figure 15). Two thirds of the grantees also expected to maintain the systems change efforts they had begun. Somewhat surprisingly, neither organizational type (e.g., ISD-community model) nor program emphasis (e.g., systems change) was associated with this expectation.

**Figure 14**  
**Expected Sustainability of Improvements in Educational Transitions**



**Figure 15**  
**Expected Sustainability of Improvements in Community System of Care**

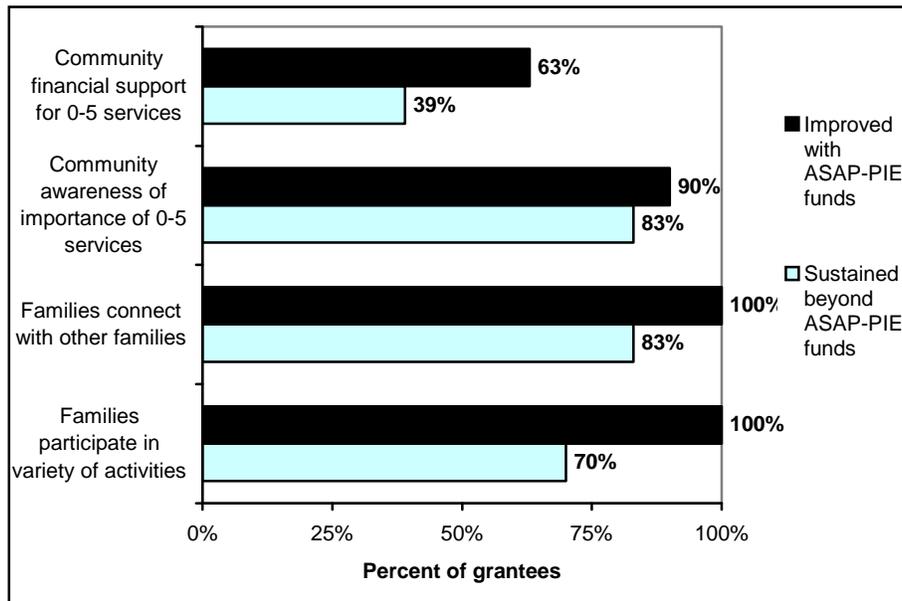


Note. ISD = Intermediate School District.

**Improvements in Family and Community Awareness**

All of the grantees felt that they had helped families participate in a greater variety of activities and connect with other families and that they had an impact on their communities’ awareness of the importance of 0-5 services (Figure 16). Most of the grantees expected to continue having these impacts. Similarly, most of the grantees that worked toward increasing their community’s financial support are continuing to do so.

**Figure 16  
Improvements in Family and Community Awareness**



Finally, it is somewhat surprising that none of these four categories of improvements (in services, connections to education, system of care or family and community awareness) were associated with the extent to which grantees anticipated maintaining their initiatives. That is, grantees who expected to maintain all of their programs were no more likely to expect to sustain system of care improvements, for example, than were those who planned to maintain selected components of their initiatives. We expect that this is due to the fact that grantees’ initiatives varied widely and the categories that grantees were asked to assess were broad, obscuring differences that may actually exist.

## ***Descriptions of Selected ASAP-PIE Programs***

During this and previous reports, we have described various approaches to and components of 0-5 service development under ASAP-PIE. This section provides a more holistic view of the varying approaches by presenting vignettes of seven grantees: two with community-centered approaches and two with education-based approaches (one through the ISD, two through ISD-community models, and two through the Local Education Authority (LEA)). **No approach is recommended over another; all 23 grantees had unique characteristics, strengths, and weaknesses, and all designed their programs to fit the context of their specific community.** The illustrations presented here may enable insight into particular ways of organizing services or a system of care for children aged 0-5 based on a community's needs: Particular objectives, history of service collaboration, geographic composition, or ethnic makeup.

Information has not been included on screening, promotion of quality preschool, and referral components. Figures on ages served should be compared to what would be expected (i.e., if the distribution of the ages of children served reflected the general population, 20% would be ages 0-1 year; 40% would be ages 1-3 years; and 40% would be ages 3-5). Although each grantee used its own definition of "children served," penetration rates presented here represent a consistent unduplicated count of home visiting, parent education groups, parent-child play groups, screening, or referrals. Grantees' are identified through code letters only.

### **Community-Centered Approaches**

#### ***Community-Centered Approach 1: Grantee AA***

In implementing the ASAP-PIE program, Grantee AA, in essence, created a virtual organization. Where other grantees took ASAP-PIE dollars and created new services, Grantee AA sought to create a "community-based early childhood system" involving service coordination of providers and, most importantly a systemic, strategic culture change supporting 0-5 services throughout the community. The community-centered approach of Grantee AA approach was possible because of the prior experience with collaboration and concern for 0-5 services through the multi-purpose collaborative body.

On the surface, the structure used by Grantee AA may seem similar to other community-centered ASAP-PIE programs. The ISD provided some services and disseminated grant money to community agencies for other core services. For Grantee AA, a wide range of partner agencies and community organizations participated in the collaborative committee structure.

Inherent in Grantee AA's collaborative plan was an attempt to change the beliefs and attitudes of the community regarding early childhood services. The creation of the early childhood system required a common understanding among partners about their roles in an early childhood system as well as community support for effective policy and strength-based practice that promote childhood development. This culture shift not only ensured the creation of a true county-wide early childhood system, but helped promote program sustainability over time. One of the last efforts under the ASAP-PIE grant was the organization of a community mobilization cadre.

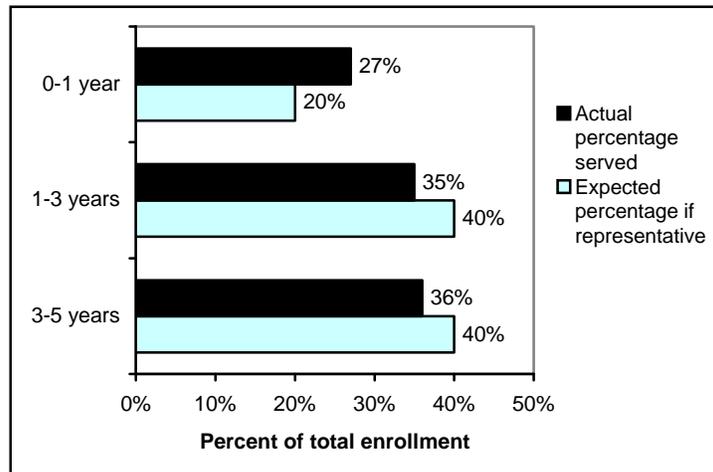
In order to further facilitate community agency collaboration, Grantee AA used ASAP-PIE money to provide (as of July 2002) 12 mini-grants to community agencies involved in early childhood services. These grants were used to fund service components, such as an early literacy program for families.

Collaboration included creating a “no wrong door” system, in which families could enter the Grantee AA service network via any partner agency and get connected with appropriate services. Families could request particular services either at initial enrollment or at any time during their program involvement. Family requests were considered a priority, although Grantee AA staff engaged in some assessment of family need when facilitating referrals and a review committee assigned families to the appropriate home visiting service.

Unique to this grantee were community developers attached to each school district who facilitated connections with families and the mobilization of resources.

Grantee AA officially enrolled children receiving a service in all categories (e.g., home visits, visits to newborns, playgroups, screening, referral to other agencies, and newsletter) except one-time events. Of the children 0-5 years of age in the ISD area, Grantee AA served 63 percent by the end of year 2. Grantee AA served a slightly higher proportion of children 0-3 than would be expected (see Figure 17), but service rates were fairly representative of the proportion of children in each age group.

**Figure 17**  
**Age Emphasis for Grantee AA**



In line with its emphasis on community systems, Grantee AA was one of the few grantees that felt an impact had been made on working toward common forms. Grantee AA planned to sustain services with carryover funds, but had no immediate plans for other sources of funding.

**Community-Centered Approach 2: Grantee BB**

Grantee BB’s ASAP-PIE program used a community-based approach in which the ISD contracted with community agencies to provide many services. Grantee BB evolved from a previously developed 0-3 plan.

Grantee BB had clear pathways through which families entered the community system of care and a stratification of services by family need. Grantee BB had a fully articulated process for screening families of newborns in the hospital through use of the Borgess Interaction Assessment. Families with older infants, toddlers, and preschool children accessed Grantee BB services through a toll-free 211 Information and Referral Office (I & R) and physician referral.

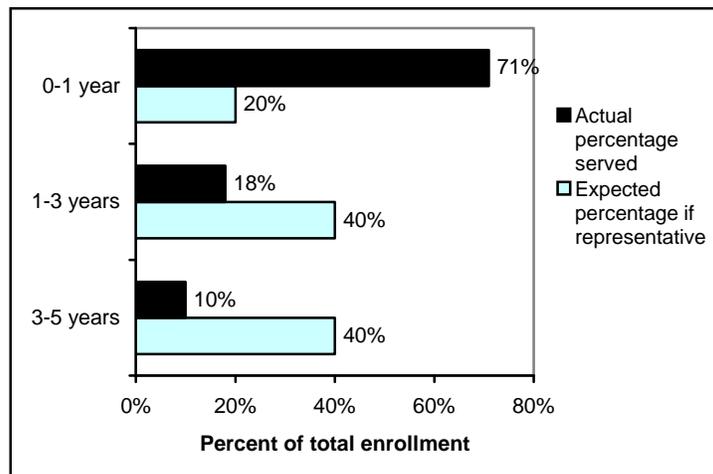
Grantee BB did not offer identical service packages to every family, dividing services into three separate levels on the basis of family need.

- Families assessed as low risk were assigned to Level 1 and provided with Information and Referral services, including information about community activities, educational materials, and professionally trained staff who could answer questions about child development or provide referrals.
- Families who needed more than information and materials but who did not qualify for existing programs with eligibility criteria, such as Early On, were offered Level 2 services, which included home visits, parent education groups, parent-child play groups, screenings, referrals and help with transition to preschool.
- High-risk families that met the eligibility criteria for existing home visiting services were assigned to Level 3 and offered services. A review committee of service providers determined which home visiting service was most appropriate.

School Readiness Service teams, composed of two to three early childhood specialists who were employees of a child and family services agency, were assigned to each of five geographic areas covering the county to provide Level 2 services. The teams were supplemented by a Health Department nurse and an intake specialist. Home visitors were trained in both *Parents as Teachers* and *Building Strong Families*. ASAP-PIE funds also expanded two existing services to provide an additional infant mental health specialist not limited by income and diagnostic eligibility criteria and a home visitor at Early Head Start focused on fathering.

Grantee BB officially enrolled children participating in home visits, visits to newborns, and screening. Grantee BB had a penetration rate of 22 percent, characteristic of a number of grantees. An early analysis indicated 65 percent of families served were classified as Level 1, 32 percent as Level 2, and 3 percent as Level 3. Grantee BB focused its efforts on serving the youngest age group (Figure 18).

**Figure 18**  
**Age Emphasis for Grantee BB**



Grantee BB obtained foundation funding as cash match. Grantee BB expected to sustain additions to existing services but not new services and reported no additional sources to sustain services beyond carryover funds

## Education Centered Approaches

### ***Education-Centered Approach 1—ISD: Grantee CC***

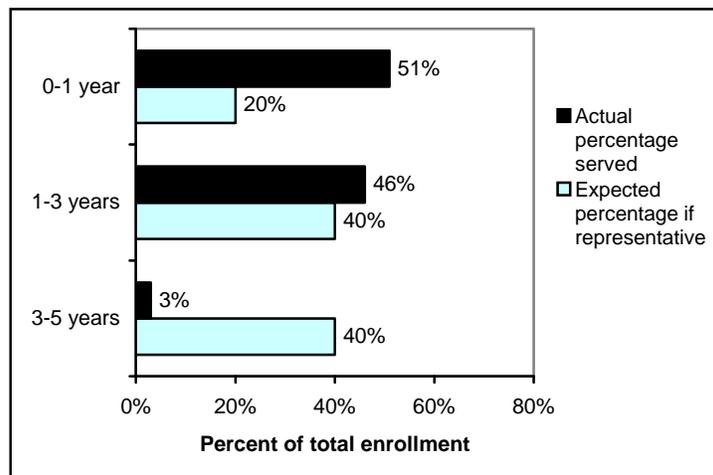
Grantee CC had the advantage of a previously existing *Parents as Teachers* program which was expanded with ASAP-PIE dollars. As a result, this grantee started out with a fully functioning management structure, including a hiring process that emphasized key skills and characteristics, intake and risk assessment procedures, an extensive data system, a training and supervision model, and continuing plans for refining evaluation of outcomes.

Although the ISD employed all staff, home visitors were located in each of the elementary schools, and two were located at the FIA office. In addition, Grantee CC employed a speech therapist, an infant mental health specialist, and a father’s advocate. The ISD utilized the expertise of outside agencies to supervise the latter two employees. Home visitors were cross-trained in *Healthy Families America*.

One of the strengths of Grantee CC was the clear focus on preparing young children for school. Assigning families to three service levels based on risk assessment scores and providing for one, two, or four home visits per month, Grantee CC concentrated on serving the families of children who would be most at risk for problems in school. Fifty-eight percent of the children enrolled in Grantee CC were assessed at program entry as being at risk for educational failure. Grantee CC sought to prepare children for school by helping parents develop attitudes and behaviors that are conducive to their children’s educational success. Playgroups had a clear agenda focused on literacy.

Children were enrolled in Grantee CC if they had home visits; additional services were layered onto the children receiving home visits, and only families participating in home visits received additional services. In keeping with their philosophy focusing intensive services for high-risk families, Grantee CC had a 14 percent penetration rate. Grantee CC focused on children in the 0-1 and 1-3 year age group (Figure 19).

**Figure 19  
Age Emphasis for Grantee CC**



Grantee CC provided an education-based service and did not perceive any impact on transitions for families between services, common forms, or community financial support for 0-5 services. Although Grantee CC had commitments from local school districts, FIA, and a 0-3 secondary

prevention grant, staff were pessimistic about the capacity to sustain this carefully developed program.

**Education-Centered Approach 2—ISD/Community Centered: Grantee DD**

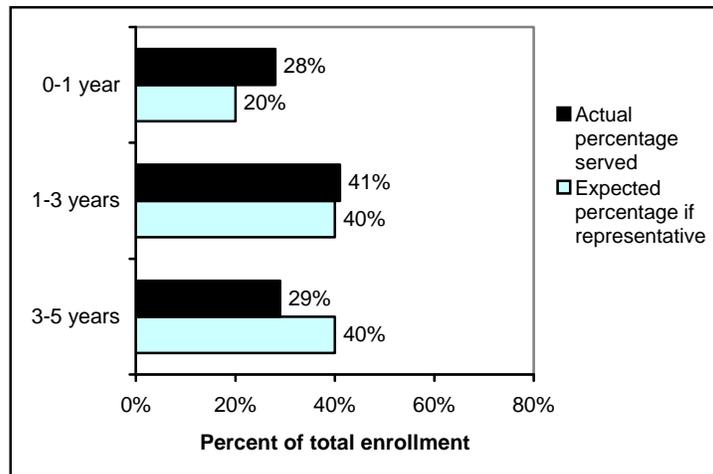
Grantee DD’s ASAP-PIE program was jointly managed by the ISD and community partners. ASAP-PIE services were provided by the ISD, two district health departments, and two county MSU Extension Offices. The ISD, in cooperation with the Interagency Coordinating Council (ICC) and the three area Multi-Purpose Collaborative Bodies (MPCBs), convened a workgroup to develop the initial community plan for 0-5. Both the ICC and the MPCBs continued to be active in promoting collaboration after the end of ASAP-PIE funding.

All newborns in the regional area were visited by health department nurses under health department funding and were offered a second home visit funded by ASAP-PIE. Grantee DD offered a toll-free number that families could call for information, referral and enrollment.

Grantee DD utilized both the *Parents as Teachers* model for home visiting as well as *Building Strong Families*. Participating families were able to choose which program they would like to receive and were sometimes served by both, depending on whether home visitors felt that the family could benefit from both models. Grantee DD initially incorporated existing components—a *Building Strong Families* and a *Healthy Families America* program in one county and region-wide infant mental health services—that were terminated as a result of state funding cutbacks.

Grantee DD officially enrolled children receiving home visits, visits to newborns, playgroups, screening, referrals, and newsletters and estimated participants in one-time events. When constrained to the first five components, Grantee DD had a penetration rate of 21 percent. Grantee DD served a relatively proportionate number of children from each age group, with a slight overemphasis on the youngest children and a slight underemphasis on preschool-aged children (Figure 20).

**Figure 20  
Age Emphasis for Grantee DD**



Grantee DD was one of four grantees that perceived no impact on systems change efforts to build a community system of care. Grantee DD expected to sustain activities through funding from the ISD.

### ***Education-Centered Approach 3—ISD/Community Centered (Grantee EE)***

In Grantee EE's initiative, the ISD, local schools, Community Mental Health, Community Health Agency, and Early Head Start shared responsibility for providing ASAP-PIE services. .

The ISD employed two full-time assessment workers and the program coordinator. An infant mental health specialist was employed by Community Mental Health. Four full-time Parent Support Workers who ran playgroups and parent education groups were employed by the local schools. The Community Health Agency employed a part-time supervisor and four full-time home visitors (three professionals, one paraprofessional) who used *Healthy Families America* and *Parents as Teachers* models. A fatherhood specialist was assigned to Early Head Start.

The *Healthy Families America* screening instrument was used at local and regional maternity units to determine whether families would be offered universal or at-risk services. Families who were determined to be low risk received a Welcome Baby visit from Community Council volunteers. High-risk families received a visit for assessment from a Family Assessment Worker. Grantee EE also recruited through quarterly community birthday parties and through a "No Wrong Door" approach for families' entry into the service system, as well as through physician or agency referral. An Early Childhood Review Team of service providers processed the assignments of families.

Parent education groups utilized two parenting curricula in response to the diverse population of the county: *AVANCE*, a program for parents of Hispanic background, and *Effective Black Parenting*, which focused on parents of African American ethnicity.

Previously developed common forms—a countywide referral form, release of information form, and family plan of service—were implemented for use across participating agencies. The ASAP-PIE grantee and the Human Services Commission adopted outcome indicators.

Grantee EE counted enrollees as children who participated in home visits, visits to newborns, playgroups, one-time events, screening, and referrals, and had a penetration rate of a remarkable 71 percent. Grantee EE served a less-than-expected proportion of 1-3 year olds (Figure 21).

Increased financial support for 0-5 services was the one impact that Grantee EE did not report. Grantee EE expected to sustain some services but identified no sources of funding.

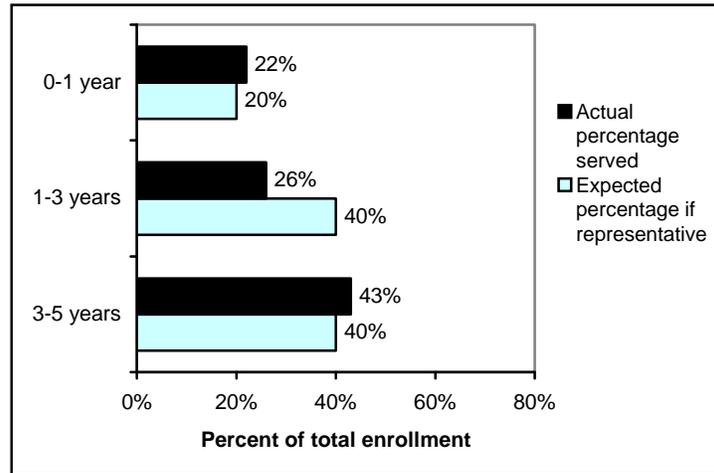
### ***Education Centered Approach 4--Local Education Authority (LEA): Grantee FF***

Grantee FF's program was an example of a fully collaborative approach in which the ASAP-PIE initiative evolved from the prior work of the multi-purpose collaborative body and a multi-agency team wrote the application and participated in interviewing applicants for staff positions.

Grantee FF's services were delivered by 12 full-time home visitors who had offices located in elementary schools in the four local school districts. Elementary school liaisons, such as school counselors, social workers, or nurses, provided support to home visitors and linked school staff to resources.

Grantee FF had several unique features that reflected the interweaving of community resources. A public health nurse served as liaison with visiting nurses at 11 out-of-county hospitals where all county births occurred. Contracts between Grantee FF and the hospitals provided for three postpartum visits. Group meetings for teen parents were available at the alternative school, and

**Figure 21**  
**Age Emphasis for Grantee EE**



teen parents could participate in an Individual Development Account as part of an incentive program for attending parent group meetings.

Grantee FF used an assets-based approach in services and in data collection instruments. Home visitors were cross-trained in four different models of home visiting to meet the needs for families with different levels of risk. An “Information-Based Approach” (*Parents as Teachers* and *Building Strong Families*) was used with low-risk families, who comprised an estimated 80 percent of families. A “Supportive, Relationship-Based Approach” (*Healthy Families America*) was used with families who had higher risks and complex life issues. These families comprised an estimated 17-19 percent of the population. Finally a “Behavior-Based Approach” (*Families First*) was used with resistant, young or inexperienced, and/or cognitively limited parents, who comprised about 1-3 percent of the population. The family’s level of need determined the frequency of visits, ranging from weekly to monthly.

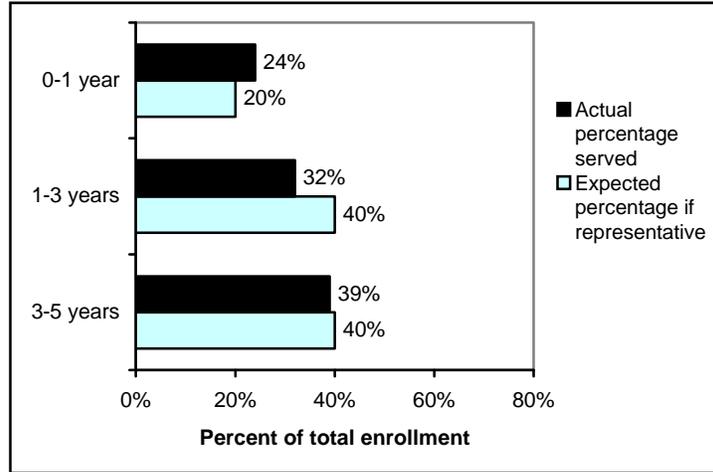
Grantee FF officially enrolled children served by ASAP-PIE in all service categories, provided an enrollment slip was completed. In Year 1, Grantee FF served 31 percent of the children aged 0-5 in the ISD area. The ages of the children served were generally proportionate to what would be expected, with a slight underemphasis in the 1-3 years age group (Figure 22).

Grantee FF reported impacts on all areas asked about and expected to maintain ASAP-PIE services through resources from a recently received federal grant.

**Education-Centered Approach 5--Local Education Authority (LEA): Grantee GG**

Grantee GG served a large county population through decentralized service with centralized policy and supports, including a data system that followed up on the results of referrals. Grantee GG operated through the 10 school districts in the ISD, with coordinators given the flexibility to develop community-appropriate recruitment approaches, targeted services, and community relationships. As a result, the ASAP-PIE program varied considerably across districts. Depending on the district, special playgroups were developed for teen parents, deaf children, Hispanic families, or therapeutic swim times. Some grantees included speech and language consultants. Centralized oversight having been established for the ISD’s early childhood programs,

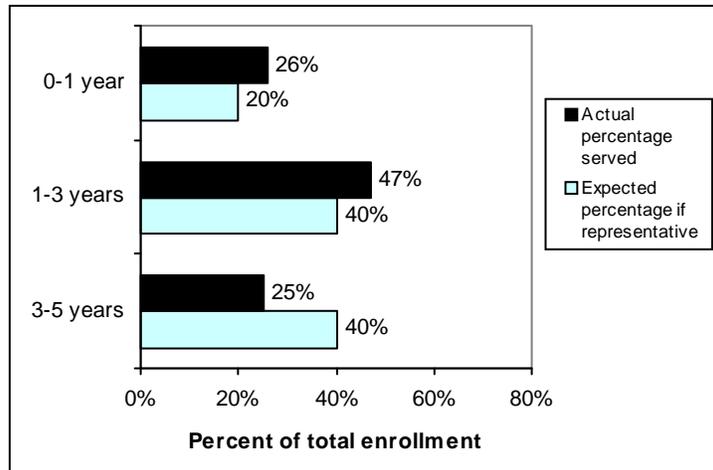
**Figure 22**  
**Age Emphasis for Grantee FF**



playgroups for Early On® and ASAP-PIE were combined. Three bilingual home visitors were available for Hispanic, Asian and Arabic communities. A unique component was the parenting support for families at homeless shelters in the county, provided during residence and afterwards.

Grantee GG's experience is consistent with that of other large population counties that provided services through LEAs: A small proportion (11%) of the overall 0-5 population received services. The Grantee GG program served a slightly higher proportion of children aged 0-1 and 1-3 than expected, and showed less relative emphasis on serving preschool-aged children (Figure 23).

**Figure 23**  
**Age Emphasis for Grantee GG**



Grantee GG perceived no improvement in ISD relationships with other agencies and was one of two grantees that reported the least number of systems impacts. More than half of the cash match for ASAP-PIE came from local school districts, county government, foundations and United Way. Plans for continuation involved obtaining three other grants.

## ***Program Characteristics for Analysis***

The wide variation in program structures, service delivery models, targeted populations, and collaborative processes and history makes it possible that different outcome effects will be associated with different program characteristics. The results of the qualitative studies described in Reports 1 and 2 as well in the sections above have been used to generate categories of programs. These program characteristics include:

- Service delivery model (see Table 3)
- MDE \$ invested per child ( $\underline{M}$  = \$500,  $\underline{SD}$  = \$332 , ranges across grantees from \$77 to \$1,235)

**Table 3**  
**Number of Grantees and Children Served by Service Delivery Model**

<i>Service delivery model</i>	<i>Number of grantees</i>	<i>Percentage of children served out of total ASAP-PIE enrollees (N = 44,691)</i>	<i>Number of children served</i>
ISD	4	12	5,150
LEA	7	48	21,555
Community	5	17	7,382
ISD-community	7	24	10,604

# Section 3: Linkages with School Preparations

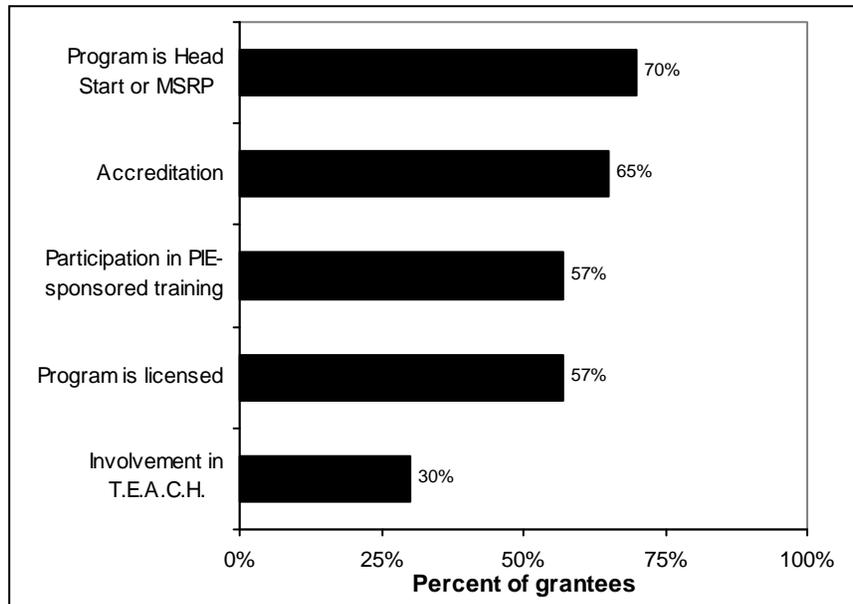
## *Increasing Families' Access to Quality Preschools*

The guiding legislation required each grantee to develop programming that included connections with quality preschools. This was not previously discussed in Report 1 and 2, and is thus provided here to complete the description of the mandated service components.<sup>4</sup>

### Defining “Quality” Preschools

There were a number of ways that preschool quality was defined, with most grantees using the program’s type, typically either Head Start or the Michigan School Readiness Program (MSRP), or accredited status as an indicator that the program had achieved some standardized review. Grantees’ criteria for quality preschools are shown in Figure 24.

**Figure 24**  
**Criteria for Judging Quality in a Preschool**



Notes: MSRP: Michigan School Readiness Program; T.E.A.C.H.: Teacher Education and Compensation Helps Early Childhood® Project, originated by the Child Care Services Association.

<sup>4</sup> Data for this section was derived from individual interviews with program administrators, focus groups of home visitors conducted in 2002, and the ASAP-PIE Year Two Narrative Check List Report completed by PIE administrators in July 2003.

Other formal approaches were also used to assess quality. Two grantees used standardized measures, scoring preschool programs using the High Scope Program Quality Assessment or the Early Childhood Environment Rating Scale (Harms & Clifford, 1980; Harms, Clifford & Cryer, 1998). One grantee reported using a standard process in which they worked with any preschool program or child care center interested in developing a quality improvement plan using a needs assessment completed by staff from their childcare quality education network. One grantee reported using an informal parent survey to judge quality.

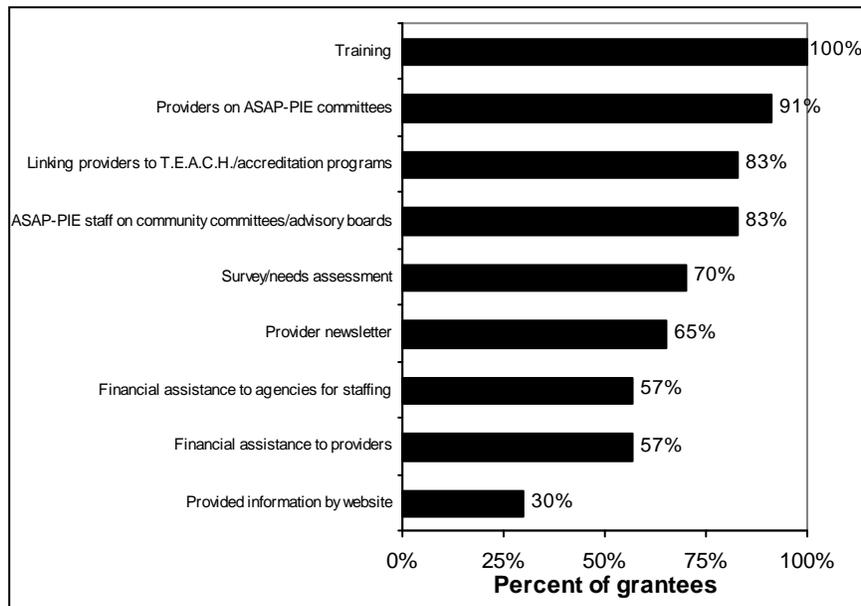
## Activities Increasing Connections to Quality Preschools

Grantees engaged in two types of activities: those designed to improve the quality of preschools and/or their providers and those designed to link families to quality preschools. Each is described separately.

### *Improving the Quality of Preschools*

All grantees reported using training as a strategy for improving the quality of preschool providers' care. Topics for those sessions were sometimes identified from providers' needs assessments or surveys. Figure 25 summarizes the approaches used by grantees to increase access or improve the quality of preschool services in their communities. Financial assistance to individual providers was most often to meet the expenses of licensing.

**Figure 25**  
**Grantees' Activities to Improve Quality of Preschools**



Note: T.E.A.C.H.: Teacher Education and Compensation Helps Early Childhood® Project, originated by the Child Care Services Association (North Carolina).

Information on quality standards and the accreditation process was provided through many activities: training sessions, newsletter articles, provider support meetings, and through the mentoring process.

The groups of preschool providers included nonprofit or for-profit centers, Head Start Programs, or MSRPs. Grantees' directed their efforts toward nonprofit centers (81%) and MSRPs (79%)

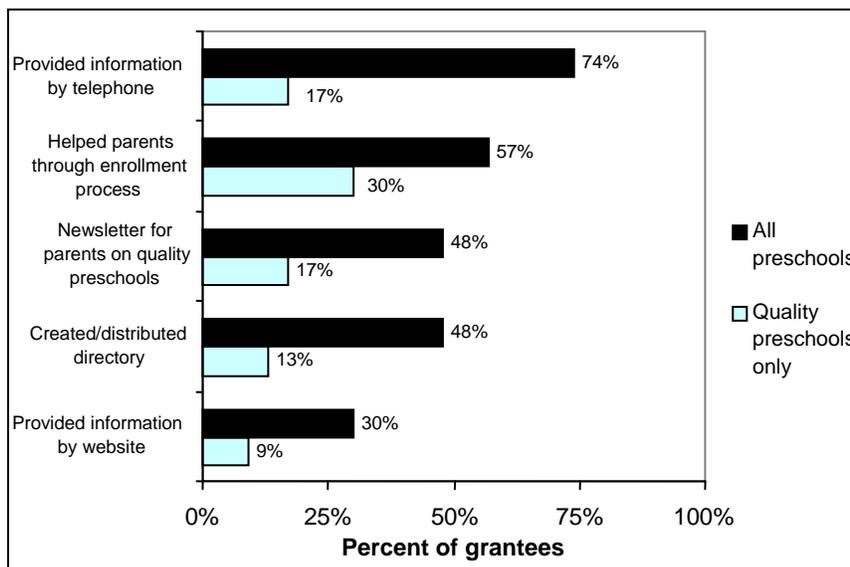
equally; Head Start programs slightly less frequently (72%) and for profit centers the least (60%). Training was the most universally used quality improvement activity overall, but grantees' activities, when combined with specific provider groups, did vary somewhat. Training was the quality improvement activity of choice when Head Start programs were targeted and was second, after doing needs assessments/surveys, for MSRPs and held a similar rank, after linking providers to T.E.A.C.H., for staff employed in for-profit centers. However, when staff in nonprofit centers were assisted, the activities of choice were links to T.E.A.C.H. (similar to for-profit centers) and mentoring programs. ASAP-PIE staff were more likely to serve on the community committees/advisory boards for MSRPs.

Activities focused on creating more accredited preschool slots for children or more accredited providers were not pursued by many grantees. Five grantees reported that they had increased the number of slots, three in MSRP programs and one each in Head Start, nonprofit and for-profit centers. Less than half of the grantees (8) reported that they had increased the number of accredited preschool providers as a strategy for increasing quality. However, three additional grantees noted that their providers were in the midst of a two-year accreditation process; one exhorted "Give us more time!" Individualized attention appears to be a key to this process. Again, one of the grantees whose efforts had not yet borne fruit commented that "financial incentives and mentoring helped keep centers interested in working toward this goal."

## Linking Families to Preschools

Almost all (91%) grantees reported that one impact achieved with ASAP-PIE funds was helping families with preschool-age children make an easier transition to preschool. Grantees employed a number of strategies to increase families' access to preschools and distinguished among those approaches that were used to increase access solely to quality preschools, to all preschools, or both (Figure 26). The most commonly used strategy to increase families' access to all preschools was to provide information to families by telephone. The most commonly used strategy to increase access to *quality* preschools was helping parents through the preschool enrollment process.

**Figure 26**  
**Percent of Grantees Using Specific Strategies to Increase Families' Access to Preschools**



Several grantees mentioned connecting parents with their local 4C office for support in accessing preschools for their children. Two grantees mentioned providing brochures that included information on what parents should look for when seeking quality preschools and child care. A variety of other media targeting parents were also mentioned by grantees, including a toll-free telephone number, billboard campaigns and newsletter articles. Two other innovations were mentioned. One grantee participated in the development of a county-wide preschool application. This application was subsequently used by families enrolling their children in all publicly funded programs. Another grantee reported making progress in the design and funding of a scholarship program for children to attend a quality preschool.

## Staffing and Sustaining the Efforts

Similar organizations were involved in both linking families with quality preschools and improving the quality of preschool programs. The regional Michigan 4C affiliate was a consistent partner; this is not surprising since they have a longstanding community role in improving the quality of child care. Head Start staff and the ISD early childhood consultants were also typically involved. Almost three quarters of the grantees reported expecting quality preschool efforts to be maintained. It appears, however, that in this programming area, community partners will play a prominent, if not exclusive, role in continuation efforts.

## Children’s Transition to Kindergarten

Easing children’s transitions to kindergarten was not an identified component of the ASAP-PIE program. However, all grantees engaged in some set of activities that could contribute to improved family-school relationships. Three general approaches were pursued by grantees. The first was oriented toward increasing parent/child exposure to schools and school staff; the second and third focused on fostering family/child’s readiness for school and the school’s readiness for kindergartners, respectively, through specific transition-to-kindergarten activities. Table 4 shows the frequency with which grantees engaged in activities that supported each of these transition approaches.

**Table 4**  
**ASAP-PIE Kindergarten Transition Approaches**

<i>Approach</i>	<i>Activity</i>	<i>% (number) of grantees</i>
Increase families’ familiarity with school	Used school as site for ASAP-PIE activities	100% (23)
	Had fliers or put information in ASAP-PIE newsletters regarding pre-Kindergarten events	91% (21)
Increase family/pre-K child’s readiness for school	Shared information on child’s ability with kindergarten teacher, i.e., screenings	87% (20)
	Made home visits to incoming kindergarten families	65% (15)
	Used school as site for ASAP-PIE kindergarten transition activities	57% (13)
Increase school’s readiness for students	Had a transition workgroup with school staff	35% (8)
	Developed ASAP-PIE services as part of the school improvement plan	22% (5)

## Increase Family Familiarity

Grantees carried out a variety of activities that increased the exposure to their elementary school and school staff that parents and children had before entering kindergarten. Some grantees housed their home visitors and other PIE staff in elementary schools; a few also developed resource centers and lending libraries. However, most ASAP-PIE group activities (i.e., play groups, parent meetings, and/or other activities) were held in local elementary schools. At least three grantees arranged for school staff to attend and/or present information at parent education meetings. Hearing, vision and developmental screenings were conducted at the schools. In a few instances, home visitors reported that they also met with individual parents and children at their local schools. Newsletters were used to alert parents to these and other special activities being held at the schools.

## Increase Family/Child Readiness

A number of strategies were used to increase families' and their pre-kindergarten student's readiness for school. Most grantees reported that they shared individual child information with teachers, generally data from screenings. In addition, at least one grantee worked with parents to complete information about what they would like their child's future teacher to know about their child before they entered kindergarten.

Approximately two thirds of the grantees made home visits to families with pre-kindergarten students. Whereas most of these home visits were made by home visitors, at least one grantee also arranged visits by kindergarten teachers or principals.

Elementary schools were not only sites for mandated activities (i.e., parent education or screenings); approximately half (57%) of the grantees specifically designed informational activities to promote improved kindergarten transition. Programs such as a "Meet the Teacher" school night for parents, an informational panel with kindergarten teachers, a kindergarten club (for pre-K students), and parent/child visitation to kindergarten classrooms are a few examples of activities arranged by grantees. One grantee also developed a special six-week parenting program for families with children entering kindergarten.

Some grantees also facilitated the transition for children enrolled in preschools to kindergarten. Home visitors (2002) reported working to build relationships among preschools, kindergarten teachers and principals. One grantee reported collaborating with Head Start and kindergarten teachers to host a joint Family Fun Night gathering. Another described developing activities that were designed for children transitioning from Head Start and MSRP to kindergarten. One grantee reported developing a reading initiative that included all preschool through 2<sup>nd</sup> grade teachers.

## Increase School's Readiness

An emphasis on improving the school's readiness for kindergarten students was shared by less than half of the grantees. Ten grantees had either a kindergarten transition workgroup or developed ASAP-PIE services as part of the school improvement plan (only three engaged in both activities). Kindergarten teachers were routinely members of the transition workgroups; in one instance they comprised the sole elementary school staff on the workgroup. Other school staff involved in transition workgroups included elementary school principals (six grantees) and superintendents (three grantees).

# Section 4: Evaluation Methods: Service Use and Outcomes

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## *Design Selection*

The team's first report in September 2002 included a description of the status of data collection procedures and measures being gathered among the grantees, and provided the state with three options for data collection:

- **Option 1:** Limit analyses to data gathered through local evaluations only, which would impose the least burden on the grantees, but provide the least reliable outcome data.
- **Option 2:** Use data gathered through local evaluations, equating similar constructs where possible, and supplement this data by filling in gaps for seminal constructs with recommended measures; request repeated measurement of instruments tapping key constructs. This option was considered to represent a reasonable balance between burden for grantees given the evaluations already being implemented and the collection of data representing the relevant constructs.
- **Option 3:** Implement new data collection at all grantees with standardized measures and data collection procedures. This option would have provided the best data for analysis, but was expected to have created a substantial burden for grantees and would have delayed the implementation of the evaluation, which had already been shortened by a year.

MDE concluded that within the time frame, Option 2 was most feasible while still enabling data collection that could provide an assessment of the outcomes. The evaluation team did a thorough review of grantees' evaluation plans and requested for gaps to be filled, providing specific recommendations for measures to complete those gaps. Recommendations were guided to some extent by identifying which measures had already been implemented by a significant number of grantees in order to maximize the sample size.

In addition, grantees were requested to collect outcomes measure at least one additional time during spring 2003 to provide the opportunity to assess change over time. Because of the lack of a control group, it is unclear to what degree change in outcomes may be associated with other factors, such as participation in non-ASAP-PIE services or normal development. **Therefore, this report should not be considered to provide an estimate of the *impact* of ASAP-PIE services. Rather, the report describes relations between change in outcomes as a function of participating in ASAP-PIE services and, when possible, of the dosage (amount received) of services.**

## **Constraints to the Evaluation Design**

At a minimum, the evaluation design needed to assess rates of service utilization, changes in outcomes, and linkages between service delivery models and both utilization and outcomes. A number of limitations constrained the evaluation design and the generalizability of the conclusions:

- **Universal services.** For a rigorous scientific examination, a control group of children and families similar to those who did participate in the program but who did not receive ASAP-PIE services would have been necessary. However, the mandate for universal services precluded the identification of a true control group, as service was required for all families who wanted to participate (although some grantees developed systems that designated the intensity of care based on certain presenting problems or risk factors).
- **Local evaluations already in progress.** Many grantees were initiating their programming at the time when the evaluation contract was awarded. Most had contracted with their local evaluators substantially earlier and had designed and were implementing their local evaluations, leading to the concern that standard evaluation measures would be difficult and untimely for grantees to complete and would disrupt their plans for local evaluations. Because of this, the data available is extremely variable among grantees. There is a great deal of missing data, and although findings examining relations between outcomes and demographic characteristics are presented, they should be considered highly tentative, and care should be taken in generalizing them to wider populations.
- **Inconsistent definitions.** There were substantially different definitions among grantees about most aspects of the program that may contribute to difficulty integrating data across grantees, including definitions of what constitutes parenting groups, referrals, enrollments, and specific outcomes such as school readiness and family stability. Enrollment, in particular, was often problematic. For example, for some grantees, enrollment consisted of children participating in the primary ASAP-PIE core, screening, and referral services, whereas for others, enrollment included recipients of newsletters or one-time attendees at parent-education-focused events.
- **Limited longitudinal assessment period.** School readiness is a consequence of exposure to factors during the entire early childhood period. However, the ASAP-PIE grantees were able to provide services for a maximum of two years, and in most cases, much shorter periods. This has two implications: First, we were unable to evaluate long-term outcomes or actual readiness for school, since most children were not of school age when the program ended. Second, demographic data, already hit or miss, is even less complete for longitudinal analyses, since most children do not have repeated assessments.
- **Degree of impact expected.** Most children were not enrolled at the beginning of the program; enrollments continued during the entire funding period. Thus, in many if not most cases, change would have to occur in a relatively short period to be evident during the evaluation. We expected that any evidence of the effects of the program, if identifiable, would be small.
- **Data collection targeting only one age group.** Some grantees focused on the school readiness outcomes and are gathering outcomes data specific to skills deemed necessary for school entry. Others centered on the 0-3 age group. This resulted in effectively two paths of school readiness evaluation that assess a continuum of school readiness outcomes but are not directly comparable. Only one measure, the ASQ, was available to assess outcomes across the range of ages of enrolled children, and that was parent-reported developmental screen.
- **Outcomes data is primarily available for families receiving core services, particularly home visiting.** Because the most extensive contact occurred with families receiving home visiting, data is predominantly available for these families, who also tend to be families with a greater number of risk factors. Data that assessed the effects of other program components was very limited. Thus, outcomes results are likely to be biased toward families with greater risk and need.
- **Concerns about requesting demographic information.** Grantees had differing degrees of concern about requesting personal family information, such as income, employment, or

marital status, that would provide the opportunity to examine differences in service utilization and outcomes as a function of different demographic groups. Some grantees also indicated that their partners were reluctant to share such information for reasons of confidentiality. These factors contributed to the variability in data across different grantees.

- **Grantee service criteria and choices.** Grantees had different criteria that determined service choices, and they made different decisions about how to intervene with children who met their criteria for services. For example, some grantees provided intensive services to children showing the greatest delay, whereas others may have referred those children to other programs, such as Early On. In addition, in some cases, those other programs were part of the ASAP-PIE network, but in others, they were not. This variability makes it difficult to interpret the findings for service utilization in conjunction with developmental status or demographics.

**Because of these severe constraints, the results presented in this report *must be considered tentative and a steppingstone to additional, better-controlled examination should future funding for a similar program become available.***

## ***Missing Data***

Grantees had established their enrollment forms, and thereby their demographic data collection, prior to the initiation of the evaluation. Some grantees modified their procedures in response to suggestions from the state evaluators, but the completeness of demographic data varies substantially by grantee. For each demographic indicator, we identify the percent of families, parents, or children in each group across all grantees, the percent of missing data out of the entire sample, and the number of grantees that provided data (although for many grantees, data was available for only a limited number of cases). In all cases, descriptions regarding demographic characteristics in the text refer to the numbers and percentages of children for whom that data were available. Because of the pervasiveness of missing data and the diverse factors that contributed to the gaps, missing data was not imputed (completed through estimation) through statistical means.

## ***Analytic Methods***

Methods varied to account for the different types and amount of data. Although exceptions exist, the primary methods we use to present findings are:

- **Statistical significance:** Results found to be statistically significant are considered to be reliable; there is a 5% or smaller chance that these results are due to chance. The larger the sample size, the more likely it is that a result will be statistically significant.
- **Odds ratios:** Odds ratios give an estimate of the likelihood that an outcome will occur (e.g., improvement or no improvement) give a particular circumstance (e.g., income is low versus high). An odds ratio of 1.50 (i.e., something is 1.5 times more likely to occur in one condition than in another condition) is considered small, of 3.5 is moderate, and of 9.0 is large (Hopkins, 2002).
- **Effect size  $d$ :** Effect sizes provide an estimate of the size of the difference between two groups. Effects sizes of .30, .50, and .80 can be interpreted as low, moderate, and large, respectively (Hopkins, 2002).

- **Partial eta<sup>2</sup>:** This effect size measure is used in analyses that look at mean differences among more than two groups. A partial eta<sup>2</sup> of .01 is considered small, of .06 is medium, and of .14 is large (Cohen, 1977).

For some analyses, the sample size is very large, and in those cases, even small effects can be statistically significant; that is, they can be presumed to be true effects, but are so small that they have little meaning. In other analyses, effects are large, but not statistically significant, and therefore unreliable. Thus, **for discussion of participants, we discuss only effects that are both statistically significant and that can be considered at least a small effect. However, for the section on child outcomes and service utilization, sample sizes are much smaller, and we will also describe trends in order to review patterns of findings across multiple measures.**

# Section 5: Who Participated in ASAP-PIE?

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## *Enrollment Definitions*

Grantees were able to individually define enrollment in their ASAP-PIE initiatives. Based on their own enrollment definitions, 60,061 children were enrolled in ASAP-PIE; of these, 44,691 (74%) actually received one or more of the primary services (e.g., home visiting, parent education groups, parent-child play groups, developmental, vision, or hearing screening, or referrals), while the rest tended to receive newsletters or attend community events held by the grantee. As a result, service comparisons across grantees are more complicated. In order to better understand enrollment patterns, the MSU Evaluation Team sent grantees a supplementary check list asking them to identify the categories of service that constituted enrollment<sup>5</sup>. The categories included:

- Ongoing home visits
- Newborn visits (limited to 1 or 2 visits)
- Playgroups only
- Screening only
- Newsletters only
- Referred for services only
- One-time special events.

All grantees enrolled families who received ongoing home visits. Most (20) grantees also enrolled families with newborns who received a newborn visit and a similar number (19) enrolled families who participated solely in play groups. However, few grantees limited their enrollment to these three categories. Those grantees who enrolled families in four categories added screening, but these four options accounted for only nine of the grantees. There are no discernable patterns among the nine who reported five or six enrollment categories: one-time special events, newsletters or referrals to other services were equally represented in the mix as the fifth or sixth enrollment option. There was also no relationship between the model grantees used to organize their initiative and the enrollment pattern adopted. For example, those using an LEA model comprised about half of the grantees that used most of the categories, but they also comprised half of the group that used the smallest number of categories.

Grantees also chose different enrollment criteria depending on their programming philosophies or allocation of resources. For example, some grantees who focused on accessing children in early infancy limited enrollments of preschool age children, instead providing referrals to early education and preschool programs. These children may or may not have been officially enrolled. Grantees also reported making enrollment decisions based on children's access to existing services, so that at some grantees, children participating in *Early On*<sup>®</sup> or other programs may not have been enrolled in ASAP-PIE, whereas at other grantees, these children were included.

The different definitions of enrollment ascribed to by grantees made it difficult to conduct comparisons of service utilization across grantees. This report, therefore, focuses on the 44,691

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<sup>5</sup> One of the 23 grantees did not provide an enrollment definition.

children who received the primary services. It must be noted, however, that some grantees identified universal provision of information as one of their goals and invested accordingly, suggesting that for these grantees, costs per child may be slightly overestimated.

## **Demographic Characteristics**

### **The Families**

The number of families enrolled in ASAP-PIE totaled 32,400. Families for whom data was available had the following characteristics (Table 5):

- **Income:** Because grantees were required to submit regular reports to MDE indicating whether enrollees were eligible for Temporary Assistance to Needy Families (TANF), this information was available for a larger proportion (82% of families, 62% of children) of participants than most variables. Of families with available data, half were TANF eligible. One quarter reported a yearly family income below \$20,000, and half reported their income to be below \$40,000.
- **Primary language:** Just 5% of the families indicated that a language other than English was their primary language.
- **Insurance:** Half of participants had private insurance. Most of the rest were on Medicaid or a state-funded insurance program (46%), and 4% did not have insurance at the time of enrollment.
- **Mobility:** 11% of families had moved in the past year, and 3% had moved more than once.

**Table 5  
Family Characteristics at Enrollment**

	<i>Percent of families out of those with data on the variable<sup>a</sup></i>	<i>Percent of families with data on this variable<sup>b</sup></i>	<i>Number of grantees who collected data on this variable</i>
TANF-eligible ( $n = 26,472$ )	50%	82%	23
INCOME ( $n=5,673$ )		18%	11
\$20,000 and under	24%		
\$20-\$40,000	26%		
\$40-\$60,000	26%		
\$60,000 and up	24%		
PRIMARY LANGUAGE ( $n = 17,468$ )		54%	19
English	96%		
Spanish	2%		
Other	3%		
TYPE OF INSURANCE ( $n = 6,285$ )		19%	9
None	4%		
Public	46%		
Private	50%		
MOVES IN PAST YEAR ( $n = 2,495$ )		8%	6
0	89%		
1	8%		
More than 1	3%		

Note:  $N = 32,400$  families.

<sup>a</sup>For example, of the 26,472 families with data indicating whether they were TANF eligible, 50% (13,236) were found to meet the TANF requirements.

<sup>b</sup>For example, of the 32,400 families enrolled in ASAP-PIE, 82% (26,472) had data indicating whether they were TANF eligible.

## The Parents

Demographic data for at least one indicator was available for 13,151 mothers and 10,220 fathers. Parents of children enrolled in ASAP-PIE who had data available reported the following characteristics (Table 6):

- **Age:** Mothers tended to be younger than fathers. Fifteen percent of mothers compared to less than 6% of fathers were aged 22 years and under.
- **Education:** About two-thirds of mothers and half of fathers had a high school education or less. Eleven percent of mothers and 5% of fathers had not graduated from high school.
- **Employment:** Some grantees reported whether the employment was part time or full time, whereas others simply indicated whether the parent was employed. Since their *ns* differ substantially, we report both. The parents who had data for the three-category employment variable are included in the sample for the employed/not employed variable. About 46% of mothers and 57% of fathers were employed; of those mothers who were employed, half worked full time.
- **Marital status:** Just under a quarter of mothers and 14% of fathers were single.

## The Children

The ASAP-PIE program enrolled a total of 44,691 children in primary services. Children for whom data was available had the following characteristics (Table 7):

- **Sex:** Just over half of the children were males.
- **Child's age at enrollment:** ASAP-PIE was designated a 0-5 program, and about 97% of children enrolled before their fifth birthday. In some cases, children were enrolled prior to age 5 and may have continued to receive some form of services after their fifth birthday. In addition, a small proportion of children were enrolled after age 5 but before age 6, in most cases because younger siblings were enrolled. Nearly a third of children were enrolled in their first year of life, and reflecting some grantees' focus on recruiting families with newborns, half of those families were recruited in the first 3 months of the child's life. Enrollments were equally distributed by age for the following years, dropping slightly for 4-year-olds, for whom some grantees focused on transitioning them out of core services and into preschool programs.
- **Race/ethnicity:** White children comprised 79% of the sample. Eleven percent were African American and 10% were Hispanic. Definitions of racial categories varied among grantees, with some including a category for children of multiple races and others restricting the choices to a single race. Four percent of children were included in the multi-racial category.
- **Preterm birth:** Seven percent of children were born at less than 36 weeks gestation.

**Table 6  
Parent Characteristics at Enrollment**

	MOTHER		FATHER			
	<i>Percent of all mothers (out of those with data on the variable)<sup>a</sup></i>	<i>Percent of mothers with data on this variable (out of mothers of all children)<sup>b</sup></i>	<i>Number of grantees who collected data on this variable</i>	<i>Percent of all fathers (out of those with data on the variable)<sup>a</sup></i>	<i>Percent of fathers with data on this variable (out of fathers of all children)<sup>b</sup></i>	<i>Number of grantees who collected data on this variable</i>
AGE (mothers' $n = 10,566$ , fathers' $n = 8,602$ )		33%	15		27%	13
Under 18 yr	3%			<1%		
18-22 yr	12%			5%		
22-30 yr	38%			28%		
30-40 yr	41%			53%		
Over 40 yr	6%			14%		
EDUCATION (mothers' $n = 9,521$ , fathers' $n = 638$ )		29%	14		2%	6
Less than high school	11%			5%		
High school diploma	59%			46%		
Bachelor's degree	25%			39%		
Graduate degree	6%			11%		
EMPLOYMENT (mothers' $n = 5,738$ , fathers' $n = 529$ )		18%	13		2%	6
None	60%			49%		
Part time	20%			3%		
Full time	20%			48%		
Employed (mothers' $n = 8,087$ , fathers' $n = 600$ )	46%	25%	14	57%	2%	6
Parent is single (mothers' $n = 7,596$ , fathers' $n = 5,469$ )	23%	23%	14	14%	17%	11

<sup>a</sup>For example, of the 10,566 mothers with age data, 3% (317) were under 18 years old.

<sup>b</sup>For example, of the 32,400 families enrolled in ASAP-PIE, data on maternal age was available for 33% (10,566) of the families' mothers.

- **Number of siblings:** In some cases, the number of siblings was reported by grantees. To provide an estimate of the number of siblings under age 5 years, sibling number was calculated from the number of enrollees per family (e.g., a family with only one child enrolled was estimated to have no siblings aged 0-5 years. Although likely to be an underestimate, this estimate gives some idea of the number of other young children in the child's family. According to these calculations, 58% of children had a sibling (40% when only the number of siblings actually reported by grantees was analyzed), and 5% had three or more siblings.
- **Other services:** In assessing the contribution of ASAP-PIE programming to children's outcomes, we must take into account other services that children may be participating in. Thirteen percent of children attended daycare programs (*daycare* was defined by the grantee, not the evaluators), and 46% of those were in programs that could be considered enrichment services such as Early Head Start, Head Start, formal preschool programs, and the Michigan School Readiness Program (MSRP).

**Table 7**  
**Child Characteristics at Enrollment**

	<i>Percent of children out of those with data on the variable<sup>a</sup></i>	<i>Percent of children with data on this variable<sup>b</sup></i>	<i>Number of grantees with data</i>
SEX: Male ( $\underline{n}$ = 28,332)	53	63	21
AGE AT ENROLLMENT ( $\underline{n}$ = 27,617)		62	22
0-3 months	14		
3.01-6 months	7		
6.01 to 12 months	10		
1.01 to 2 years	20		
2.01 to 3 years	19		
3.01 to 4 years	16		
4.01 to 5 years	12		
5.01 to 6 years	2		
RACE ( $\underline{n}$ = 21,806)		49	22
White	78		
African American	11		
Hispanic	5		
Asian/Pacific Islander	1		
American Indian/Native American	1		
Multi-racial	4		
Other	1		
PRETERM: Less than 36 weeks gestation ( $\underline{n}$ = 4,317)	7	10	7
NUMBER OF SIBLINGS AGE 0-5 YEARS ( $\underline{n}$ = 44,691)		99	23
0	42		
1-2	53		
3 plus	5		
OTHER SERVICES			
In daycare ( $\underline{n}$ = 5,599)	14	13	7
In preschool, Head Start, Early Head Start, MSRP ( $\underline{n}$ = 2,461)	44 <sup>c</sup>	6	7

Notes:  $\underline{N}$  = 44,691; MSRP = Michigan School Readiness Program, Michigan Department of Education.

<sup>a</sup>For example, of the 10,566 mothers with age data, 3% (317) were under 18 years old.

<sup>b</sup>For example, of the 32,400 families enrolled in ASAP-PIE, data on maternal age was available for 33% (10,566) of the families' mothers.

<sup>c</sup>Out of children in daycare.

## ***Demographic Groups for Analysis***

Program effects that can be obscured within the sample as a whole may become apparent when specific groups are examined. Therefore, we identified a number of family, parent, and child characteristics in order to assess whether services or outcomes differed for particular groups. Tables 8 through 10 outline the demographic groups and provide the number of children within that group. It should be noted that because the values in this table are a count of children, the numbers differ from those in Tables 5 and 6, which presented information for families and parents, respectively, regardless of the number of children within those families. Due to the relative lack of demographic data on fathers compared to mothers, in subsequent analyses we use

only mother characteristics (preliminary analyses using father characteristics as well revealed similar results compared to those conducted with the mother characteristics).

Because characteristics associated with the potential for school failure tend to cluster in families, we developed a risk index that consisted of three risk indicators in addition to analyzing them separately: having an adolescent mother, having a mother who has not completed high school, and TANF eligibility. Although other risk indicators were available in data from various grantees, these three variables were most likely to be available for any single case. Within each grantee, when less than 10 cases had data on an indicator, that data was removed from analysis.

**Table 8**  
**Subgroups Identified by Family Characteristics at Enrollment**

<i>Family characteristic</i>	<i>Number of children in each subgroup</i>
<b>INCOME<sup>6</sup></b>	
Under \$20,000	1,512
\$20,000 to \$40,000	1,751
\$40,000 to \$60,000	1,851
Over \$60,000	1,856
<b>PRIMARY LANGUAGE</b>	
English	19,047
Spanish	329
Other	596
<b>TYPE OF INSURANCE</b>	
None	182
Public	3,556
Private	4,041
<b>MOVES IN PAST YEAR</b>	
0	2,580
1	241
More than 1	103

Note. Cases and grantees are included if at least 10 cases from a grantee have the variable. N's presented here refer to individual children; N's in Table 4 are presented for families rather than children. Table 5 also provides the number of grantees and percent of missing data existing for each variable.

<sup>6</sup> Comparisons between children in poverty (defined as TANF eligible) and those not in poverty were not available. Grantees were required to report on the TANF-eligibility (yes or no) of their participants, but were more consistent about identifying families who were TANF-eligible than families who were not (for example, two grantees indicated whether children were TANF-eligible, but did not specifically identify any children as not TANF-eligible at all; we were unable to ascertain whether the rest of the children were not TANF-eligible, or whether some were TANF-eligible, but the data had not been collected). Thirty-eight percent of the total sample was missing TANF-eligibility data. Some of that data was likely to be missing because children participated in service components (e.g., vision and hearing screenings, referrals) that were less conducive to the collection of information that determined TANF criteria.

**Table 9**  
**Subgroups Identified by Mother Characteristics at Enrollment**

<i>Mother characteristic</i>	<i>Number of children in each subgroup</i>
<b>AGE AT ENROLLMENT</b>	
Not adolescent	12,001
Adolescent	760
<b>EDUCATION</b>	
High school graduate	10,795
Not high school graduate	1,275
<b>EMPLOYMENT</b>	
Not employed	5,610
Employed	4,539
<b>MARITAL STATUS</b>	
Married	7,387
Single	1,956

Note. Cases and grantees are included if at least 10 cases from a grantee have the variable. N's presented here refer to individual children; N's in Table 5 are based on the number of families. Table 5 provides the number of grantees and percent of missing data existing for each variable.

**Table 10**  
**Subgroups Identified by Child Characteristics at Enrollment**

<i>Child characteristic</i>	<i>Number of children in each subgroup</i>
<b>SEX</b>	
Male	14,864
Female	13,468
<b>AGE AT ENROLLMENT</b>	
Birth to 12 months	8,589
12 to 36 months	10,717
Over 36 months	8,498
<b>RACE</b>	
White	17,663
African American	2,327
Hispanic	1,174
<b>Preterm birth</b>	
Yes (less than 36 weeks gestation)	301
No (36 weeks or more gestation)	4,014
<b>NUMBER OF SIBLINGS AGED 0-5 YEARS</b>	
0	18,701
1-2	23,735
3 plus	2,255
<b>In daycare</b>	
Yes	799
No	4,784
<b>In preschool, Head Start, Early Head Start, MSRP</b>	
Yes	1,073
No	1,385
<b>RISK INDEX (TANF eligible, single mother, mother did not graduate high school)</b>	
0 risk indicators	2,759
1 risk indicator	2,999
2 risk indicators	734
3 risk indicators	240

Note. MSRP = Michigan School Readiness Program, Michigan Department of Education; TANF = Temporary Assistance to Needy Families. Cases and grantees are included if at least 10 cases from a grantee have the variable. Table 6 provides the number of grantees and percent of missing data existing for each variable.

# Section 6: Service Utilization

## *Overall Services*

This section focuses on the use of the service components offered as part of the ASAP-PIE program. As noted previously, grantees varied in their definitions of enrollment, with some limiting official enrollment to children and families receiving primary service components, such as core services, screening, or referrals, and others including components such as newsletters. For the purposes of this report, all children and families included in analyses received at least one of the primary service components.<sup>7</sup>

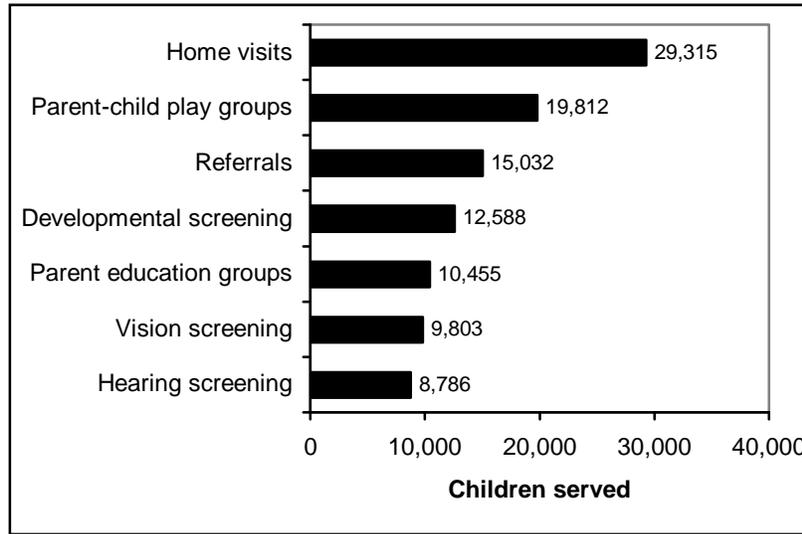
### Overall Service Use

Figure 27 details, in descending order, the numbers of children receiving each type of service. This figure does not indicate the intensity of the service provided, but simply notes whether the service was provided. The percent of enrolled children receiving each service component is outlined in Table 11.

- **The most frequent service component provided was home visiting.** Although home visiting is the most costly type of service of those offered, two-thirds (29,315) of all enrolled children received at least one home visit.
- **Parent-child play groups were the second most frequent type of service,** with 44% (19,812) of enrolled children and their parents participating in these groups.
- **The least frequent core service component utilized was parent education groups.** Although significant in terms of actual numbers, only 23% of children (10,455) had parents who attended a parent education group. In discussions with program administrators, a number noted that they had trouble recruiting for parent education groups for a variety of reasons, including families' perceptions that participation in parenting education reflected poorly on one's parenting skills, difficulty scheduling times at which parents could attend, and lack of available child care.
- **28% of the children received a developmental screening.** It is likely that without the ASAP-PIE program most of these children (12,588) would not have been routinely screened for developmental delay.
- **Around 20% of the children received a vision and/or hearing screening.** 9,803 children were screened for vision problems and 8,786 for hearing problems. These figures overlap; most children (8,203) received both vision and hearing screenings.
- **About a third of enrolled children (15,032) and their families were provided with referrals.**

<sup>7</sup> Service utilization data was obtained from grantees' databases as of June 30, 2003 and TANF reports submitted in June 2002, October 2002, and June 2003 that detailed service provided to each enrolled family.

**Figure 27**  
**Service Use: All Services**



Note:  $N = 44,691$ .

**Table 11**  
**Service Use: All Services**

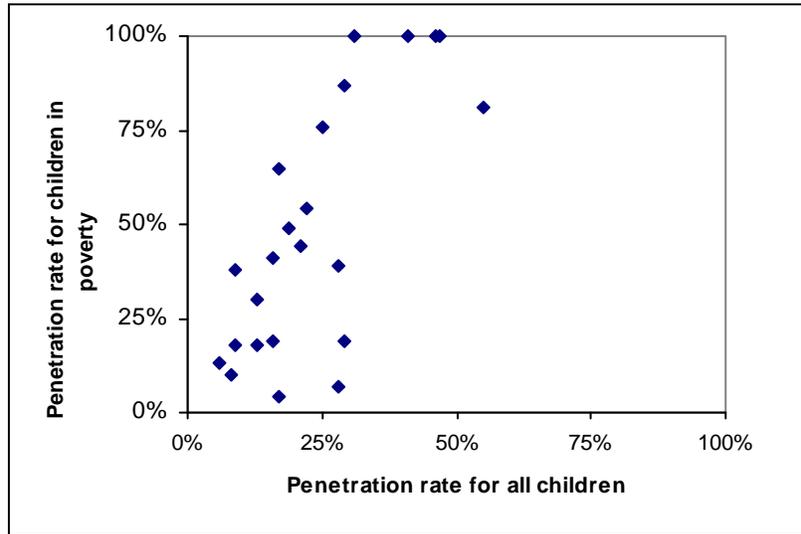
<i>Service component</i>	<i>Number</i>	<i>Percent of all children served</i>
<b>CORE SERVICES</b>	37,884	85%
Home visits	29,315	66%
Parent education groups	10,455	23%
Parent child play groups	19,812	44%
<b>SCREENING</b>	19,543	44%
Developmental	12,588	28%
Hearing	9,803	22%
Vision	8,786	20%
<b>REFERRALS</b>	15,032	34%

Note:  $N = 44,691$ .

## Penetration Rates for Overall Services

Penetration rates are the percent of children served out of all children aged 0-5 years in the counties served by the ISDs. In the context of ASAP-PIE, they describe the degree to which grantees provided universal services; if grantees were completely successful in meeting the goal of universal service provision, the penetration rate would be 100%. However, some grantees deliberately chose to maximize services for families with a greater number of risk factors. This approach is likely to have reduced the overall penetration rate, but the higher dosage of intervention may have increased the likelihood of successful outcomes. In addition, more populous communities are less likely to be able to access all children in the area than small communities. Figure 28 shows the grantees' penetration rates for both all children and for children in poverty.

**Figure 28**  
**Penetration Rates for Any Service for All Children and Children in Poverty**



### ***All Children***

- **On average, a quarter (24%) of the children and their families in the counties served by grantees participated in ASAP-PIE.**
- **Penetration rates varied widely among grantees.** Almost half of the grantees (11) accessed between 20% and 40% of the 0- to 5-year-old children in their areas. Another 11 grantees served less than 20% of available children, while one grantee served over 50% of the available children.
- The population of children 0-5 years of age ranged from 2,554 to 61,805. As expected, **the grantees who served the smallest percentage of children in their areas tended to be from larger communities** (Figure 29). However, grantees with the smallest populations did not necessarily have the highest penetration rates.

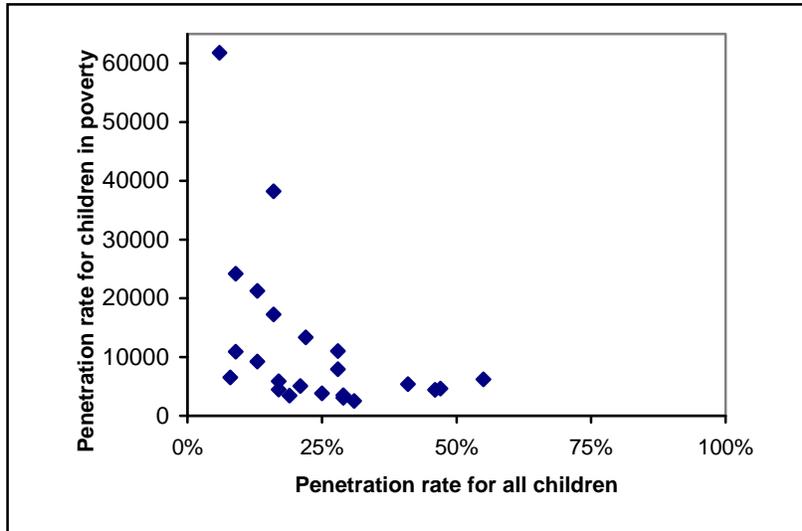
### ***Children in Poverty***

- **Nearly half (48%) of the children in poverty in the areas served by ASAP-PIE received some type of service.** This is 1.6 times the likelihood of receiving services compared to the total sample.<sup>8</sup>
- **Penetration rates for children in poverty were even more varied than for the total sample of children.** Figure 28 shows that eight grantees served less than 20% of the children in poverty in their areas. However, seven grantees accessed a remarkable 75% to 100% of the low-income children in their areas.

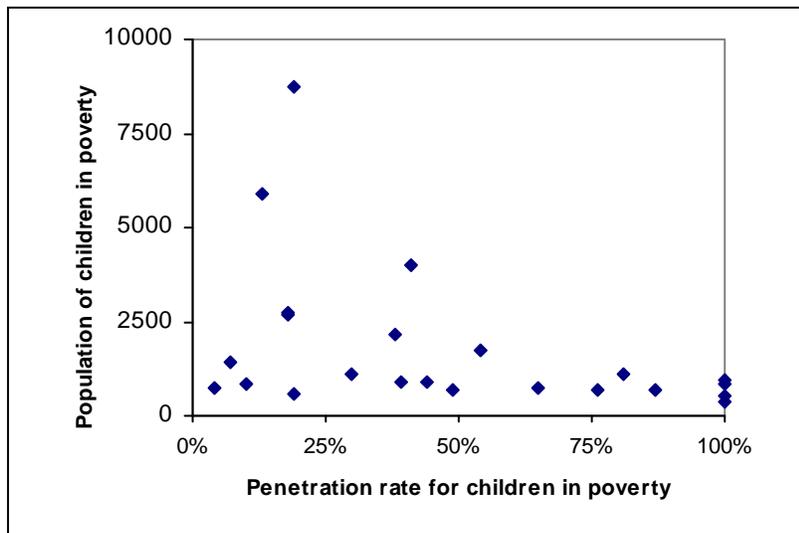
The number of children in poverty in the communities ranged from 391 to 8,718. Notably, **the seven grantees with the highest penetration rates tended to have the smallest populations of children in poverty** (Figure 30). In general, grantees from communities with higher numbers of children in poverty tended to have lower penetration rates than grantees from communities with lower numbers of children in poverty. Differences were not marked, however.

<sup>8</sup> Due to the problem with missing data on non-TANF-eligible families described on p. 67, these odds are likely to be underestimates.

**Figure 29**  
**Penetration Rates for All Children by Number of Children in Counties Served**



**Figure 30**  
**Penetration Rates for Children in Poverty by Number of Children in Poverty in Counties Served**



**Summary**

Grantees from larger communities were less likely to approach the goal of universal services than grantees from smaller communities. However, penetration rates among children whose families are in poverty appear to be less determined by the number of low-income children than by grantees' choice of target populations (high risk or all children).

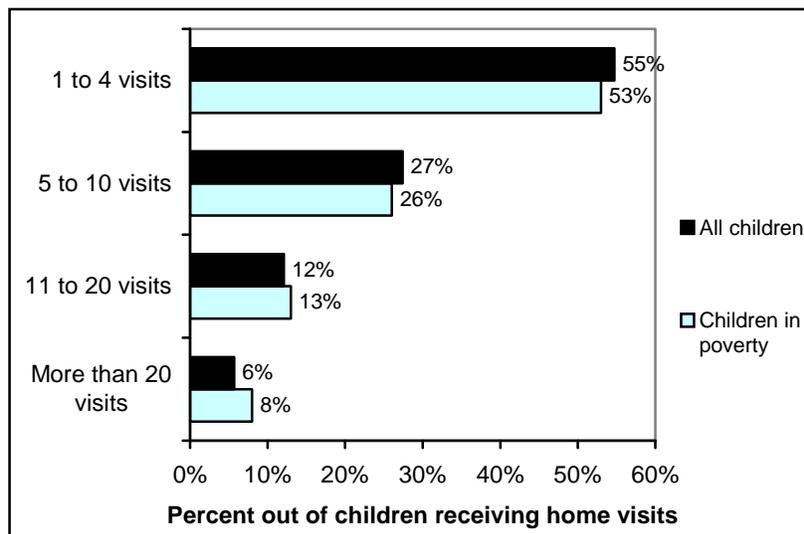
## Core Services

### Home Visiting

#### Service Utilization

- Two thirds (66%, 29,315) of all children and 77% (11,615) of children in poverty enrolled in ASAP-PIE received at least one home visit.
- The number of home visits received (i.e., dosage) was available for two thirds (66%, 19,369) of the children who received home visits. Among all children, the average number of home visits was about 8, ranging from 1 to 190 visits.
- Of children who received home visiting services, the average child received about 8 hours of home visiting, but this ranged from 15 minutes to 285 hours.
- Just over half (55%) of the children who participated in home visits received four visits or less (Figure 31).
- Eighteen percent of children who participated in home visits received more than 10 visits.
- There were no notable differences in dosage between all children and children in poverty.

**Figure 31**  
**Home Visiting Dosage**

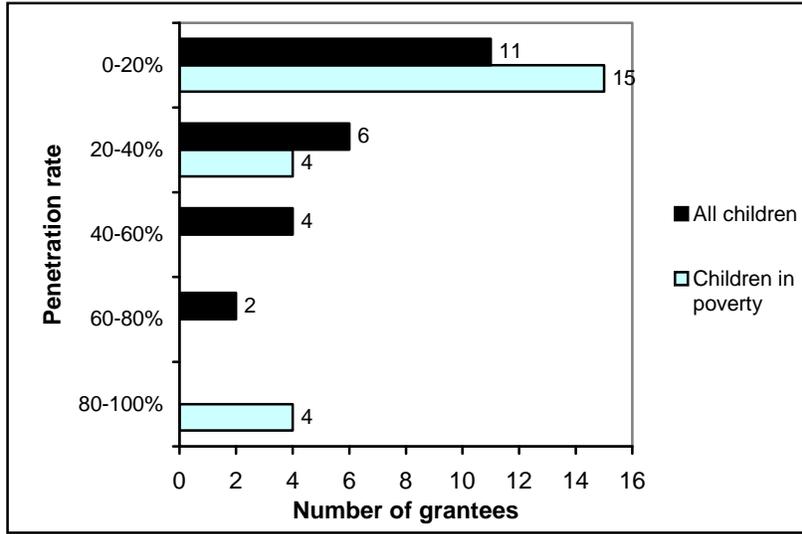


Note: n for all children was 29,315; n for children in poverty was 11,615.

#### Penetration Rates

- 14% of all children in the counties served by ASAP-PIE received home visits.
- The penetration rate for home visiting among children in poverty was over twice as high as that for all children (37%)
- About half of grantees (12) provided home visits to over 20% of the children in their area (see Figure 32).

Figure 32. Penetration Rates for Home Visiting



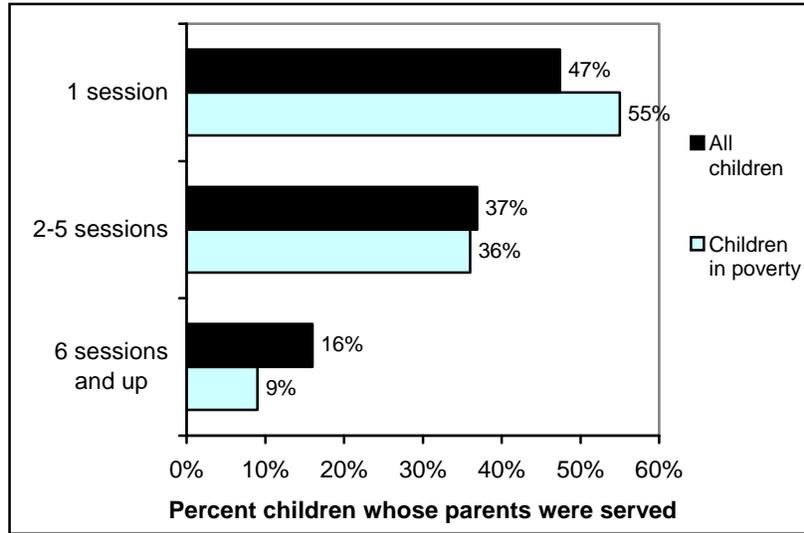
- Most grantees (19) had penetration rates under 40% for home visiting among children in poverty. However, four grantees provided home visits to 80% to 100% of the low-income children in their community.

## Parent Education Groups

### Service Utilization

- 10,455 (23%) of all children enrolled in ASAP-PIE had a parent who attended at least one parent education group.
- The number of parent education groups attended was available for most (96%, 9,205) individuals who went to the groups. The average number of parent education groups attended was about 3 per family, ranging from 1 to 159 meetings (only 1% of these parents went to more than 13 meetings).
- Just under half (47%) of parent education participants attended only one meeting (Figure 33).
- Only 16% of children had parents who attended more than five meetings.
- Parents of children in poverty were more likely to go to only one session and less likely to attend more than five meetings.

**Figure 33**  
**Parent Education Group Dosage**



Note:  $\bar{n}$  for all children was 9,205;  $\bar{n}$  for children in poverty was 2,108.

### **Penetration Rates**

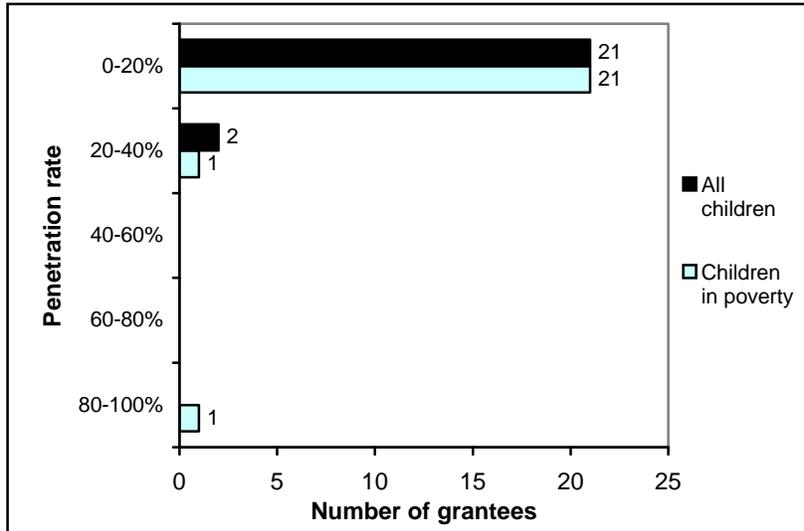
- 5% of all children in the counties served by ASAP-PIE had parents who attended parent education groups.
- The penetration rate for parent education groups among parents of children in poverty was twice as high as that for all children (10%), although still low.
- Most grantees (21) had penetration rates under 20% for parent education groups, although two grantees provided groups to 20% to 40% of enrolled children’s parents (see Figure 34).
- Similarly, among children in poverty, all but two grantees had penetration rates under 20% for parent education, although one grantee reported providing parent groups to the majority of parents in their area.

## **Play Groups**

### **Service Utilization**

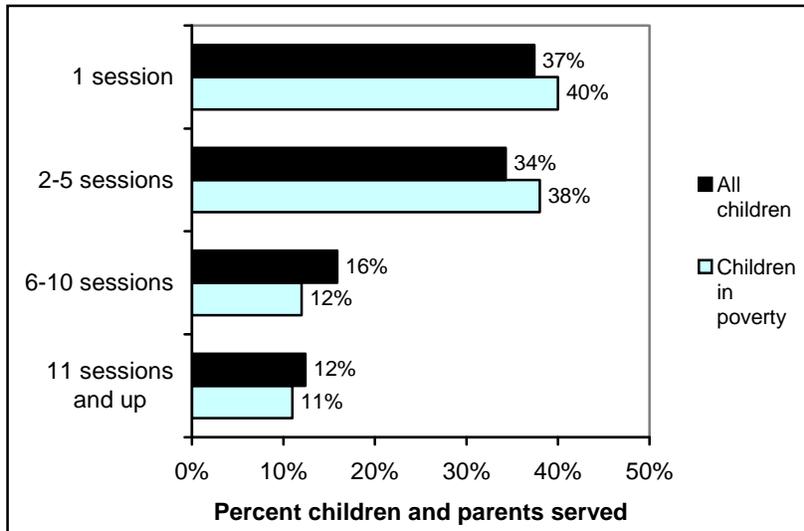
- Almost half (44%; 19,812) of all children enrolled in ASAP-PIE and their parents attended at least one parent-child play group.
- Of the families who attended a parent-child play group, dosage information was available for 74% (14,743). The average number of parent-child play groups attended was about 5 per family, ranging from 1 to 271 sessions (only 1% of these families went to more than 42 sessions).

**Figure 34**  
**Penetration Rates for Parent Education Groups**



- 37% of play group participants attended only one session (Figure 35).
- 28% of children and parents attended more than five sessions.
- Parents of children in poverty were slightly more likely to go to only one session and slightly less likely to attend more than five sessions.

**Figure 35**  
**Parent-Child Play Group Dosage**

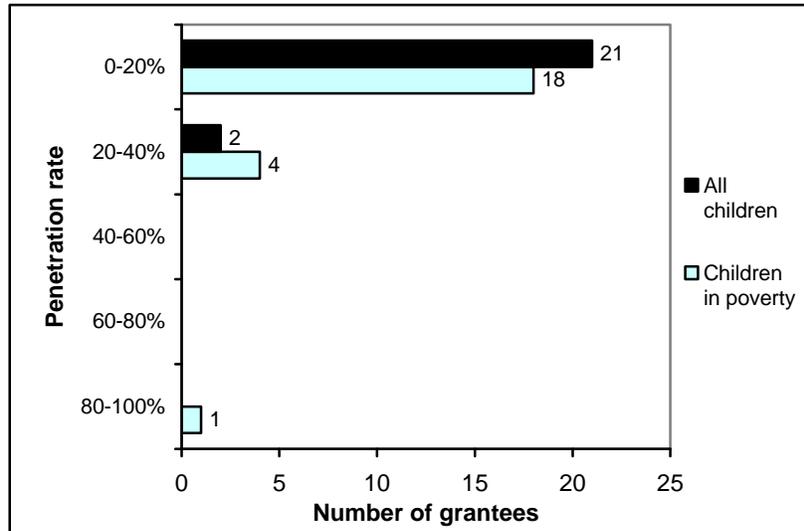


Note:  $\bar{n}$  for all children was 14,703;  $\bar{n}$  for children in poverty was 3,063.

**Penetration Rates**

- 8% of all children and their parents in the counties served by ASAP-PIE attended parent-child play groups.
- The penetration rate for play groups among parents of children in poverty was twice as high as that for all children (16%).
- Nearly all grantees had penetration rates under 20% for parent-child play groups, although two grantees provided groups to 20% to 40% of enrolled children’s parents. (see Figure 36).
- Among children in poverty, all but four grantees had penetration rates under 20% for play groups; one grantee had a penetration rate of 80% to 100%.

**Figure 36  
Penetration Rates for Parent-Child Play Groups**



**Core Services Combined**

Many grantees designed their programs as a coordinated program of home visits, parent education groups, and parent-child play groups. For example, one grantee recruited high-risk families and invested program resources into maximizing the success of these families by providing all core services to these families and no others. Another grantee, which focused on the youngest ages, viewed their parent-child play groups as a supplement to the home visiting program, but focused parent education groups on parents referred through the courts.

**Patterns of Core Service Use**

Table 12 describes the patterns of service use for all children enrolled in ASAP-PIE and for children in poverty. Figure 37 goes one step further and presents patterns of service use only for children who received core services.

- About the same percentage of children in poverty were reported to have received core services as the sample as a whole (88% for children in poverty, 85% of all children).
- The predominant type of direct service use was to participate in home visits only. This was particularly characteristic of families in poverty (50% compared to 35% of all children).

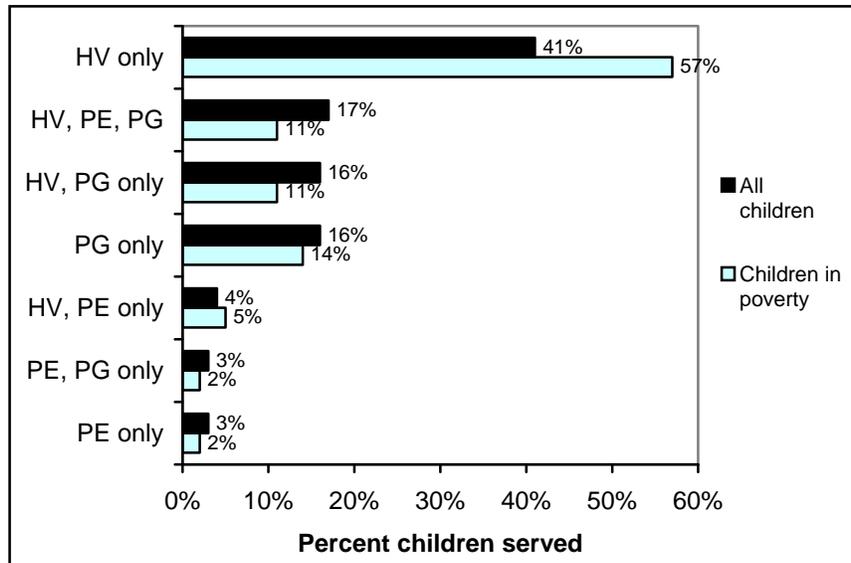
**Table 12**  
**Patterns of Core Service Use**

	<i>ALL CHILDREN</i>		<i>CHILDREN IN POVERTY</i>	
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>
No core services	6,807	15%	1,870	12%
Home visits	15,410	35%	7,605	50%
Home visits and parent education groups	1,570	4%	620	4%
Home visits and play groups	5,988	10%	1,894	13%
Home visits, parent education groups and play groups	6,347	14%	1,496	10%
Parent education groups	1,092	2%	216	1%
Play groups	6,031	14%	1,207	8%
Parent education groups and play groups	1,446	3%	224	2%
<b>Total</b>	<b>44,691</b>		<b>15,132</b>	

Note: Core services include home visiting, parent education groups, and parent-child play groups.

- The least frequent patterns of direct service use were those that included parent education groups, whether alone or in conjunction with other core services. The exception was the service configuration that included all three types of core services.

**Figure 37**  
**Pattern of Core Services**  
**For Children Receiving at Least One Core Service Component**



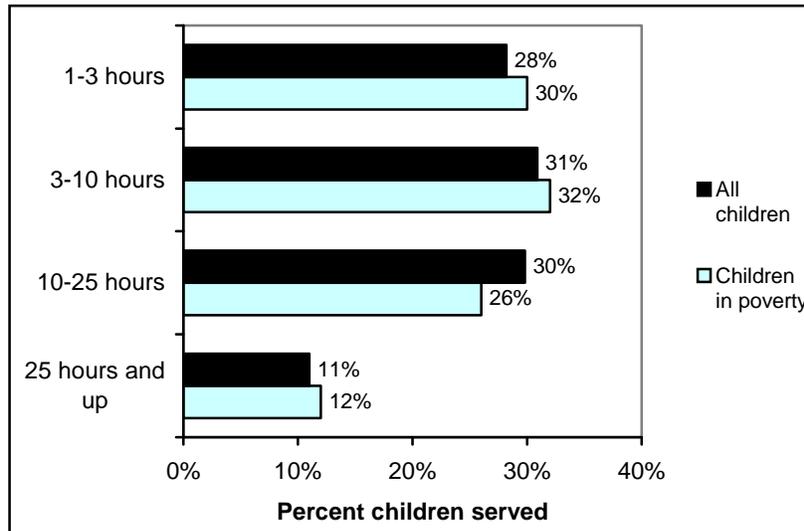
Note: Core services include home visiting, parent education groups, and parent-child play groups. Groups are mutually exclusive. HV = Home visiting. PE = Parent education groups. PG = Parent-child play groups. n for all children = 37,884; n for children in poverty = 13,262.

**Dosage of Core Services**

In addition to calculating dosage information for the separate direct service components, we examined direct service dosage as a whole. The sample for this analysis includes children who received at least one service and had data describing the amount of time (including zero time) they had for each service. Of these 10,825 children, 2,712 were children in poverty.

- On average, children who participated in at least one direct service component received 12 hours of core services regardless of their level of poverty. The amount of service ranged from 1 hour to 477 hours.
- As shown in Figure 38, just under a third of children received less than three total hours of service. At first glance, this appears to suggest that a large number of families quickly discontinued services. However, some grantees attempted to provide a home visit to all families with newborns or made an assessment visit upon referral, and for many of these families, no further direct service was requested. Therefore, this number is not necessarily a good indicator of whether families stayed in the program. Among children who participated in core services, 10% of all children and 13% of children in poverty received only one hour of intervention.
- Over 40% of children who received at least one direct service component were exposed to more than 10 hours of intervention, and 11% experienced more than 25 hours of service.
- There were no significant differences in the dosage received by children in poverty compared to all children.

**Figure 38**  
**Percent of Children by Dosage of Core Services**

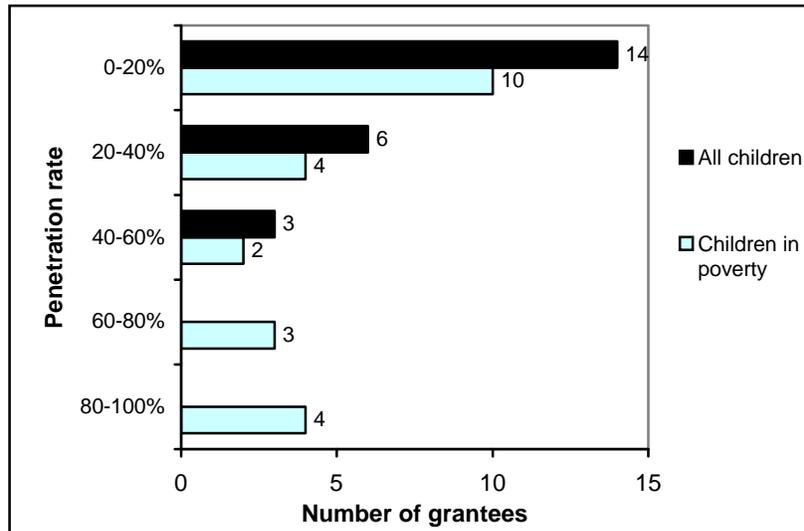


Note: Core services include home visiting, parent education groups, and parent-child play groups.

**Penetration Rates for Core Services Combined**

- 19% of all children in the counties served by ASAP-PIE were reported to have received core services.
- The penetration rate for core services among children in poverty was twice as high as that for all children (42%).
- Fourteen grantees had penetration rates under 20%, although three grantees were able to provided core services to over 40% of the community’s children (see Figure 39).
- Among children in poverty, over half (10) of grantees provided core services to more than 20% of the poor children in their communities, and four grantees had penetration rates over 80%.

**Figure 39  
Penetration Rates for Core Services**



Note: Core services include home visiting, parent education groups, and parent-child play groups.

**Screening Services**

**Developmental Screening**

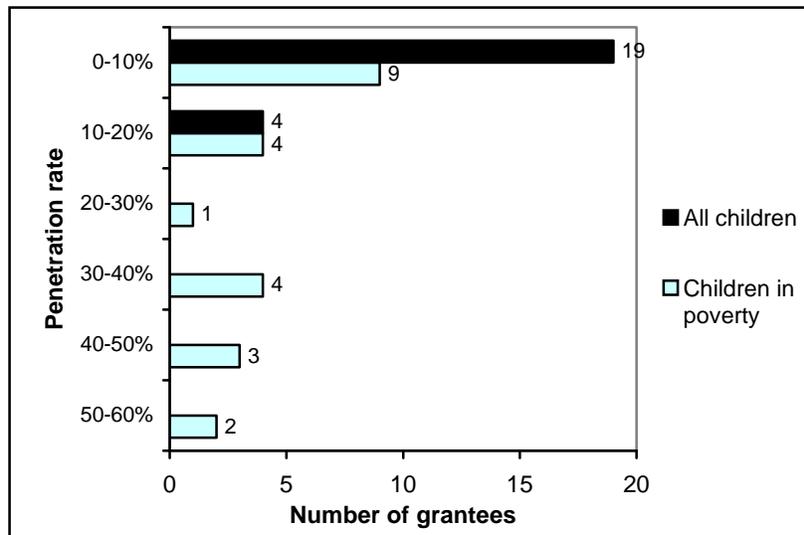
**Service Utilization**

- Among all children enrolled in the ASAP-PIE program, 30% (13,511) received at least one developmental screen.
- Among children in poverty, 40% (6,001) received a developmental screen.

**Penetration Rates**

- On average, grantees reported that they provided developmental screens to 7% of children age 0-5 years in the counties they served.
- Children in poverty were three times more likely to be accessed for a developmental screen; an average of 21% of children in poverty in the counties served by grantees were assessed (Figure 40).
- Although penetration rates were relatively low for the population of all children, grantees varied substantially in their screening of children in poverty; nine grantees screened over 30% and two grantees screened at least half of the poor children in their counties.

**Figure 40  
Penetration Rates for Developmental Screening**



**Vision and Hearing Screening**

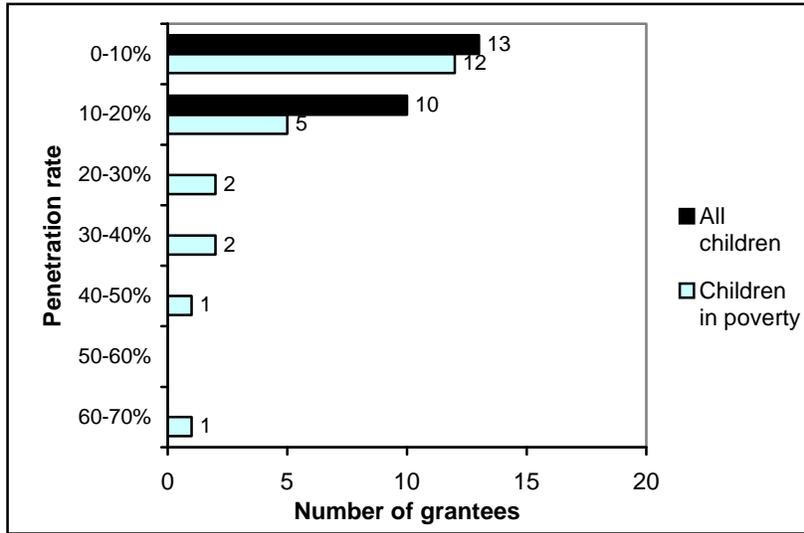
**Service Utilization**

- Of all children enrolled in ASAP-PIE, 20% (8,786) received at least one vision screen and 22% (9,803) received at least one hearing screen.
- Among children in poverty, 22% (3,399) received a vision screen and 25% (3,770) received a hearing screen.

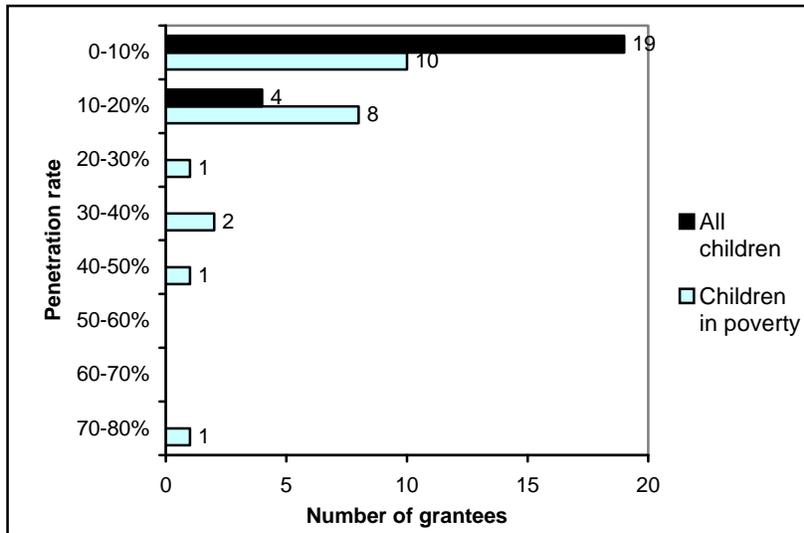
**Penetration Rates**

- On average, grantees reported that they provided vision screens to 5% and hearing screens to 6% of children age 0-5 years in the counties they served.
- Children in poverty were almost three times more likely to be screened for vision and hearing problems; an average of 14% of children in poverty in the counties served by grantees received a vision screen (Figure 41) and 16% received a hearing screen (Figure 42).

**Figure 41**  
**Penetration Rates for Vision Screening**



**Figure 42**  
**Penetration Rates for Hearing Screening**



- Penetration rates for the general population of children were below 20% for both vision and hearing screening, and most grantees completed a hearing screen for 10% or less of the children in their areas. About a third of grantees screened over 20% and two grantees screened more than 40% of the poor children in their areas.

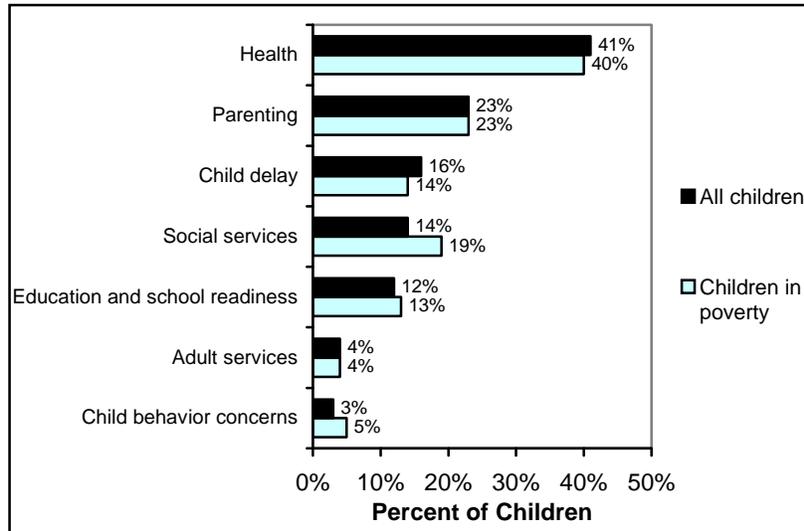
# Referrals

## Overall Referral Levels

### *Service Utilization*

- Among all children enrolled in the ASAP-PIE program, 34% (15,032) received at least one referral.
- Among children in poverty, 47% (7,151) received a referral.
- Figure 44 details the types of referrals provided and gives the percentage of children (out of those for whom information on the type of referral was available,  $n = 5,240$ ; 35% of these were children in poverty) receiving each kind. Table 13 describes the referral types in greater detail.
  - Referrals were most commonly given for health issues (41%), more than half of which were for vision and hearing screening or follow up.
  - Referrals for parenting were second most common (23%); this was accounted for by the provision of READY Kits. About 20% of these referrals were for Infant Mental Health services or Maternal Support Services/Infant Support Services (MSS/ISS).
  - Referrals related to child delay (e.g., assessment, treatment, or follow-up) were provided to 16% of children who received referrals.
  - Social service referrals were provided to 14% of the children and their families who received referrals. These tended to be focused on meeting basic needs or were unspecified. An additional 16% of these referrals were to Child Protective Services.
  - 12% of children received referrals for issues related to education and school readiness. Most frequently, this took the form of a referral to a preschool program or MSRP.
  - Referrals child behavior concerns and adult services each were provided to less than 10% of the children for whom referral type data was available.
- Surprisingly, the proportion of children and families in poverty receiving each type of referral was nearly identical to children enrolled in ASAP-PIE overall (the biggest difference was in social service referrals, where 5% more children in poverty received referrals compared to all children). We could reasonably have expected that families of poorer children would have received a higher number of referrals. However, this did not appear to be the case.

**Figure 44**  
**Percent of Children by Types of Referrals Received**



Note:  $\bar{n}$  for all children = 5,240;  $\bar{n}$  for children in poverty = 1,926.

***Penetration Rates***

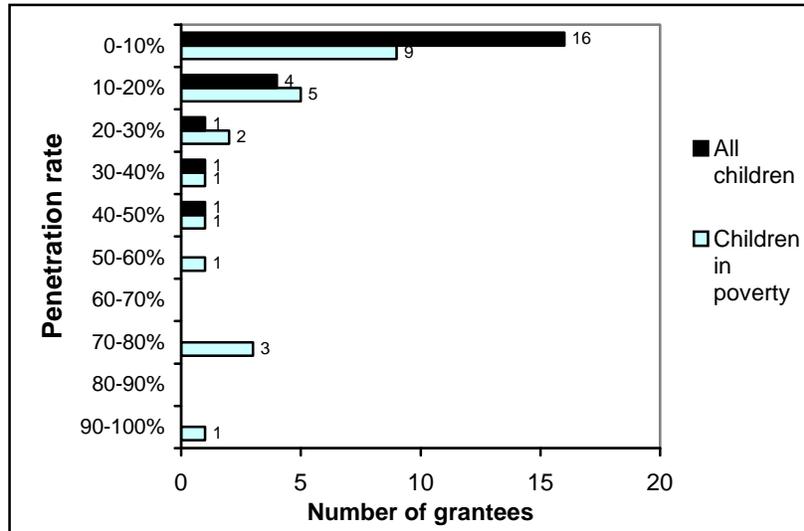
- On average, grantees reported that they provided referrals to 9% of the children age 0-5 years in the counties they served.
- County children in poverty were three times more likely to receive referrals through ASAP-PIE than the population of children as a whole; an average of 27% of children in poverty in the counties served by grantees received referrals.
- Although penetration rates were relatively low for the population of all children, grantees varied substantially in their provision of referrals for children in poverty; nine grantees provided referrals to over 30% and two grantees to at least half of the poor children in their counties (Figure 45).

**Table 13**  
**Types of Referrals**

	<i>Number</i>	<i>Percent of all referrals and within category</i>
<b>HEALTH</b>	<b>2,134</b>	<b>41%</b>
Vision/hearing screening or follow-up	1,147	54%
Health and nutrition, non-specific	735	34%
Safety	355	17%
Insurance	80	4%
<b>PARENTING</b>	<b>1,217</b>	<b>23%</b>
READY Kits	991	81%
Infant Mental Health	209	17%
Maternal Support Services/Infant Support Services	24	2%
<b>CHILD DELAY—assessment, follow-up, and intervention</b>	<b>853</b>	<b>16%</b>
<b>SOCIAL SERVICES</b>	<b>738</b>	<b>14%</b>
Social services--unspecified	285	39%
Basic needs/financial assistance	140	19%
Child Protective Services	119	16%
FIA	78	11%
Housing	65	9%
WIC	64	9%
Shelter/domestic violence	48	7%
<b>EDUCATION AND SCHOOL READINESS</b>	<b>631</b>	<b>12%</b>
Preschool/MSRP	338	54%
Early childhood education	177	28%
K-12 school assistance	148	24%
Child care	55	9%
Library	5	1%
<b>ADULT SERVICES</b>	<b>200</b>	<b>4%</b>
Support	120	60%
Adult education	42	21%
Employment and job skills	21	11%
Legal aid	18	9%
ESL	1	<1%
<b>CHILD BEHAVIOR CONCERNS</b>	<b>158</b>	<b>3%</b>

Note:  $n = 5,240$ ; FIA = Family Independence Agency; WIC = Special Supplemental Nutrition Program for Women, Infants, and Children; MSRP = Michigan School Readiness Program, Michigan Department of Education; ESL = English as a second language.

**Figure 45**  
**Penetration Rates for Referrals**



## ***Who Was More Likely to Receive Services?***

Despite the legislature’s target for ASAP-PIE to provide universal services, for several reasons, it was not expected that grantees would be able to provide services to every child in their communities. First, “universal services” represented a way to enable grantees to *offer* services to families without the constrictions of specific eligibility requirements; but families were always free to *refuse* services. Second, funds were insufficient to provide high-intensity programming for every family, and many grantees made policy decisions about how to distribute service components. Third, because funding was not made on a per capita basis, large communities were inordinately challenged to provide services to all children in the ISD area. Finally, it is likely that some families simply were not aware of the program.

Because of these gaps in who received services, some demographic subgroups were more likely to receive particular service components than others, either because grantees targeted them to receive those services, they were more accessible for recruitment, or they were more willing to participate in those components.

## **Core Services**

Tables 14 through 16 detail differences in core services within each demographic group identified in Section 5. Here, a group represents all children for whom data was available on a specific demographic characteristic (e.g., primary language at home is English/or Spanish/or other). Within each group, we present the percent of children in each subgroup (e.g., language at home is English) who received the service. Whether the difference between subgroups is statistically significant depends, among other things, on the sample size. The amount of available data differed greatly depending on the characteristic being examined, making the results suggestive rather than definitive. In comparisons within groups that have large sample sizes available for comparison, very small differences could be identified as statistically significant, while large

differences between subgroups with relatively small sample sizes could lack statistical significance. To provide some consistency in interpretation, shaded areas identify subgroups for which statistical significance emerged *and* the size of the effect could be considered at least small (i.e., odds ratios greater than 1.50 or less than .67, effect size  $d$  of at least .30, partial  $\eta^2$  at least .01).

The following summarizes the subgroups for which the greatest proportion of children and their families received core services. *It is important to note that this is not a description of the typical child receiving a particular service.* Rather, this provides a list of the characteristics that, based on the data available, were linked to a child's greater likelihood of participating in a service component.

### **Home Visits**

The following are characteristics of children who were more likely to receive home visiting<sup>9</sup>:

- Family income less than \$20,000 per year (1.5 times as likely as children with family incomes over \$60,000)
- Public insurance (1.5 times as likely as children with private insurance)
- Moved in past year (compared to children who had not moved, children who had moved once were 4.2 times more likely; children who had moved more than once were 5.6 times more likely)
- Adolescent mother (1.9 times more likely) compared to non-adolescent mother
- Mother (2.3 times more likely) had not finished high school compared to mother who had finished high school
- Mother was employed (1.9 times more likely) compared to unemployed mother
- Unmarried mother (1.8 times more likely) compared to married mother
- Any family risk indicators (defined as TANF-eligible, adolescent mother, mother has not graduated high school). One risk factor was linked to being 1.6 times as likely, and more than one risk factor was linked to being 2.6 times as likely to receive home visits compared to children from families with no risk indicators
- Enrolled by age 3 years (children up to 12 months were 2.6 times as likely and children aged 12 to 36 months were 1.5 times as likely to receive home visits as children over age 3)
- Had siblings (1.7 times as likely as only children)
- Not in daycare (3.8 times as likely as those in daycare). This would seem to be at odds with the finding that unemployed mothers, whose children presumably would be less likely to be in daycare, were *less* likely to receive home visits. This may be the result of each variable having a somewhat different sample.

### **Parent Education Groups**

The following are characteristics of children whose parents were more likely to participate in parent education groups:

- English was the primary language at home (2.3 times more likely than Spanish speakers, 1.7 times more likely than speakers of other languages)

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<sup>9</sup> Because of the large sample size, even small effects tended to be statistically significant. To provide meaningful interpretation, associations are discussed only if they meet the criteria for at least a small effect.

- Private insurance (1.8 times more likely than children with public insurance)
- Had not moved in the past year (1.7 times more likely than children who had moved once in past year)
- Mother had graduated high school (2.1 times more likely)
- Married mother (1.5 times more likely)
- Child was white (2.1 times more likely than African Americans, 1.9 times more likely than Latinos)
- 1 or 2 siblings (1.5 times more likely than only children)

### ***Parent-Child Play Groups***

The following are characteristics of children who were more likely to participate in parent-child play groups:

- Income over \$20,000, especially over \$60,000 (3 times more likely than those with income under \$20,000)
- Primary language at home is English (2.3 times more likely than Spanish speakers, 1.7 times more likely than speakers of other languages)
- Private insurance (17.7 times more likely than those with no insurance, 2.5 times more likely than those with public insurance)
- No moves in past year (1.7 times more likely than those with one move)
- Mother was not an adolescent (2.1 times as likely as adolescent mother)
- Mother graduated from high school (3.6 times as likely if mother graduated)
- Mother was not employed (2.9 times likely as mothers who are employed)
- Married mother (1.5 times as likely for unmarried mothers)
- Family had none of the three risk indicators (1.8 times as likely as those with one risk factor, 4.3 times as likely as those with two risk factors, and 2.2 times as likely as those with three risk factors).
- Over 12 months (age 12 to 36 months were twice as likely, over 36 months were 1.5 times as likely)
- Child was white (3 times more likely than African Americans, 1.9 times more likely than Latinos)
- Had siblings (1.6 times more likely than only children)

### ***Summary***

Some demographic subgroups had greater participation in some direct service components than in others. Home visiting appeared to have reached a greater proportion of families who had a number of risk characteristics. Given the high levels of need frequently exhibited by these families, it is promising to see that a larger proportion of them were able to access intensive services than of the general public.

Both parent education groups and parent-child play groups were more likely to serve families with few risk factors. Group interventions are frequently difficult to implement in higher-risk populations. Although grantees incorporated strategies such as providing childcare and scheduling groups at a variety of times, constraints that included lack of available child care (in the case of parenting education groups) and transportation, as well as scheduling issues, can make

it difficult for families to attend. In addition, since higher-risk families were more likely to receive home visiting, there may have been less incentive for them to attend groups.

Grantees also varied in their goals for parent-child play groups. For some grantees, play groups provided an opportunity for parents to interact with children in a supportive setting, where facilitators modeled positive play behaviors and provided helpful feedback. These grantees were more likely to view play groups as a complementary component to home visiting. Alternatively, some grantees developed a social support model of parent-child play groups, encouraging families to attend in order for both parents and children to interact with other families. These groups were more likely to serve middle-class families.

## Screening

Tables 14 through 16 detail differences in screening within each demographic group. The following summarizes the subgroups for which the greatest proportion of children received screening. Again, this is not a description of the typical child receiving a screening.

### ***Developmental Screening***

The following are characteristics of children who were more likely to receive developmental screens:

- Primary language in home was English or Spanish (other-language speakers were 3.5 times less likely to receive developmental screening)
- Had insurance, regardless of whether it was public or private (those with no insurance were 7.1 times less likely to receive developmental screening)
- Had moved in past year, especially if had moved only once (3.6 times as likely as those who did not move; those who moved multiple times were 1.6 times more likely compared to those who did not move)
- Adolescent mother (adolescent mother was 1.8 times more likely)
- Mother had not finished high school (mother, 2.2 times more likely)
- Family had at least 2 risk indicators (1.7 times more likely if two risk factors, 2.7 times more likely if three risk factors)
- Enrolled before 12 months of age (2.1 times more likely than those enrolled after age 3)
- White (1.6 times more likely than Latinos, no differences compared to African Americans)
- Had a gestation of 36 weeks or more (1.5 times more likely)

### ***Vision Screening and Hearing Screening***

Vision and hearing screening were frequently provided together as a packaged service. Therefore, characteristics that marked the likelihood of receiving each type of screening were very similar. The following list of factors is applicable for both types of screens except where noted:

- Family income less than \$40,000 per year (vision screen only)
- Primary language at home was Spanish (over 3 times as likely as English speakers; speakers of other languages were about half as likely as English speakers)
- Had insurance (about 5 times as likely as those with no insurance)
- Adolescent mother (about 2.5 times more likely)
- Mother did not graduate high school (1.6 times as likely, vision only)

- Had all three risk factors (5 times more likely to receive vision screening, 2.7 times more likely to receive hearing screening)
- White or Latino (about twice as likely as African Americans)
- Participated in early childhood enrichment (about 1.7 times more likely)

### **Summary**

Certain subgroups were more likely to receive screening than others. Although the results were not consistent, many of the factors that denoted greater likelihood of receiving any type of screening can be considered risk factors, including lower income or having an adolescent or less educated mother. Greater mobility was a characteristic of families who received developmental screening; however, the fact that many had moved only once in the previous year may be linked to the fact that many had an infant under age 1—many families move in the year after a baby is born.

Those families who did not have insurance were particularly *unlikely* to receive screening of any kind, which is particularly concerning. Presumably, families with insurance could have access to some type of vision and hearing screening if they maintained regular visits with their primary health provider. Although the number of families without insurance is small, children from these families comprise an especially high-risk group for poor school readiness.

## **Referrals**

Tables 14 through 15 details differences in referrals within each demographic group. The following are characteristics of children who were more likely to receive referrals:

- Family income less than \$40,000 per year (compared to those with incomes over \$60,000, those with incomes under \$20,000 were 3.1 times more likely, and those with incomes between \$20,000 and \$40,000 were 1.9 times more likely)
- Primary language in home was English or Spanish (compared to English speakers, other language speakers were 2.2 times less likely)
- Did not have insurance (47.8 times more likely than those with insurance)
- Moved in the past year, especially if multiple moves (1.8 times more likely if moved once, 5.8 times more likely if moved more than once)
- Mother was employed (3.1 times more likely if mother)
- Mother was unmarried (1.9 times more likely if unmarried mother)
- Family had at least 1 risk indicator (3.1 times more likely than if no risk factors)
- Child had 3 or more siblings (1.7 times more likely)
- Child was in daycare (1.6 times more likely)

### **Summary**

Referrals were particularly likely to be provided to families who had many factors placing them in need of services and support, including low income, high mobility, and a lack of health care. Given the large number of referrals provided through the ASAP-PIE program, as well as the high penetration rates among families in poverty in many of the communities served, ASAP-PIE appears to have been successful in increasing families' access to needed community services, including those that were not specifically a part of the ASAP-PIE service network.

**Table 14**  
**Odds of Children Receiving Core Services by Family Characteristics**

Family characteristics	CORE SERVICES			SCREENING			REFERRALS
	Home visits	Parent education groups	Parent-child play groups	Developmental screen	Vision screen	Hearing screen	
INCOME. Compared to children from families making \$60,000 and up (n = 1,856):							
\$20,000 and under (n = 1,512)	<b>1.51***</b>	.85*	<b>.33***</b>	1.31***	<b>2.16***</b>	1.29***	<b>3.10***</b>
\$20,000-\$40,000 (n = 1,751)	.95	.99	.79***	1.22**	<b>1.65***</b>	.84*	<b>1.92***</b>
\$40,000-\$60,000 (n = 1,851)	1.14	.83*	.74***	1.39***	1.15	1.12	1.07
HOME LANGUAGE: Compared to children from English-speaking homes (n = 19,047):							
Spanish (n = 329)	.91	<b>.44***</b>	1.15	1.07	<b>3.58***</b>	<b>3.35***</b>	.73*
Other language (n = 596)	<b>.30***</b>	<b>.58***</b>	<b>2.92***</b>	<b>.29***</b>	<b>.54***</b>	<b>.50***</b>	<b>.45***</b>
INSURANCE. Compared to children from homes with private insurance (n = 4,041):							
None (n = 182)	<b>.31***</b>	.70	<b>.06***</b>	<b>.14***</b>	<b>.19***</b>	<b>.14***</b>	<b>47.79***</b>
Public (n = 3,556)	<b>1.50***</b>	<b>.55***</b>	<b>.41***</b>	1.28***	.81***	1.03	1.03
MOBILITY. Compared to children whose families have not moved (n = 2,580):							
More than 1 move (n = 241)	<b>4.27***</b>	.73	<b>.31***</b>	<b>1.69*</b>	1.05	1.26	<b>5.79***</b>
1 move (n = 103)	<b>5.58***</b>	<b>.56**</b>	<b>.24***</b>	<b>3.61***</b>	.91	.86	<b>1.76***</b>

Note: Core services include home visiting, parent education groups, and parent-child play groups; risk index included TANF-eligibility, adolescent mother, and mother who had not graduated high school. Odds ratios can be interpreted as follows: for positive effects (greater likelihood), 1.50 = small effect, 3.50 = a moderate effect, and 9.0 = a large effect; for negative effects (less likelihood), .66 = small effect, .29 = a moderate effect, and .11 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates a positive effect (greater likelihood that something will occur), and gray shading indicates negative effects (less likelihood that something will occur). Although odds ratios may be large, they may not be significant due to small sample sizes. Readers who would like information on the n's per cell may contact the author.

\*p < .05. \*\*p < .01. \*\*\*p < .001.

**Table 15**  
**Odds of Children Receiving Core Services by Mother Characteristics**

<i>Mother characteristics</i>	<i>CORE SERVICES</i>			<i>SCREENING</i>			<i>REFERRALS</i>
	<i>Home visits</i>	<i>Parent education groups</i>	<i>Parent-child play groups</i>	<i>Developmental screen</i>	<i>Vision screen</i>	<i>Hearing screen</i>	
MOTHER AGE: Compared to children with a non-adolescent mother ( $n = 12,001$ ): Adolescent mother ( $n = 760$ )	<b>1.89***</b>	.90	<b>.48***</b>	<b>1.79***</b>	<b>2.54***</b>	<b>2.37***</b>	1.20*
MOTHER EDUCATION: Compared to children whose mother graduated high school ( $n = 10,795$ ): Mother did not graduate high school ( $n = 1,275$ )	<b>2.25***</b>	<b>.47***</b>	<b>.28***</b>	<b>2.22***</b>	<b>1.58***</b>	1.40***	1.13*
MOTHER EMPLOYMENT: Compared to children whose mother was not employed ( $n = 5,610$ ): Mother was employed ( $n = 4,539$ )	<b>1.91***</b>	1.25***	<b>.34***</b>	1.47***	1.06	1.17***	<b>3.14***</b>
MOTHER MARITAL STATUS: Compared to children whose mother was married ( $n = 7387$ ): Unmarried mother ( $n = 1,956$ )	<b>1.84***</b>	<b>.67***</b>	<b>.30***</b>	1.10	1.18**	1.15*	<b>1.90***</b>
RISK INDEX: Compared to children from families with no risk indicators ( $n = 2,759$ ): 3 risk indicators ( $n = 240$ ) 2 risk indicators ( $n = 734$ ) 1 risk indicators ( $n = 2,999$ )	<b>2.69***</b> <b>2.64***</b> <b>1.55***</b>	1.48* .81 1.27**	<b>.45***</b> <b>.23***</b> <b>.55***</b>	<b>2.67***</b> <b>1.70***</b> .84***	<b>5.02***</b> 1.48*** .97	<b>2.70***</b> .93 .71***	<b>3.10***</b> <b>3.10***</b> <b>4.22***</b>

Note: Core services include home visiting, parent education groups, and parent-child play groups; risk index included TANF-eligibility, adolescent mother, and mother who had not graduated high school. Odds ratios can be interpreted as follows: for positive effects (greater likelihood), 1.50 = small effect, 3.50 = a moderate effect, and 9.0 = a large effect; for negative effects (less likelihood), .66 = small effect, .29 = a moderate effect, and .11 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates a positive effect (greater likelihood that something will occur), and gray shading indicates negative effects (less likelihood that something will occur). Although odds ratios may be large, they may not be significant due to small sample sizes. Readers who would like information on the  $n$ s per cell may contact the author.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Table 16**  
**Odds of Children Receiving Core Services by Child Characteristics**

<i>Child characteristics</i>	<i>CORE SERVICES</i>			<i>SCREENING</i>			<i>REFERRALS</i>
	<i>Home visits</i>	<i>Parent education groups</i>	<i>Parent-child play groups</i>	<i>Developmental screen</i>	<i>Vision screen</i>	<i>Hearing screen</i>	
AGE ENROLLED. Compared to children age 36 months and up ( $n = 8,498$ ):							
Birth to 12 months ( $n = 8,589$ )	<b>2.61***</b>	.74***	<b>.67***</b>	<b>2.06***</b>	.80***	1.14***	.83***
12 to 36 months ( $n = 10,717$ )	<b>1.51***</b>	1.02	<b>1.31***</b>	1.36***	.82***	.85***	.95
RACE. Compared to white children ( $n = 17,663$ ):							
African American ( $n = 2,327$ )	1.39***	<b>.48***</b>	<b>.33***</b>	1.02	<b>.47***</b>	<b>.49***</b>	1.10*
Latino ( $n = 1,174$ )	.99	<b>.52***</b>	<b>.54***</b>	<b>.64***</b>	1.27***	1.10	.81**
SEX: Compared to girls ( $n = 13,468$ ):							
Boy ( $n = 14,864$ )	1.02	1.06	1.02	1.02	1.01	.99	.92***
PRETERM: Compared to term children ( $n = 4,014$ ):							
Less than 36 weeks ( $n = 301$ )	.95	.97	1.07	<b>.67***</b>	1.18	.99	1.39*
NUMBER OF SIBLINGS AGE 0-5 YEARS: Compared to children with no siblings ( $n = 18,701$ ):							
1 to 2 siblings ( $n = 23,735$ )	<b>1.67***</b>	<b>1.53***</b>	<b>1.59***</b>	1.09***	.73***	.72***	.99
3 or more siblings ( $n = 2,255$ )	<b>1.69***</b>	1.30***	1.37***	.84***	1.01	.94	<b>1.67***</b>
DAYCARE: Compared to children not in daycare ( $n = 4,784$ ):							
In daycare ( $n = 799$ )	<b>3.85***</b>	.97	.72***	.81*	.83*	1.26*	<b>1.60***</b>
EARLY CHILDHOOD ENRICHMENT <sup>b</sup> : Compared to children who had early childhood enrichment ( $n = 1,073$ ):							
Did not have early childhood enrichment ( $n = 1,385$ )	1.39***	.81*	1.09	.94	<b>.59***</b>	.76**	.78**

Note: Core services include home visiting, parent education groups, and parent-child play groups; risk index included TANF-eligibility, adolescent mother, and mother who had not graduated high school. Odds ratios can be interpreted as follows: for positive effects (greater likelihood), 1.50 = small effect, 3.50 = a moderate effect, and 9.0 = a large effect; for negative effects (less likelihood), .60 = small effect, .29 = a moderate effect, and .11 = a large effect. Shading

indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates a positive effect (greater likelihood that the group received the service) , and gray shading indicates negative effects (less likelihood that the group received the service). Although odds ratios may be large, they may not be significant due to small sample sizes. Readers who would like information on the ns per cell may contact the author.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

## By Program Subgroups

### *Service delivery model*

Differences among the four service delivery models in the services provided is presented below. Each model was compared to the other three combined for the likelihood of a child receiving a particular service. Odds ratios are displayed in Table 17:

- **ISD.** ISDs were particularly likely to provide screening and referral services and particularly unlikely to provide groups. Compared to children in all other service delivery models combined, children in ISD-based programs were 1.5 times more likely to receive a developmental screen, 2.3 times more likely to receive a vision screen, 2.2 times more likely to receive a hearing screen, and 1.7 times more likely to receive a referral. They were 5 times less likely to receive parent education groups and 3.5 times less likely to participate in parent-child play groups.
- **LEA.** LEAs were more likely to provide groups and less likely to provide hearing and vision screening. Compared to children in the other service delivery models, children served by LEAs were 3.3 times more likely to have their parents participate in parent education groups and 2.8 times more likely to participate in parent-child play groups. They were about 2 times less likely to receive vision or hearing screening.
- **Community.** Community models were more likely to provide developmental screens and less likely to provide home visits, parent education groups, or referrals. Compared to children served by the other models, children from community-based models were 2.4 times more likely to receive developmental screens. They were 2.6 times less likely to receive home visits, 2.8 times less likely to receive parent education groups, and 3.1 times less likely to receive referrals.
- **ISD-Community.** ISD-community models were more likely to provide referrals and less likely to provide developmental screening. Compared to children enrolled in other service delivery models, children from ISD-community grantees were 2.1 times more likely to receive referrals and 2 times less likely to receive developmental screens.

### *Investments per Child*

MDE investments per child were examined in conjunction with service delivery. Effect sizes are presented in Table 18:

- **MDE investments per child.** Grantees who spent more MDE funds per child provided more children with core services (moderate effect for home visits, small effects for parent education groups and parent-child play groups). Those who spent more funds provided fewer children with referrals (moderate effect).

### *Summary of Service Utilization by Program Characteristics*

It should be noted that there was a wide range of emphases even within each service delivery model and each model provided all services; however, on average different service models appeared to have different relative emphases. Generally, ISD- and community-based models were particularly likely to provide screening and referrals, and less likely to provide groups, particularly parent education. LEA models provided a high proportion of groups and less screening. ISD-community models were particularly likely to provide referrals rather than core services.

**Table 17**  
**Odds of Children Receiving Services by Service Delivery Model**

Service delivery model (compared to the other three service delivery models)	CORE SERVICES			SCREENING			
	Home visits	Parent education groups	Parent-child play groups	Developmental screen	Vision screen	Hearing screen	Referrals
ISD (n = 5,150)	1.09	.20	.28	1.49	2.26	2.21	1.69
LEA (n = 21,555)	1.19	3.39	2.79	.69	.49	.43	.76
Community (n = 7382)	.39	.36	.89	2.36	1.08	1.46	.32
ISD-Community (n = 10,604)	.76	.94	.74	.51	1.00	.89	2.13

Note: All estimates were statistically significant except for the one between ISD-Community and vision screening. ISD = Intermediate School District; LEA = Local Education Authority; core services include home visiting, parent education groups, and parent-child play groups. Core services include home visiting, parent education groups, and parent-child play groups; risk index included TANF-eligibility, adolescent mother, and mother who had not graduated high school. Odds ratios can be interpreted as follows: for positive effects (greater likelihood), 1.50 = small effect, 3.50 = a moderate effect, and 9.0 = a large effect; for negative effects (less likelihood), .66 = small effect, .29 = a moderate effect, and .11 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates a positive effect (greater likelihood that children served through the service delivery model received the service), and gray shading indicates negative effects (less likelihood that children served through the service delivery model received the service). Although odds ratios may be large, they may not be significant due to small sample sizes. Readers who would like information on the *ns* per cell may contact the author.

**Table 18**  
**Effect Sizes (*d*) for Associations Between Service Utilization and Investments per Child**

	CORE SERVICES			SCREENING			
	Home visits	Parent education groups	Parent-child play groups	Developmental screen	Vision screen	Hearing screen	Referrals
MDE \$ per child	.59	.40	.37	.17	-.10	-.14	-.63

Note: N = 44,691; All estimates were statistically significant. Effect size *d* can be interpreted as .30 = a small effect, .50 = a moderate effect, and .80 = a large effect. Shading indicates effect sizes that can be considered at least small effects. Black shading indicates that children who received the service component were served by programs with greater investments per child; gray shading indicates that children who received the service component were served by programs with less investments per child. Readers who would like information on the *ns* per cell may contact the author.

Unsurprisingly, those grantees who expended more money per child provided more children with core services and developmental screening, and those who expended less money per child concentrated more on providing referrals. Because children who received referrals to partners outside of the grantee’s ASAP-PIE network were unlikely to be assessed for change in outcomes, we are unable to evaluate whether each of these approaches was equally successful in helping children reach the desired outcomes.

# Section 7:

## Child Outcomes

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This section presents results of analyses examining outcomes considered to be associated with school readiness and relevant to the use of special education services. The great majority of enrolled children had not yet entered school at the time the program ended, precluding assessment of their actual ability to meet the challenges of school. Because all grantees had instituted some type of developmental screening measure, school readiness outcomes are based on whether children met the developmental expectations represented in these screening tools. In addition, identification of children with the potential for problems with school achievement is also an important outcome, and is included here. This section describes:

- How outcomes and measures were defined
- Number of children identified with risk for poor school readiness (i.e., developmental delay or vision or hearing problems)
- Change in school readiness: Percent of children who met developmental expectations after first showing delay
- How these outcomes varied as a function of service utilization, demographics, and program characteristics

## *Outcomes and Measures*

### Definition of Outcomes

#### ***School Readiness***

Time-limited funding for ASAP-PIE programs required that most children's outcomes be evaluated *before* they reached school age, since most children entered the program between birth and age 3 years. To maximize the sample available for analysis, school readiness indicators were defined as:

- For children ages 0-5 years, early *predictors* of school readiness, including the development of age-appropriate language skills and cognition, emotion regulation abilities, and the capacity to form and maintain relationships.
- Additionally, for children ages 4 and 5 years, direct indicators of school readiness skills such as emergent literacy and numeracy.

#### ***Reduction of the Use of Special Education Services***

As with the evaluation of school readiness outcomes, the majority of children were not of age to be referred for school special education programs. Development within the normal range was expected to be linked to reduced need for special education programs. Thus, needs for special education services were quantified as:

- Lags in age-appropriate development in the domains of language and cognition, emotion regulation, relationship formation, and physical development
- A vision or hearing screening that indicated the potential for problems and a need for further assessment. The final results of any follow-up that would allow estimates of the rates of confirmed vision and hearing problems were not available.

## Measures

Grantees used a wide variety of measures at intake and to assess the child's progress. The following measures were administered by at least two grantees. Additional information on measures is presented in Appendix A. For some instruments, two assessments were available, enabling evaluation of change over time. For others, only one assessment was available; although we could not examine these measures for change in outcomes, we did evaluate whether differences existed in outcomes depending on service utilization. Sample sizes and the number of grantees who provided data for each measure are detailed in Table 19.

### **General Development**

- **Ages and Stages Questionnaire (ASQ).** The ASQ can be used both as a general screening instrument and an intervention tool for children ages 4 to 60 months. It identifies delay in five areas: a) communication, b) personal social, c) problem solving, d) gross motor, and e) fine motor. Unlike the Denver and the IDA, the ASQ is completed by the caregiver, either alone or during a home visit. Parents are encouraged to try to get the child to achieve developmental tasks and may be coached by a home visitor in ways to elicit the child's behavior. For that reason, the ASQ tends to show far less delay than the IDA or Denver. However, children who do not meet developmental expectations under even these optimal conditions may be at particular risk for future difficulties.
- **Denver Developmental Screening Test (Denver).** The Denver is a general screening tool to assess whether a child's development is within the normal range. It was administered by a staff member with children from birth to 6 years. Assessments were categorized as "pass" or of concern."
- **Infant-Toddler Developmental Assessment (IDA).** The IDA is a targeted assessment designed for early identification of children at developmental risk. A trained staff member administered the IDA among children from birth to 36 months. Eight domains include a) language/communication, b) relationship to inanimate objects (i.e., object play), c) emotion and feeling states, d) relationship to persons, e) self help, f) coping, g) gross motor, and h) fine motor. In general practice, the IDA is frequently administered to children who are already identified as potentially delayed through a brief screen or parent concern. In this sample, such procedures would artificially inflate the percentages of children identified as delayed through the IDA. However, one grantee administered the IDA to all children enrolled in home visiting services, and rates of identified delay were comparable to those of other grantees whose procedures for IDA screening were unknown. IDA results were therefore included in the assessment of general development.

### **Language**

- **Infant Developmental Growth Indicator, Picture Naming Test (IGDI).** The IGDI is a measure of expressive language for children ages 3 to 6 years. Children are presented with a cards picturing common objects and name as many as they can for two minutes.

**Table 19**  
**Sample Sizes and Number of Grantees for School Readiness Measures**

<i>Measure</i>	<i>Number of Time 1 assessments</i>	<i>Number of grantees with Time 1 assessments</i>	<i>Number of Time 2 assessments</i>	<i>Number of grantees with Time 2 assessments</i>
Ages and Stages Questionnaire	8,046	17	3,514	15
Denver Developmental Screening	622	2	366	2
Infant-Toddler Developmental Assessment	617	4	234	4
IGDI Picture Naming Test	1,185	14	578	14
Lollipop Test	255	2	0	0
Brief Infant-Toddler Socioemotional Assessment	907	3	0	0
Ages and Stages Questionnaire: Socioemotional	658	5	234	2

Note: IGDI = Infant Growth Development Indicator.

### ***School Readiness Skills***

- Lollipop Test.** The Lollipop was developed as a diagnostic school readiness screening test for children entering kindergarten and first grade. In addition to a total score, Lollipop subtest include: a) identification of colors and shapes, and copying shapes; b) picture description, position, and spatial recognition; c) identification of numbers, and counting; and d) identification of letters, and writing.

### ***Socioemotional Development***

- Brief Infant-Toddler Social and Emotional Assessment (BITSEA).** The BITSEA is a parent-completed questionnaire that screens for social-emotional problems and delays in competence for children aged 12 to 36 months. The two subscales, problem and competence, were analyzed.
- Ages and Stages Questionnaire: Social-Emotional (ASQ-SE).** The ASQ-SE is a companion to the ASQ—a parent-completed questionnaire designed to screen for social and emotional behavior problems in children aged 6 to 60 months. The total score was used for ASAP-PIE outcome analyses.

# ***Identification of Risk for Poor School Readiness***

## **Developmental Delay**

Some grantees focused on connecting children showing developmental delay with early intervention programs specializing in remediating delay such as Early On® and pre-primary intervention (PPI) programs that already existed in their areas, while others provided core services to address the problems. Developmental delay was assessed through reports at enrollment and/or scores on a developmental screening tool that indicated delay in at least one developmental domain. Here, we focus on number of children identified as delayed on three screening tools that have specific cut-offs for delay: the Denver, the IDA, and the ASQ.

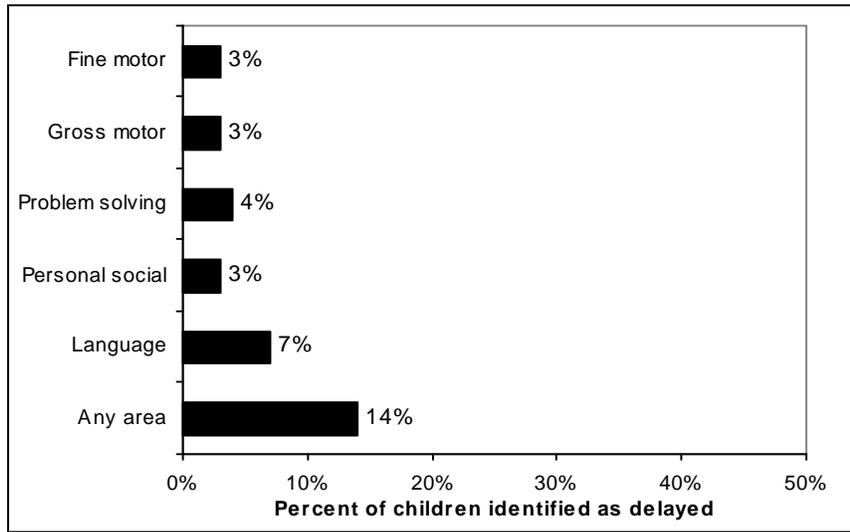
### ***Highlights***

Overall, significant numbers of children were identified as not meeting developmental expectations, particularly on measures that were administered by program staff rather than reported by parents. Because there is no formal or informal policy for developmental screening in, for example, physician's offices, the health department, or child care facilities, most of these children are unlikely to have been identified without the ASAP-PIE program.

### ***Specific Findings***

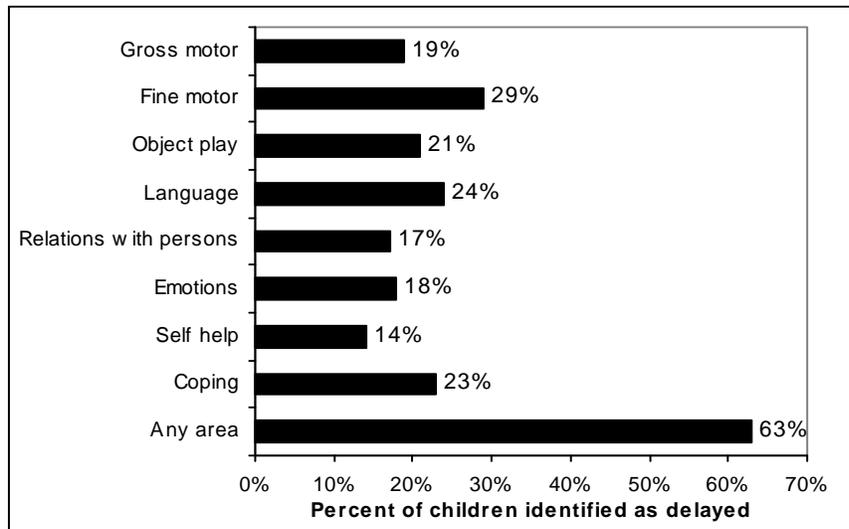
- Of the 12,588 children who received at least one developmental screen, Denver, IDA, or ASQ results were available for 9,030 children. Some children were assessed with more than one of these instruments during their time in the program, resulting in 9,200 initial observations. Of the 9,030 children, 2,030 (23%) displayed results at the first assessment indicating delay in some developmental area:
- **Ages and Stages Questionnaire (ASQ).** Data from this parent-completed measure was available for 8,046 children (Figure 46).
  - Fourteen percent (1,131) of the children were identified with at least one developmental area of concern.
  - In most domains, 3% to 4% of children were reported to be delayed; for the communication domain, it rose to 7%.
- **Denver.** Denver screening was conducted by staff with 622 children. Of these:
  - 80 (13%) were identified as not meeting developmental expectations.
- **IDA.** The IDA was administered by trained staff to 617 children. Of these (see Figure 47):
  - 387 (63%) of the children were found to be delayed in at least one domain.
  - In the areas of language, fine motor skills, object play, and coping, at least 20% of children did not meet developmental expectations.
  - Although less prevalent, problems with gross motor skills, relations with persons, emotions, and self help were found in 14% or more of the children tested.

**Figure 46**  
**Percentage of Children Showing Delay on ASQ by Developmental Area**



Note. ASQ = Ages and Stages Questionnaire.

**Figure 47**  
**Percentage of Children Showing Delay on IDA by Developmental Area**



Note: IDA = Infant-Toddler Developmental Assessment.

## Vision and Hearing Problems

Children begin building toward school readiness from the first moment of birth. Frequently, however, vision and hearing problems that can affect a child's ability to absorb language and social cues from the environment, unless severe, are not identified until the child enters school. Although vision and hearing screening does not necessarily indicate that children have persistent problems that may have an impact on their school performance, it does identify children with potential problems that should be followed up with additional testing. The results of any additional follow-up assessment for vision and hearing problems were not available. It should be noted that grantees used a variety of methods to conduct vision and hearing screenings, which may have had varying degrees of sensitivity.

### Highlights

These results indicate that a substantial number of children with potential vision and hearing problems that required further testing were identified as a result of ASAP-PIE. In addition, ASAP-PIE appears to have been successful in identifying children with potential problems at a younger age than is typical when screening is conducted through physicians' offices and child care centers, thus providing an opportunity to address these problems earlier.

### Specific Findings

Through ASAP-PIE, 10,386 children received vision and/or hearing screening. Of these, 8,203 (79%) received both, 583 (6%) received only vision screening, and 1,600 (15%) received only hearing screening. A total of 8,786 children received vision screening and 9,803 children received hearing screening. Of these:

- 791 (20%) were identified as having potential vision problems
- 954 (24%) were identified as having potential hearing problems
- A greater percentage of younger children were identified with potential problems than older children (see Table 20).

**Table 20**  
**Percent of Children Identified with Potential Vision or Hearing Problems by Age Group**

	<i>Percent of children within the age group identified as having potential problems</i>		
	<i>0 to 12 months</i>	<i>12 to 36 months</i>	<i>36 months and older</i>
Failed vision screening	26%	20%	15%
Failed hearing screening	28%	26%	16%

Note: Both comparisons were significantly different at  $p < .001$ . Readers who would like information on the ns per cell may contact the author.

## ***Change in School Readiness***

Here, we present the percentage of children who were delayed at the first developmental assessment to determine whether they had improved by the time of their final assessment. Three screening measures with cut off points representing delay provided data over at least two assessments: the Denver, IDA, and ASQ. In addition, comparison data was available for the IGDI that characterized trajectories of change over time in both typically and non-typically developing samples.

### **Highlights**

A substantial percentage of children who did not meet developmental expectations in some domain had achieved developmental expectations by their final screening assessment. Depending on the screening tool used and the developmental domain, the percent of children who showed remediation ranged from 43% to 87%. Additionally, results from the IGDI indicated that overall, children aged 36 months and higher had a similar trajectory of expressive vocabulary as a comparison sample of children participating in the intensive services of Head Start in another state; in contrast, children in poverty were initially lower than all children enrolled in vocabulary, but tended to improve at a faster rate.

### **Specific Findings**

#### ***ASQ***

3,514 children received at least two ASQs; 456 (13%) were found to have delay on at least one subscale at time 1 (Figure 48).

- By time 2, most children were meeting developmental expectations; between 69% and 87% of children who had not passed the screen at time 1 were on target by time 2.
- Again, although communication skills showed substantial improvement, children were more likely to repeat their delay on this domain compared to the other domains.

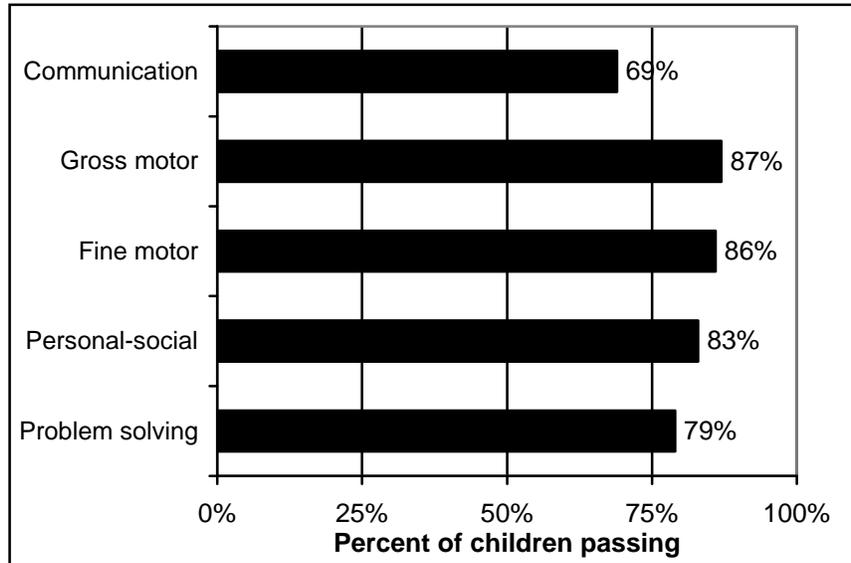
#### ***Denver***

- 366 children received the Denver screening more than once. Of the 35 children (10%) who originally did not meet developmental expectations, 43% were able to meet expectations by the second time.

#### ***IDA***

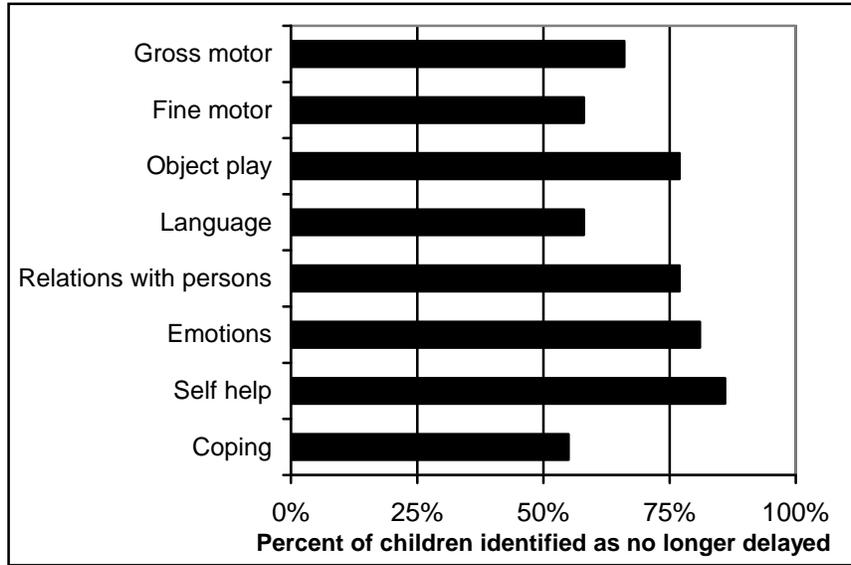
- 234 children received the IDA screening more than once. As shown in Figure 49, by the later assessment, most of the 159 children (68%) who had shown delay met developmental expectations.
- Remediation was particularly strong in areas associated with socioemotional functioning, including self help (86%), emotions and feelings (81%), and relationships with persons (77%), as well as in object play (77%).
- Language and coping showed the least remediation, but for both, more than 50% of previously delayed children were able to pass the screening test.

**Figure 48**  
**Percentage of Children Who Met Developmental Expectations at Time 2**  
**Out of Children Identified as Delayed at Time 1: ASQ**



Note: ASQ = Ages and Stages Questionnaire.

**Figure 49**  
**Percentage of Children Who Met Developmental Expectations at Time 2**  
**Out of Children Identified as Delayed at Time 1: IDA**

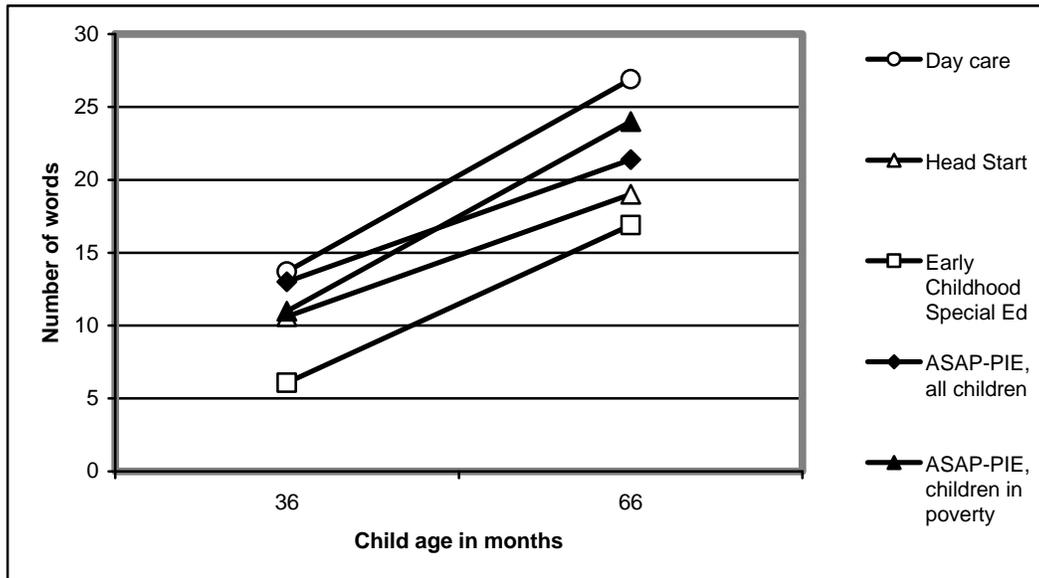


**IGDI**

The Infant Growth Development Indicator (IGDI) Picture Naming test was administered twice to 578 children. We compared the trajectory expressive vocabulary for children enrolled in ASAP-PIE, both all children and those in poverty, to those of comparison samples provided by the IGDI’s developers from typically developing children in daycare settings, in Head Start programs, and in Early Childhood Special Education programs.

- As shown in Figure 50, on average, ASAP-PIE participants initially showed a vocabulary size just below that of children in daycare, and followed a similar trajectory as do children receiving the intensive intervention of Head Start.
- Children in poverty showed the opposite pattern, starting at the level of children in Head Start, and they improved at a slightly faster rate than the full sample, following the trajectory of typically developing children from daycare settings. These results are not statistically significant, but do follow a pattern that supports providing children at high risk for poor school readiness with early intervention that may buffer them against pathways of learning that put them progressively further behind. It is possible that the relatively low scores of the ASAP-PIE children in general relative to the comparison group of daycare children may be due to the fact that families enrolled in ASAP-PIE tended to see some sort of need for participating in the program which may not be captured by the single indicator of poverty, TANF-eligibility; thus, the entire sample may be biased toward delayed language learning compared to a sample derived from private daycare settings. Additionally, 70% of the children in poverty participated in home visits and 82% in core services, compared to all enrolled children, of whom 59% participated in home visits and 70% in core services.

**Figure 50**  
**Change in Vocabulary: Comparison with Non-ASAP-PIE Samples**



# ***Change in Outcomes and Demographic Characteristics***

Although sample sizes were too small and inconsistent to evaluate whether outcomes for particular demographic groups differed depending on the services received, we examined whether particular demographic groups were more likely to show remediation in developmental delay than other groups. Different demographic data tended to be available for different measures and analyses could not be conducted for all demographic variables. In addition, sample sizes range from quite small to quite large, and so these results must again be considered tentative.

## **Highlights**

### **Specific Findings**

#### ***Denver***

On the Denver, two characteristics were associated with a greater likelihood of remediation (Table 21):

- Children whose mother was employed were 5.3 times more likely to pass at time 2
- Children under age 12 months at enrollment were 3.9 times more likely to pass at time 2

#### ***IDA***

Because the sample sizes were too small to analyze differences between demographic groups on the IDA subscales, we examined whether demographics differed for those who improved on any subscale and those who did not. for the IDA subscales were too small for to analyze differences between analysis with relation to demographic characteristics. No demographic characteristics were associated with improvement (Table 22):

#### ***ASQ***

Because of the larger sample size, more demographic data was available for the ASQ; we were therefore able to assess linkages between demographic characteristics and change in school readiness for the separate domains.

#### **Family Characteristics**

Family characteristics were associated with change from delay on at least one subscale to passing all subscales; communication, problem-solving, and fine motor skills (Table 23).

- Lower-income children were less likely to pass at Time 2 than higher-income children
- Spanish-speaking children were more likely to pass at Time 2 than English speakers
- Children from homes without private insurance were more likely to improve in problem-solving and fine motor, but still less likely to pass all subscales

**Table 21**  
**Odds of Children Who Did Not Pass Developmental Screen at Time 1 Passing at Time 2 by Demographic Characteristics: Denver Developmental Screening**

	<i>Odds ratios for likelihood of improvement</i>
INSURANCE ( $n = 243$ ): Compared to children from homes with private insurance: None or public	.75
MOTHER AGE ( $n = 293$ ): Compared to children with a non-adolescent mother: Adolescent mother	.77
MOTHER EDUCATION ( $n = 287$ ): Compared to children whose mother graduated high school: Mother did not graduate	.91
MOTHER EMPLOYMENT ( $n = 202$ ): Compared to children whose mother is not employed Mother is employed	<b>5.31*</b>
MOTHER MARITAL STATUS ( $n = 292$ ): Compared to children whose mother is married Unmarried mother	.95
RISK INDEX ( $n = 132$ ): Compared to children from families with no risk indicators At least 1 (out of 3) risk indicators	2.33
AGE ENROLLED ( $n = 337$ ): Compared to children age 12 to 36 months: Birth to 12 months	<b>3.89*</b>
RACE ( $n = 257$ ): Compared to white children: Children of color	1.39
SEX ( $n = 364$ ): Compared to girls: Boys	1.96
NUMBER OF SIBLINGS ( $n = 366$ ): Compared to children with no siblings: Had siblings	.51

Note: Risk index included TANF-eligibility, adolescent mother, and mother who had not graduated high school. Odds ratios can be interpreted as follows: for positive effects (greater likelihood), 1.50 = small effect, 3.50 = a moderate effect, and 9.0 = a large effect; for negative effects (less likelihood), .66 = small effect, .29 = a moderate effect, and .11 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates greater likelihood that the group improved, and gray shading indicates less likelihood that the group improved. Readers who would like information on the  $n$ s per cell may contact the author.

\* $p < .05$ .

**Table 22**  
**Odds of Children Who Did Not Pass Developmental Screen at Time 1 Passing at Time 2**  
**(IDA) by Demographic Characteristics**

	<i>Odds ratios for likelihood of improvement on any subscale</i>
HOME LANGUAGE ( $n = 95$ ): Compared to children from English-speaking homes:	
Spanish	.72
AGE ENROLLED ( $n = 166$ ): Compared to children 12 to 36 months of age:	
Birth to 12 months	1.39
RACE ( $n = 100$ ): Compared to white children:	
Children of color	.58
SEX ( $n = 185$ ): Compared to girls:	
Boys	.79
NUMBER OF SIBLINGS ( $n = 234$ ): Compared to children with no siblings	
Had siblings	1.00

Note: Odds ratios can be interpreted as follows: for positive effects (greater likelihood), 1.50 = small effect, 3.50 = a moderate effect, and 9.0 = a large effect; for negative effects (less likelihood), .66 = small effect, .29 = a moderate effect, and .11 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates greater likelihood that the group improved, and gray shading indicates less likelihood that the group improved. Readers who would like information on the ns per cell may contact the author.

**Table 23**  
**Odds of Children Who Did Not Pass Developmental Screen at Time 1 Passing at Time 2 by Family Characteristics: Ages and Stages Questionnaire**

	<i>Range of ns across scales</i>	<i>All scales</i>	<i>Communi- cation</i>	<i>Personal- Social</i>	<i>Problem- solving</i>	<i>Gross motor</i>	<i>Fine motor</i>
Income: Compared to children from families making \$40,00 and up:  \$40,000 and under	1,299-1,329	.62*	.67	.65	.49 <sup>t</sup>	.86	.49 <sup>t</sup>
HOME LANGUAGE: Compared to children from English-speaking homes:  Spanish	2,421-2,452	.51	3.80*	1.00	4.62*	2.29	5.03*
INSURANCE. Compared to children from homes with private insurance:  None or public	1,675-1,685	.65**	1.48 <sup>t</sup>	1.70	2.22**	.85	2.46*

Note: Odds ratios can be interpreted as follows: for positive effects (greater likelihood), 1.50 = small effect, 3.50 = a moderate effect, and 9.0 = a large effect; for negative effects (less likelihood), .66 = small effect, .29 = a moderate effect, and .11 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates greater likelihood that the group improved, and gray shading indicates less likelihood that the group improved. Readers who would like information on the *ns* per cell may contact the author.

\**p* < .05. \*\**p* < .01. <sup>t</sup>*p* < .10.

**Parent Characteristics**

Parent characteristics were associated with change from delay on at least one subscale to passing all subscales; communication, personal-social, problem-solving, and fine motor skills (Table 24).

- Children with adolescent mothers were more likely to improve in the personal-social and fine motor domains, but still less likely to pass all subscales
- Children with employed mothers were less likely to improve in communication
- Children with unmarried mothers were less likely to improve in fine motor skills
- Children with any risk indicators were more likely to improve in communication, problem-solving, and fine motor, but still less likely to achieve developmental expectations in all domains.

**Table 24**  
**Odds of Children Who Did Not Pass Developmental Screen at Time 1 Passing at Time 2 by Parent Characteristics: Ages and Stages Questionnaire**

	<i>Range of ns across scales</i>	<i>All scales</i>	<i>Communi- cation</i>	<i>Personal- Social</i>	<i>Problem- solving</i>	<i>Gross motor</i>	<i>Fine motor</i>
MOTHER AGE: Compared to children with non-adolescent mothers:	1,672-1,686						
Adolescent mother		.59 <sup>t</sup>	1.27	3.47*	1.27	.80	2.40 <sup>t</sup>
MOTHER EDUCATION: Compared to children whose mother graduated high school	1,583-1,615						
Mother did not graduate high school		1.02	1.16	.40	1.31	.83	1.03
MOTHER EMPLOYMENT: Compared to children whose mothers are not employed	1,067-1,078						
Mother is employed		1.10	.52*	1.49	1.11	.87	.57
MOTHER MARITAL STATUS: Compared to children whose mothers are married	861-871						
Unmarried mother		.64	1.11	.46	1.84	1.39	2.96 <sup>t</sup>
RISK INDEX: Compared to children from families with no risk indicators	1,195-1,217						
2-3 risk indicators		.52*	2.97**	.56	3.62*	.77	2.99 <sup>t</sup>
1 risk indicators		.55*	3.05***	1.40	2.45 <sup>t</sup>	1.33	1.95

Note: Odds ratios can be interpreted as follows: for positive effects (greater likelihood), 1.50 = small effect, 3.50 = a moderate effect, and 9.0 = a large effect; for negative effects (less likelihood), .66 = small effect, .29 = a moderate effect, and .11 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates greater likelihood that the group improved, and gray shading indicates less likelihood that the group improved. Readers who would like information on the *ns* per cell may contact the author.

\**p* < .05. \*\**p* < .01. \*\*\**p* < .001. <sup>t</sup> *p* < .10.

**Child Characteristics**

Child characteristics were less associated with change than were family and parent characteristics (Table 25).

- Children under 12 months of age were less likely to show improvement in problem-solving.
- Preterm children were more likely to improve in the fine motor domain
- Boys were less likely to improve in communication
- Children with more than 2 siblings were less likely to reach developmental expectations in all domains.

**Table 25**

**Odds of Children Who Did Not Pass Developmental Screen at Time 1 Passing at Time 2 by Child Characteristics: Ages and Stages Questionnaire**

	<i>Range of ns across scales</i>	<i>All scales</i>	<i>Communi- cation</i>	<i>Personal- Social</i>	<i>Problem- solving</i>	<i>Gross motor</i>	<i>Fine motor</i>
AGE ENROLLED. Compared to children age 36 months and up:	2,922-2,948						
Birth to 12 months		1.16	1.19	.87	<b>.23***</b>	.63	.57
12 to 36 months		1.13	.75	1.19	.89	.72	.75
RACE. Compared to white children	2,859-2,882						
African American		1.18	.79	.73	1.01	.37	1.57
Latino		1.16	1.27	.25	1.37	.63	.91
SEX: Compared to girls	2,817-2,851						
Boy		1.21	<b>.67*</b>	.78	.98	.62t	1.10
PRETERM: Compared to term children	1,082-1,087						
Less than 36 weeks		.60	1.89	2.35	.51	.75	<b>3.34*</b>
NUMBER OF SIBLINGS: Compared to children with no siblings	3,417-3,514						
1 to 2 siblings		.93	1.13	.88	1.23	1.28	.80
3 or more siblings		<b>.50**</b>	2.06	1.60	2.01	2.26	.83
DAYCARE: Compared to children not in daycare	312-314						
In daycare		1.25	1.42	1.00	.54	1.00	2.49
EARLY CHILDHOOD ENRICHMENT <sup>b</sup> : Compared to children who had early childhood enrichment	239-242						
Did not have early childhood enrichment		.73	.44	1.00	1.25	1.33	2.62

Note: Odds ratios can be interpreted as follows: for positive effects (greater likelihood), 1.50 = small effect, 3.50 = a moderate effect, and 9.0 = a large effect; for negative effects (less likelihood), .66 = small effect, .29 = a moderate effect, and .11 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates greater likelihood that the group improved, and gray shading indicates less likelihood that the group improved. Readers who would like information on the *ns* per cell may contact the author.

\**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

## **School Readiness Outcomes and Service Utilization**

A premise of ASAP-PIE is that children who received services, particularly core services, would be more prepared to make the transition into school than would children who did not receive services. We were unable to evaluate whether children who were delayed were more likely to receive services, because for many grantees, developmental screening followed enrollment in services; that is, most grantees assessed developmental status for those receiving home visiting and did not use it to prioritize services at intake. Nonetheless, the results outlined in Section 7 suggest that in general, children who were from demographic groups that tend to be at risk for lower school readiness were indeed more likely to receive home visits (as well as screening and referrals), although they were less likely to participate in parent education or parent-child play groups. Additionally, actual preparedness for school entry could be evaluated for only a few children, because most ASAP-PIE participants were not yet school-aged at the end of the program. Other issues include differences among grantees in the selection of which children were assessed (e.g., most grantees assessed the children with whom they had the most contact—those receiving home visiting—but some also conducted school readiness assessments with children who were transitioning to preschool, regardless of whether they had home visiting, or as part of a general kindergarten roundup screening process).

Because of these problems, the results must be considered with caution, and patterns of consistency across measures assessing similar domains should be given more weight than individual findings. We addressed the deficiencies to some extent in the following analyses by statistically controlling for (i.e., equalizing) the following factors:

- Children’s developmental status at the first point it was assessed and examining their developmental status at the last point it was assessed whenever repeated measurements were available
- The amount of time that had passed between the first and last assessment in cases where repeated measurements were available
- The age at which they were assessed for measures that naturally show increases as part of normal development (e.g., vocabulary)
- The amount of time since their enrollment in ASAP-PIE
- Grantee, which represented differences in the selection of which children were assessed and of some demographic characteristics

Many children were missing age and enrollment data, which therefore reduced the sample sizes available. *Due to the restricted sample sizes and the large amount of missing data on demographic characteristics, we were unable to examine the degree to which outcomes were especially positive or negative for children from particular demographic groups as a function of service utilization.*

## Service Components (Received or Not Received) and Child Outcomes

### Highlights

Across measures, home visiting was consistently associated with better outcomes. The exception was on the Lollipop Test, which measures school readiness skills such as numeracy and emergent literacy. Each of the other service components was also related to improvement in developmental delay or higher scores in a domain important to school readiness (except for referrals, which was associated with poorer outcomes on the ASQ), but the patterns of results were not consistent.

### Specific Findings

#### Remediation of Developmental Delay

Table 26 displays the likelihood that children who received a specific service component would show remediation in developmental delay compared to children who did not receive the service. Delay for the IDA and the ASQ, which both have multiple subscales, was assessed both for improvement on *any* subscale (“passed any scale”) and for achieving developmental expectations on *all* subscales (“passed all scales”). For the latter, we statistically controlled for the number of subscales for which the child had shown initial delay. Table 27 details similar analyses for the five domains of the ASQ.

**Table 26**  
Odds Ratios for Associations Between Service Utilization and Improvement in Developmental Delay<sup>1</sup>

	PASSED AT TIME 2 AFTER NOT PASSING AT TIME 1				
	DENVER ( <i>n</i> = 366)	IDA		ASQ	
		Passed some subscale ( <i>n</i> = 234)	Passed all subscales ( <i>n</i> = 234)	Passed some subscale ( <i>n</i> = 3,514)	Passed all subscales ( <i>n</i> = 3,514)
Home visits vs no home visits	<b>3.6*</b>	1.5	<b>2.5*</b>	<b>3.5***</b>	<b>2.0*</b>
Parent education groups vs no parent education groups	1.9	Insufficient data	Insufficient data	1.3	1.1
Parent-child play groups vs no parent-child play groups	.7	.7	.4	1.4	1.2
Vision screening vs no vision screening	.8	2.1	<b>2.4*</b>	.9	1.0
Hearing screening vs no hearing screening	.8	<b>2.3<sup>t</sup></b>	<b>2.6*</b>	1.2	1.3
Referrals vs no referrals	1.9	1.4	2.3	.9	<b>.6*</b>

Note: Odds ratios can be interpreted as follows: for positive effects (greater likelihood), 1.50 = small effect, 3.50 = a moderate effect, and 9.0 = a large effect; for negative effects (less likelihood), .66 = small effect, .29 = a moderate effect, and .11 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates greater likelihood that the group improved, and gray shading indicates less likelihood that the group improved. Readers who would like information on the *ns* per cell may contact the author.

\**p* < .05. \*\*\**p* < .001. <sup>t</sup> *p* < .10.

**Table 27**  
**Odds Ratios for Associations Between Services and Improvement in Developmental Delay:**  
**Specific Domains of the Ages and Stages Questionnaire**

<i>Service components</i>	<i>Communi- cation</i> ( <i>n</i> = 3,475)	<i>Personal- social</i> ( <i>n</i> = 3,473)	<i>Problem- solving</i> ( <i>n</i> = 3,458)	<i>Gross motor</i> ( <i>n</i> = 3,470)	<i>Fine motor</i> ( <i>n</i> = 3,475)
Home visits vs no home visits	2.02***	2.78***	2.68***	1.90 <sup>t</sup>	2.60***
Parent education groups vs no parent education groups	.96	.89	1.02	1.07	.73
Parent-child play groups vs no parent-child play groups	1.06	2.28***	1.54*	1.48	1.58 <sup>t</sup>
Vision screening vs no vision screening	.95	13.08***	.97	.82	1.44
Hearing screening vs no hearing screening	1.47*	1.37	1.93*	1.08	1.23
Referrals vs no referrals	.58***	.32***	.45***	.46***	.28***

Note: Odds ratios can be interpreted as follows: for positive effects (greater likelihood), 1.50 = small effect, 3.50 = a moderate effect, and 9.0 = a large effect; for negative effects (less likelihood), .66 = small effect, .29 = a moderate effect, and .11 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates greater likelihood that the group improved, and gray shading indicates less likelihood that the group improved. Readers who would like information on the *ns* per cell may contact the author.

\**p* < .05. \*\*\**p* < .001. <sup>t</sup> *p* < .10.

■ **Home visiting**

- **ASQ.** Among children assessed with the ASQ, those receiving home visits were 3.5 times more likely to have improved on at least one subscale that had shown delay and twice as likely to meet all developmental expectations after showing initial delay than those who did not receive home visits. As shown in Table 26, home visiting was associated being at least twice as likely to pass on all ASQ subscales except gross motor, which tended to show the same pattern.
- **Denver.** Among children assessed with the Denver, those receiving home visits were 3.6 times more likely to have improved than those who did not receive home visits.
- **IDA.** Among children assessed with the IDA, those receiving home visits were 2.5 times more likely to have met all developmental expectations by the final assessment after showing initial delay than those who did not receive home visits.

■ **Parent education groups**

- **ASQ.** No differences.
- **Denver.** No differences.
- **IDA.** Insufficient data for parent education groups.

- **Parent-child play groups**
  - **ASQ.** Children who participated in parent-child play groups were 2.3 times more likely to improve in the personal-social domain and 1.5 times more likely to improve in the problem-solving domain of the ASQ than those who did not participate.
  - **Denver.** No differences.
  - **IDA.** No differences.
- **Vision screening**
  - **ASQ.** Children who received vision screening were 13 times more likely to improve in the ASQ personal-social domain, although not on the overall ASQ scales. This unexpectedly strong finding is likely be the result of chance, as there is no reason to expect vision screening to make a particularly substantial difference in a child's relationships with others.
  - **Denver.** No differences.
  - **IDA.** Children who received vision screening were 2.4 times more likely to meet all developmental expectations on the IDA by the final assessment compared to those who did not.
- **Hearing screening**
  - **ASQ.** Although hearing screening was not linked to improvements in ASQ overall scores, children who received hearing screening were 1.5 times more likely to improve in communication and 1.9 times more likely to improve in problem-solving compared to children who did not receive hearing screening.
  - **Denver.** No differences.
  - **IDA.** Children who received hearing screening were 2.3 times more likely to improve in at least one developmental domain that had shown delay than children who were not screened. They were also 2.6 times more likely to meet all developmental expectations on the IDA by the final assessment compared to those who were not screened.
- **Referrals**
  - **ASQ.** Children who received referrals were 1.7 times less likely than those who did not receive referrals to meet all developmental expectations on the ASQ by the later assessment. This negative relationship between referrals and improvement was consistent across all the ASQ subscales, ranging from 1.7 to 3.6 times less likelihood of improvement in delay compared to those who did not receive referrals.

### **School Readiness**

Four measures provided data that represented important domains of school readiness: The Lollipop Test (e.g., counting, writing, letter identification, shapes, colors), the IGDI (expressive language), the BITSEA (behavior problems and competence), and the ASQ-SE (behavior problems). Lollipop, BITSEA, and ASQ-SE data was available at only one point. Analyses examined the difference in average scores for groups of children who did or did not receive a specific service after controlling for their age at the time of testing and for the amount of time since enrollment in ASAP-PIE. The IGDI was the only measure available at two timepoints, and analyses were conducted similarly, but also controlling for scores at the first assessment.

- **Lollipop.** Small but statistically significant findings in the area of writing skills were evident for children who received parent education groups, developmental screening, and referrals (Table 28):
  - **Parent groups.** Children whose parents attended parent education groups did significantly better in the area of writing than children whose parents did not attend parent education groups. They also tended to score better on the counting scale.
  - **Developmental screening.** Children who received developmental screening had lower scores on writing than children who did not receive screening. They tended to do better on the spatial subscale.
  - **Referrals.** Children who received referrals scored higher on writing skills than children who did not receive referrals. They also tended to score higher in the area of shapes and color identification. Although this finding contrasts with those of the ASQ, which showed that children who received referrals were less likely to improve on the ASQ, they are also different groups of children.

**Table 28**  
**Differences in School Readiness as a Function of Service Utilization:**  
**The Lollipop Test (n = 292)**

	MEAN SCORE		<i>F</i>	Effect size— Partial $\eta^2$
	<i>Did not receive service</i>	<i>Received service</i>		
<b>Parent education groups</b>				
Shapes	16.02	16.10	.30	.001
Spatial	14.07	14.42	1.42	.005
Counting	<b>14.90</b>	<b>15.58</b>	<b>3.55<sup>t</sup></b>	<b>.012</b>
Writing	<b>14.03</b>	<b>15.15</b>	<b>3.77*</b>	<b>.013</b>
Total	59.71	61.28	2.50	.009
<b>Developmental screening</b>				
Shapes	16.10	15.92	.86	.003
Spatial	<b>14.09</b>	<b>14.67</b>	<b>3.10<sup>t</sup></b>	<b>.011</b>
Counting	15.31	14.88	1.01	.003
Writing	<b>14.90</b>	<b>13.38</b>	<b>5.11*</b>	<b>.017</b>
Total	60.40	60.47	.003	.000
<b>Referral</b>				
Shapes	<b>15.84</b>	<b>16.16</b>	<b>3.29<sup>t</sup></b>	<b>.011</b>
Spatial	14.13	14.27	.22	.001
Counting	14.98	15.31	.71	.002
Writing	<b>13.60</b>	<b>14.96</b>	<b>4.81*</b>	<b>.016</b>
Total	59.74	60.73	.86	.003

Note: The partial  $\eta^2$  effect size can be interpreted as follows: .01 = small effect, .06 = a moderate effect, and .09 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates that there are differences between the groups that did and did not improve and marks the group with the more positive score.. Readers who would like information on the *ns* per cell may contact the author.

\**p* < .05. <sup>t</sup> *p* < .10.

- **IGDI.** There were no significant differences on the IGDI between children who received specific services and those who did not. The pattern of results suggested that children who received home visits had higher IGDI scores than those who did not receive home visits, but this finding was not statistically significant.
- **BITSEA.** Children who received core services showed better outcomes on the BITSEA compared to those who did not. There were no differences on the BITSEA for children who received screening or referrals compared to those who did not. As shown in Table 29:
  - **Home visits.** Children who received home visits were reported to have fewer behavior problems and greater competence than those who did not receive home visits (small effects).
  - **Parent education groups.** Children whose parents attended parent education groups were more competent than children whose parents did not (very small effect).
  - **Parent-child play groups.** Children who participated in parent-child play groups had fewer problems (very small effect) and were more competent (small effect) compared to children who did not.

**Table 29**  
**Differences in Child Behavior as a Function of Service Utilization:**  
**Brief Infant-Toddler Socioemotional Assessment (BITSEA) (n = 907)**

	<i>MEAN SCORE</i>		<i>F</i>	<i>Effect size— Partial eta<sup>2</sup></i>
	<i>Did not receive service</i>	<i>Received service</i>		
Home visits				
Problems	.33	.28	10.99***	.010
Competence	1.56	1.62	9.21**	.012
Parent education groups				
Problems	.30	.28	.71	.001
Competence	1.59	1.63	4.72*	.005
Parent child play groups				
Problems	.31	.28	4.68*	.005
Competence	1.58	1.63	8.02**	.009

Note: The partial eta<sup>2</sup> effect size can be interpreted as follows: .01 = small effect, .06 = a moderate effect, and .09 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates that there are differences between the groups that did and did not improve and marks the group with the more positive score.. Readers who would like information on the ns per cell may contact the author.

\*p < .05. \*\*p < .01. † p < .10.

- **ASQ-SE.** Socioemotional functioning as measured by the ASQ-SE was not linked to whether specific services were received (n = 658).

## Pattern of Core Service Components and Child Outcomes

We next examined whether child outcomes differed for children receiving different configurations of the core services, home visits, parent education groups, and parent-child play groups. Insufficient numbers of participants with outcome data received only parent education groups or only parent-child play groups to evaluate those patterns' links to child outcomes relative to the other patterns.

### **Highlights**

Two service patterns, home visits and play groups or home visits, parent education groups, and play groups, were particularly associated with greater likelihood of remediation or higher scores in school readiness outcomes compared to children who did not receive core services. Home visiting without additional groups was also linked to positive outcomes, but not as consistently.

### **Specific Findings**

#### **Remediation of Developmental Delay**

When separated into groups receiving different service configurations, the sample sizes for the IDA data were too small for analysis. Table 30 describes the likelihood of children receiving the various service configurations improving after developmental delay compared to children who had not received those services.

- **Home visits only**
  - **ASQ.** Children who received home visits but no other core services were about 2.8 times more likely to meet developmental expectations on their second ASQ assessment compared to children who did not receive any core services.
  - **Denver.** Children assessed with the Denver also tended to be more likely to pass (although the odds ratio for the Denver is larger than those for the ASQ, the sample size is smaller, which affects the statistical significance).
- **Home visits and play groups.**
  - **ASQ.** Children who received a combination of home visits and play groups were around 3 times more likely to improve compared to those who received no core services.
  - **Denver.** Children who received home visits and play groups were about 8 times more likely to improve compared to those who received no core services.
- **Home visits and parent groups.**
  - **ASQ.** Children who received both home visits and parent groups showed the same pattern of positive results as the previous configurations. However, although children receiving this service pattern tended to be more likely to meet all developmental expectations at the final assessment after showing previous delay, this was not significantly significant.
  - **Denver.** No differences compared to children who received no core services.
- **Home visits, parent-child play groups, and parent education groups.**
  - **ASQ.** Children who received all three core services were 4.4 times more likely to improve in at least one domain and were 2.7 times more likely to meet all

developmental expectations after having previously showed delay compared to children who received no core services

- **Denver.** Although the results showed similar positive findings, they were not statistically significant..

**Table 30**  
**Odds of Children Passing Developmental Screen at Time 2 After Not Passing at Time 1 by**  
**Pattern of Core Service Utilization:**  
**Denver Developmental Screen and Ages and Stages Questionnaire**

<i>Compared to children who did not receive any core services</i>	ASQ ( <i>n</i> = 3,514)		
	<i>DENVER (<i>n</i> = 366)</i>	<i>Passed some subscale</i>	<i>Passed all subscales</i>
Home visits only	3.41 <sup>†</sup>	2.90**	2.77**
Home visits and play groups	8.34*	3.13**	2.98**
Home visits and parent groups	2.85	2.14	2.92 <sup>†</sup>
Home visits, play groups, and parent groups	1.94	4.43***	2.74*
Parent groups and play groups	Insufficient data	.78	1.94

Note: There was insufficient data to make comparisons by service use pattern for children screened using the IDA, as well as for children receiving play groups or parent groups only. Odds ratios can be interpreted as follows: for positive effects (greater likelihood), 1.50 = small effect, 3.50 = a moderate effect, and 9.0 = a large effect; for negative effects (less likelihood), .66 = small effect, .29 = a moderate effect, and .11 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates greater likelihood that the group improved, and gray shading indicates less likelihood that the group improved. Readers who would like information on the *ns* per cell may contact the author.

\**p* < .05. \*\**p* < .01. \*\*\**p* < .001. <sup>†</sup> *p* < .10.

**School Readiness**

Data on the pattern of services received could be analyzed to some extent for children who received the Lollipop or the BITSEA, but was again limited to those patterns of service received by a sufficient number of children. Thus, for the Lollipop analysis, we were only able to assess differences in child outcomes for the service patterns of home visits only, all three core services, and no core services. For the BITSEA, we could analyze differences in child outcomes for the service patterns of home visits only, home visits and parent-child play groups, all three services, and no core services. Estimated mean scores (after controlling for age at testing and time since enrollment) for each of the service groups are presented in Tables 31 and 32 for the Lollipop and BITSEA, respectively.

- **Lollipop.** For the Lollipop, writing again emerged as the key skill domain linked to service utilization. Children who received all three core services had significantly higher scores on the writing subscale than children who received no core services (small effect).
- **BITSEA.** Regardless of the configuration, children who received one of the core service patterns had significantly fewer behavior problems than the children who did not receive core services. Additionally, children who received home visits and play groups, whether or not they were in conjunction with parent education groups, were reported to have higher competence than children who received no core services (small effects).

**Table 31**  
**Differences in School Readiness Skills by Patterns of Core Service Utilization:**  
**The Lollipop Test (*n* = 292)**

	MEAN SCORE			<i>F</i>	Effect size— Partial $\eta^2$
	<i>Home visits only</i>	<i>Home visits, play groups, and parent groups</i>	<i>No core services</i>		
Shapes	16.03	16.12	16.06	.10	.001
Spatial	13.96	14.44	14.50	1.28	.011
Counting	15.12	15.52	14.86	1.05	.009
Writing	14.89	<b>15.11<sup>a</sup></b>	<b>13.23<sup>b</sup></b>	<b>2.98*</b>	<b>.024</b>
Total	60.01	61.24	60.51	.57	.005

Note: Values with different superscripts are significantly different from one another. The partial  $\eta^2$  effect size can be interpreted as follows: .01 = small effect, .06 = a moderate effect, and .09 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates that there are differences between the groups that did and did not improve and marks the group with the more positive score.. Readers who would like information on the *ns* per cell may contact the author.

\**p* < .05. \*\**p* < .01. <sup>t</sup>*p* < .10.

**Table 32**  
**Differences in Behavior Problems and Competence by Patterns of Core Service Utilization:**  
**BITSEA (*n* = 907)**

	MEAN SCORE				<i>F</i>	Effect size— Partial $\eta^2$
	<i>Home visits only</i>	<i>Home visits and play groups</i>	<i>Home visits, play groups, and parent groups</i>	<i>No core services</i>		
Problems	<b>.28<sup>a</sup></b>	<b>.28<sup>a</sup></b>	<b>.28<sup>a</sup></b>	<b>.34<sup>b</sup></b>	<b>3.76**</b>	<b>.017</b>
Competence	1.59	<b>1.62<sup>a</sup></b>	<b>1.64<sup>a</sup></b>	<b>1.56<sup>b</sup></b>	<b>3.15*</b>	<b>.015</b>

Note: Values with different superscripts are significantly different from one another. The partial  $\eta^2$  effect size can be interpreted as follows: .01 = small effect, .06 = a moderate effect, and .09 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates that there are differences between the groups that did and did not improve and marks the group with the more positive score.. Readers who would like information on the *ns* per cell may contact the author.

\**p* < .05. \*\**p* < .01. <sup>t</sup>*p* < .10.

## Service Dosage and Child Outcomes

The previous sections examined service utilization with respect to service receipt—yes or no—but did not evaluate whether different *dosages*—more or less—of service was associated with outcomes. Two measures of dosage were evaluated: a) number of home visits and b) total hours of core services. Dosage data was available for fewer participants than was data indicating whether or not the service component was received at all, which may have affected our ability to find statistically significant relationships for some measures. Findings centered on links between dosage and remediation of developmental delay.

### Highlights

Children who showed developmental delay at the first assessment and subsequently improved tended to receive a greater number of home visits than children with other patterns of screening results over time. However, it was the group of children who passed the first assessment and then showed delay on their final assessment that received the most total hours of core services. It must be noted that this was a relatively small group and the results were available for only one measure (the ASQ). School readiness outcome measures either had too little data for analysis or did not evidence significant differences with respect to either number of home visits or total hours of core service.

### Specific Findings

#### Remediation of Developmental Delay

Table 33 presents the average number of home visits for each pattern of developmental screening results: a) fail at both the first and last assessment, b) fail the first and pass the last assessment, c) pass the first and fail the last assessment, and d) pass both times. Sufficient data for total hours of core service was available only for children who received the ASQ, and is presented in Table 34.

- **Denver.** The groups differed in the number of home visits received. Specifically, children who failed the first assessment and passed the second received more home visits (an average of 7.8 visits) compared to any of the other three groups, which ranged from 1.5 to 2.9 visits.
- **IDA.** There were no significant differences in the number of home visits received by the various groups, although the pattern of results indicates that children who passed both times received fewer home visits in general. This may suggest that grantees who used the IDA may have been likely to target higher levels of home visiting services toward children who were more at risk for developmental delay.<sup>10</sup>
- **ASQ.** Significant differences in dosage among groups emerged.
  - **Pass any scale.** Children who failed the first time and improved in at least some domain by the final assessment received the most home visits, which approached statistical significance in comparison to the group of children who passed both times. However, children who originally passed, then failed, tended to receive more hours of core services than the other groups.
  - **Pass all scales.** However, when the outcome was defined as meeting *all* developmental expectations by the later assessment, the group that did not meet expectations at either time turned out to have the most home visits. Because of small

<sup>10</sup> See note regarding use of the IDA and comparability in this sample on p. 99.

**Table 33**  
**Differences in Number of Home Visits by Patterns of Developmental Screening Results**

Subscales	AVERAGE NUMBER OF HOME VISITS				F
	Did not pass at Time 1 or Time 2	Passed at Time 1, did not pass at Time 2	Passed at Time 1, did not pass at Time 2	Passed at Time 1 and Time 2	
Denver	2.9 <sup>a</sup>	7.8 <sup>b</sup>	1.5 <sup>a</sup>	1.8 <sup>a</sup>	21.79***
IDA					
At least one subscale	11.6	9.8	9.1	5.5	.68
All subscales	10.6	9.6	9.1	5.0	.65
ASQ					
At least one subscale	14.7	16.1	15.7	14.0	2.62*
All subscales	16.3	14.7	15.7 <sup>a</sup>	14.0 <sup>b</sup>	2.78*
Communication	15.2	18.2 <sup>a</sup>	16.7	13.9 <sup>b</sup>	4.68**
Personal social	17.1	17.6	17.5	14.1	1.81
Problem solving	18.9	14.0	13.1	14.2	.71
Gross motor	17.8	13.1	14.1	14.3	.42
Fine motor	7.4	13.2	13.3	14.3	.80

Note: Values with different superscripts across the row are significantly different from one another. Shading indicates scores that are highest and/or significantly different from others. Readers who would like information on the *ns* per cell may contact the author.

\**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

sample sizes, this group was not significantly different from the other groups; significant differences were between the group that passed all scales at time 1, but failed at least one scale at time 2, and the group that met developmental expectations at both points. A similar pattern was evident for total hours of service, with children who passed all scales, then failed at least one, tending to receive more hours of service than the other groups.

- **Subscales.** Only the communication domain showed group differences as a function of home visiting dosage; on average, children who initially failed, then passed, on communication received significantly more home visits than children who passed both times. However, as with the total scales, the group that passed, then failed, received more total hours of core services than the other three groups.

**School Readiness Outcomes**

For the school readiness outcomes measured by the Lollipop, IGDI, BITSEA, and ASQ-SE, either there was insufficient data for analysis of dosage, or all relationship were statistically insignificant.

**Table 34**  
**Differences in Hours of Core Services by Patterns of Developmental Screening Results: ASQ**

AVERAGE TOTAL HOURS OF CORE SERVICES					
Subscale	Did not pass at Time 1 or Time 2	Passed at Time 1, did not pass at Time 2	Passed at Time 1, did not pass at Time 2	Passed at Time 1 and Time 2	F
At least one subscale	23.5	24.7 <sup>a</sup>	32.4 <sup>b</sup>	24.5 <sup>a</sup>	2.50 <sup>t</sup>
All subscales	24.2	25.7 <sup>a</sup>	32.4 <sup>b</sup>	24.5 <sup>a</sup>	2.52 <sup>t</sup>
Communication	22.5 <sup>a</sup>	26.4 <sup>a</sup>	41.1 <sup>b</sup>	24.4 <sup>a</sup>	6.42 <sup>***</sup>
Personal social	22.7	25.6	20.9	25.1	.12
Problem solving	13.3	21.7	27.8	25.1	.51
Gross motor	17.5	21.7	28.1	25.2	.42
Fine motor	30.5	25.0	28.3	25.0	.94

Note: Values with different superscripts across the row are significantly different from one another. Shading indicates scores that are highest and/or significantly different from others. Readers who would like information on the ns per cell may contact the author.

\*\*\*p < .001. <sup>t</sup> p < .10.

## **School Readiness Outcomes and Program Characteristics**

An additional question was whether grantees’ program characteristics were associated with children’s outcomes. We examined this question for data on remediation of developmental delay. Two program characteristics were examined: a) service delivery model, and b) MDE dollars expended per child.

### **Highlights**

Significant results for analyses of outcomes with relation to program characteristics were spotty. Based on the pattern of findings, the **results tentatively suggest that community-based models are associated with greater likelihood of remediation of developmental delay** than the other models, and that **children who show no delay over two timepoints are enrolled in programs in which more dollars are expended per child than children who show delay over both timepoints.**

### **Specific Findings**

#### **Service Delivery Model**

The likelihood of the four service delivery models (i.e., ISD, LEA, community, and ISD-community) increasing or decreasing the likelihood of remediation of developmental delay was evaluated for the IDA and ASQ; because only two grantees provided Denver data, associations with service delivery model could not be assessed for the Denver. ASQ data was provided by 17 grantees of varying model types, but IDA data came from four grantees, each of whom represented a different service delivery model. Although analysis of this IDA data may

be akin to analysis of grantee differences, the results are included so that we may review patterns of findings across measures.

- Children who exhibited delay and were enrolled in programs using community service models were more likely to improve compared to children exhibiting delay and enrolled in the other three service delivery models (Table 34) (3.4 times more likely on the IDA, almost twice as likely on the ASQ).
- Children who were delayed and were enrolled programs using an ISD service delivery model were about three times less likely to improve on at least one IDA scale compared to children who were delayed and enrolled in the other three service delivery models (Table 35). The ASQ showed the same pattern, but the result was not statistically significant. This finding, however, may be specific to this particular grantee’s program.
- As shown in Table 36, in comparison to children enrolled in ISD and ISD-Community models, children who were delayed on the ASQ communication scale were more likely to improve if enrolled in programs using a community model and less likely to improve if enrolled in programs using an LEA model. In addition, children who were delayed on the ASQ problem solving scale tended to be more likely to improve if enrolled in programs utilizing community centered models and were less likely to improve if enrolled in ISD models. There was insufficient data available for analysis of the IDA subscales.

**Table 35**  
**Odds Ratios for Associations Between**  
**Improvement in Developmental Delay and Service Delivery Models**

<i>Compared to children from the other three service delivery models</i>	<i>IDA</i>		<i>ASQ</i>	
	<i>Passed any scale</i>	<i>Passed all scales</i>	<i>Passed any scale</i>	<i>Passed all scales</i>
ISD	.30*	.30	.45	1.53
LEA	1.96	1.00	.81	.74
Community	3.37*	3.04	1.97*	1.57 <sup>†</sup>
ISD-Community	.51	1.00	.77	.69

Note: Odds ratios can be interpreted as follows: for positive effects (greater likelihood), 1.50 = small effect, 3.50 = a moderate effect, and 9.0 = a large effect; for negative effects (less likelihood), .66 = small effect, .29 = a moderate effect, and .11 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates greater likelihood that the group improved, and gray shading indicates less likelihood that the group improved. Readers who would like information on the *ns* per cell may contact the author.

\**p* < .05. <sup>†</sup> *p* < .10.

**Table 36**  
**Odds Ratios for Associations Between Outcomes and Service Delivery Models:**  
**Ages and Stages Questionnaire**

	<i>Communi- cation/</i>	<i>Personal- social</i>	<i>Problem solving</i>	<i>Gross motor</i>	<i>Fine motor</i>
ISD	1.14	3.04	.27*	2.29	1.00
LEA	.71*	1.17	.85	.90	.92
Community	1.53*	.86	1.46 <sup>†</sup>	1.13	.91
ISD-Community	.82	.76	.79	.82	1.01

Note: Odds ratios can be interpreted as follows: for positive effects (greater likelihood), 1.50 = small effect, 3.50 = a moderate effect, and 9.0 = a large effect; for negative effects (less likelihood), .66 = small effect, .29 = a moderate effect, and .11 = a large effect. Shading indicates effects that are both statistically significant and reach the magnitude of at least a small effect. Black shading indicates greater likelihood that the group improved, and gray shading indicates less likelihood that the group improved. Readers who would like information on the *ns* per cell may contact the author.

\**p* < .05. <sup>†</sup>*p* < .10.

***MDE \$ Expended per Child***

The amount of money spent per child was evaluated for its association with child outcomes. Only funding provided by MDE was included in this analysis, as not all local match funds that were expended had been reported by the time of this report, thereby precluding analysis of total funds expended per child. Tables 37 and 38 show average dollars expended per child for each of the four groups derived from the pattern of screening results over time.

- Between the IDA and the ASQ, significant differences emerged for three subscales. All showed similar patterns in that children who passed the developmental screen both times were enrolled in programs that spent significantly more MDE funds per child than children who failed the developmental screen both times.
- For the IDA emotions and feelings subscale, a trend emerged that was not in line with the above results. Children who failed both times tended to participate in programs that expended more funds per child relative to the other groups.
- In addition, for IDA coping, children who passed initially and subsequently emerged as delayed were also enrolled in programs with more dollars expended per child compared to those who failed twice.

**Table 37**  
**Average MDE \$ Invested per Child By Patterns of Screening Results over Time: IDA**

AVERAGE MDE \$ INVESTED PER CHILD					
Subscale	Did not pass at Time 1 or Time 2	Passed at Time 1, did not pass at Time 2	Passed at Time 1, did not pass at Time 2	Passed at Time 1 and Time 2	F
At least one subscale	\$513	\$539	\$550	\$547	1.92
All subscales	\$534	\$532	\$550	\$547	.72
Language/communication	\$543	\$554	\$562	\$551	1.14
Object play	\$551	\$545	\$544	\$553	.66
Relationship to persons	\$553	\$557	\$543	\$546	.52
Emotions and feelings	<b>\$582</b>	<b>\$549</b>	<b>\$542</b>	<b>\$546</b>	<b>2.38<sup>t</sup></b>
Self help	\$571	\$556	\$564	\$546	1.52
Coping	<b>\$501<sup>a</sup></b>	<b>\$536</b>	<b>\$558<sup>b</sup></b>	<b>\$545<sup>b</sup></b>	<b>4.07<sup>**</sup></b>
Gross motor	\$552	\$543	\$556	\$549	.57
Find motor	\$540	\$543	\$558	\$552	1.53

Note: Values with different superscripts across the row are significantly different from one another. Shading indicates scores that are highest and/or significantly different from others. Readers who would like information on the ns per cell may contact the author.

<sup>\*\*</sup>p < .01. <sup>t</sup>p < .10.

**Table 38**  
**Average MDE \$ Invested Per Child By Patterns of Screening Results over Time: Ages and Stages Questionnaire**

AVERAGE MDE \$ INVESTED PER CHILD					
Subscale	Did not pass at Time 1 or Time 2	Passed at Time 1, did not pass at Time 2	Passed at Time 1, did not pass at Time 2	Passed at Time 1 and Time 2	F
At least one subscale	\$598	\$588	\$554	\$601	1.07
All subscales	\$607	\$554	\$554	\$601	1.63
Communication	\$608	\$614	\$579	\$601	.20
Personal social	<b>\$416</b>	<b>\$481</b>	<b>\$470</b>	<b>\$605</b>	<b>4.63<sup>**</sup></b>
Problem solving	\$641	\$505	\$532	\$604	2.31
Gross motor	\$577	\$665	\$543	\$599	1.36
Fine motor	<b>\$431</b>	<b>\$458<sup>a</sup></b>	<b>\$519</b>	<b>\$605<sup>b</sup></b>	<b>4.49<sup>**</sup></b>

Note: Values with different superscripts across the row are significantly different from one another. Shading indicates scores that are highest and/or significantly different from others. Readers who would like information on the ns per cell may contact the author.

<sup>\*\*</sup>p < .01. <sup>t</sup>p < .10.

# Section 8: Policy and Practice Implications

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When the Michigan Department of Education sponsored the ASAP-PIE program, it made a substantial investment in young children and their families. ASAP-PIE has been succeeded by a greatly reduced initiative, Great Parents Great Start. This legislation has retained the expectation of universal services and collaborative partnerships as well as specifying services to at-risk children in order to accomplish the objectives of bringing children to school ready to succeed and maintaining stable families. In a period of limited resources, Great Parents Great Start is a good faith commitment to the educational system's responsibility for 0-5 programming within a community collaboration.

The supporting information for these recommendations may not have been presented in these highlights and readers are referred to the three evaluation reports for additional information. In any future development of Great Parents Great Start, we would encourage the following:

## Cross-Agency Collaboration

At both the local and state levels, cross-agency collaboration is essential to accomplish the stated outcomes. Good outcomes for children are so inter-related that a solely education-focused approach will not accomplish the initiative's objectives. The Children's Trust Fund, with its concerns for child abuse prevention, and the Michigan Department of Community Health, that oversees infant mental health and maternal and child health services, are obvious partners for this venture.

This cross-agency group could be challenged with elaborating the philosophy of this early childhood initiative as well as promoting cross-agency systems change. Making ASAP-PIE services universally available had the benefit of attracting some families that might not have otherwise received services. However, some grantees also made different levels of service available based on families' needs. While data on outcomes were primarily available for the most intensive services (i.e., home visiting), encouraging grantees to develop different levels of service has the potential for targeting services in ways that can be more helpful to families and make the best use of funding.

## Legislative and Grant-Making Practices

There are several improvements in the grant-making process that could benefit the initiative:

- State allocations were not related to the size of the population to be served. Thus it was difficult for large communities to participate. Further, these ASAP-PIE grantees reached 22% of the children in their areas and provided a primary service to 16% of the children. While we recognize that families' choice was a factor in service use, two funding changes could extend the reach of this program. First, **funds could be allocated to communities based on the population of children age 0-5**. In ASAP-PIE, the same amount of dollars was available to large communities and small communities. Second, those **funds could be adjusted for the percent of children in poverty** (i.e., TANF eligible), since these children are more likely to fail in school.

- Communities with little previous collaborative experience were at a disadvantage. Unfortunately, these are likely to be the same communities where families and children can benefit from integrated early childhood opportunities. **Funds should be set aside for planning grants** in these communities so that supportive inter-agency collaborations could be built prior to the initiation of services.
- Many of the ASAP-PIE grantees did an admirable job of working with community service providers to build or expand an early childhood system of care. However, some ISDs or local school districts chose to concentrate on their own delivery of services. This latter is inconsistent with the collaborative cross-department approach recommended above. **ISDs and other community agencies** should be required to **submit a single integrated proposal** to meet the mandated outcomes.
- **Community-based models of service delivery** appear to provide better outcomes for children with a lower investment of dollars. Use of these models should be encouraged.
- The ASAP-PIE program had sufficient **funds for a state-wide evaluation**, but comparatively little **support for technical assistance and oversight**. Both types of support are critical to the success of any initiative and should be funded.
- The state-wide evaluation was funded well into grantees' implementation cycle. This resulted in a wide disparity in the type and degree of outcomes measured and data collected. When a state department makes such as substantial investment in services for families and children, it is critical to plan for the timely investment in a state-wide evaluation. Therefore **the state-wide evaluator should be identified prior to, or shortly after, local contracts are awarded**.
- Collection of data was an expensive activity, in time and/or funds, for most grantees. **A proposal review criterion** should include the extent to which a **realistic plan and allocation of resources is proposed for collecting the data** described below.

## Implementation Guidelines

Here, implementation guidance includes specification of how the services are to be organized, delivered and success evaluated. Overall, the ASAP-PIE grantees had to individually develop their own definitions for services, criteria for enrollment, and parameters for evaluation. Therefore we recommend that the following be part of the expectations in the grant award and/or the state-wide evaluation process.

- **Definitions of age-appropriate and/or developmentally-appropriate success criteria.** The ASAP-PIE initiative described outcomes that might not have been achieved given the duration of the award for all children. Defining "school readiness" differentially, for example for infants, pre-school children and children entering kindergarten, would have allowed grantees to report on their success whatever the age of the children served.
- **Definitions of services, their levels and expected dosage.** For example, there was wide variation in what was considered a play group. Also, grantees were not clear whether a referral meant talking with a family or the family receiving a service.

- **Definitions of enrollment criteria.** The MSU evaluation team queried grantees to identify the services they included in their definition of an enrollment family or child. While there was a common subset of services, overall grantees' enrollment practices were not consistent.
- **Specification of common participant demographic data** to be collected and **evaluation tools** to be administered **across all partners** delivering the related service. This would solve two difficulties encountered by the state-wide evaluation team and the grantees: 1) the dearth of measures that could be used across all grantees; 2) the absence of demographic and outcome data from community partners delivering key services.
- **Home visiting for younger children, particularly those at higher educational risk.** Although our data are only suggestive, it appears that home visiting did benefit children at greater educational risk, and in particular was beneficial to children who had developmental delays. Since these children had more room to improve, the intensive services may have brought about more benefits.
- **Parent-child play groups as part of an array of universal services.** Although play groups tended to serve families with fewer educational risk factors, they did fill gaps in services to children between 12 and 36 months of age and appeared to benefit children with delays in social and problem-solving skills. In combination with home visiting, they appeared to increase the effectiveness of services to children with developmental delays.
- **Screening for children at higher educational risk.** All forms of screening were effective in identifying children with concerns. This was particularly true among children under 12 months of age. Children with no health insurance should be specifically targeted.
- **Outcomes of referrals to community resources.** We know from this report that a variety of community referrals were made and that referrals were not related in any consistent way to children's developmental outcomes. Given the variety of reasons for which children are referred, this is not surprising. Better measures of access to the community network would be that referrals were completed and that families received the service for which they were referred.

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# Appendix A: Measures

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## *School Readiness Measures*

### **Ages and Stages**

The Ages and Stages Questionnaires (ASQ): A Parent Completed, Child Monitoring System, Second Edition, Bricker, D., Squires, J., Mounts, L., Potter, L., Nickel, R., Twombly, E., & Farrell, J. (1999). The ASQ is a parent (or primary caregiver) administered screening program designed to identify infants and young children who may suffer developmental delays and be in need of early intervention services.

The ASQ system consists of 19 questionnaires measuring five developmental areas: communication, gross motor skills, fine motor skills, problem solving skills, and personal-social skills. Questionnaires are to be completed at varying intervals when the child is between 4 and 60 months of age. Questionnaires contain 30 items and are written at a reading level ranging from fourth to sixth grade, including illustrations to assist parents when necessary. The questionnaires are completed in the home, typically within 10-15 minutes, and are then scored by clerical or paraprofessional staff who have been instructed by professional staff. Scoring may take anywhere from one to five minutes. To score, the parent's answers are converted into points for each of the five areas, and these five scores are compared to empirically derived cutoff points for each area. Children whose scores fall below the cutoff point for any developmental area are recommended for further evaluation.

### ***Reliability and Validity***

Internal consistency of the ASQ was tested by examining the relationship between developmental areas and overall scores. Correlations ranged from .44 to .83, and were significant at  $p < .0001$ . Test-retest reliability was assessed by measuring the percentage of agreement between two questionnaires completed by 175 parents within a two week time period. The percentage of agreement between the two scores was 94%, with a standard error of measurement of .10. Finally, inter-observer reliability of the ASQ was determined by comparing classifications based on questionnaires completed by 112 parents with questionnaires completed by two examiners. The percentage of agreement between those questionnaires completed by the parents versus those completed by the examiners was 94%, with a standard error of measurement of .12.

The general validity of the ASQ has been tested extensively, and the ability of the questionnaires to classify children with established developmental delays has been established at 96%. The ASQ's sensitivity, or ability to detect children with previously undetected delayed development, is lower, at 72%. The concurrent validity of the questionnaires (percent agreement between the ASQ and standardized assessments) ranges from 76-91%, with 84% overall agreement.

### **Ages and Stages, Social-Emotional**

The Ages and Stages Questionnaire: Social-Emotional (ASQ:SE), Squires, J., Bricker, D., & Twombly, E. (2002). The ASQ:SE is a series of eight parent (or primary caregiver) completed questionnaires used to assess the emotional and social development of young

children. The questionnaires are completed at varying intervals when the child is between 6 and 60 months of age. The ASQ:SE was developed to complement the ASQ. Like the ASQ, it is designed to be administered in approximately 10-15 minutes, and is written at a fifth to sixth grade reading level.

The ASQ:SE purports to assess social/emotional development within seven behavioral areas: self-regulation, compliance, communication, adaptive functioning, autonomy, affect, and interaction with people. Scoring is to be completed by trained paraprofessionals or professionals. A total score exceeding the established cutoff point is indicative of problems (the opposite of the ASQ, in which a score below the cutoff indicates the need for further assessment).

### ***Reliability and Validity***

The ASQ:SE was normed on 3,014 children across eight age intervals from 6-60 months. Internal consistency ranged from .67 to .91, indicating a strong relationship between total scores and individual items. Test-retest reliability was assessed via two ASQ:SE questionnaires administered by parents at 1-3 week intervals. The percentage agreement between these two questionnaires was 94%, suggesting that ASQ:SE scores are consistent across time.

Concurrent validity, the percent agreement between the ASQ:SE and other measures of social/emotional development, was between 81-95%. Sensitivity refers to a measure's ability to detect a "positive" score among subjects who are true "cases", while specificity refers to a measure's ability to reflect a "negative" score among subjects who are not "cases". Sensitivity of the ASQ:SE was assessed from 71-85%, while specificity was found to range from 90-98%.

Finally, of 731 parents who completed utility questionnaires, 97% rated ASQ:SE items easy to understand, stated that the tool took very little time to complete, and helped them to think about the social/emotional development of their children.

## **BRIEF Infant Toddler Social and Emotional Assessment (BITSEA)**

Briggs-Gowan, M., & Carter, A. (2001). The BITSEA is meant as a first level screening tool to identify children ages 1-3 with "social emotional problems and/or delays in social-emotional competence" (Briggs-Gowan & Carter, 2001). The BITSEA is comprised of 60 items drawn from the ITSEA (Infant-Toddler Social and Emotional Assessment), and divided into a Problem scale of 49 items and a Competence scale of 11 items. The BITSEA can be completed independently in about 10 minutes by the child's parent, caregiver, or someone who knows the child well, or can be administered as an interview by a professional. The BITSEA is written in straightforward language at a 4th-6th grade reading level.

Although most parents may administer the BITSEA, it requires a professional with some knowledge of psychometric measures to interpret. Cutpoints have been generated for both the Problem and Competence scales, and children with scores above the Problem scale cutpoint and below the Competence scale cutpoint should be recommended for further evaluation. The BITSEA is not meant to be an independent measure of psychopathology or delays in social/emotional competence, but is a "means for identifying children and caregivers who may benefit from additional dialogue about children's behavior and development" (Briggs-Gowan & Carter, 2001).

***Reliability and Validity***

Normative studies have been completed utilizing two samples of parents and children: a sample of 1280 participating families randomly selected from the birth records at the Yale-New Haven Hospital in Connecticut between July 1995 and September 1997 (Community Sample), and 237 participating families recruited from Early Intervention grantees in Connecticut (Early Intervention Sample).

Test-retest reliability was assessed by asking parents from the Community Sample to answer the full ITSEA questions on two separate occasions between 10 and 45 days apart. The BITSEA Problem Scale was found to have a test-retest reliability of .82, while the Competence Scale scored a .72. (Correlations above .75 are considered excellent, while those between .60-.74 are considered good).

Sensitivity and specificity of the BITSEA were assessed by comparing the domains of the BITSEA to the ITSEA. In the Community Sample, the BITSEA Problem Scale sensitivity score ranged from 81.0 - 96.7%, while specificity ranged from 80.3 - 88.1%. The BITSEA Competence Scale showed sensitivity of 90.2% and specificity of 81.6% when compared to the ITSEA Competence Domain, and sensitivity and specificity of 80.0% when compared to the ITSEA Social Relatedness Index.

Validity of the BITSEA was assessed by comparing parent reports on 62 children on the BITSEA items from the Community Sample to ratings made by independent evaluators. "Parent ratings on the BITSEA successfully identified 88.0% of children who were rated by their evaluator as having problems in one or more social-emotional area (specificity = 55.6%)" (Briggs-Gowan & Carter, 2001).

**DENVER II**

Frankenburg, W.K., Dodds, J., Archer, P., Bresnick, B., Maschka, P., Edelman, N., & Shapiro, H. (1992). The Denver II is a revised version of the Denver Developmental Screening Test (DDST) of 1967, which was published "to help health providers detect potential developmental problems in young children" (Dodds, Archer, Bresnick, Maschka, Edelman & Shapiro, 1992). The DENVER II is to be administered to asymptomatic children between 0-6 years of age in order to compare the child's performance on age-appropriate tasks with the performance of other similar aged children. The DENVER II contains 125 tasks that purport to measure four areas of functioning: Personal-Social, Fine Motor-Adaptive, Language, and Gross Motor skills.

The DENVER II is designed to be used by trained professionals who are familiar with the administration of standardized tests. It is recommended that testers are "carefully trained and should pass the proficiency test before using the test for clinical purposes" (Dodds, et al., 1992). The DENVER II is "used primarily to determine how a child compares to other children. It is not recommended as a predictor of later development" (Dodds, et al., 1992).

***Reliability and Validity***

Concurrent examiner-observer reliability and test-retest reliability were assessed from a sample of thirty-eight children spread across ten age groups who were tested twice within a period of 7-10 days. The mean examiner-observer reliability was computed at .99, and the mean test-retest reliability was calculated to be .90.

The validity of the original Denver Developmental Screening Test has been accepted worldwide, and the new items on the DENVER II were written by "selected professionals specializing in child development and pediatric screening. The validity of the test [DENVER

II] rests upon its standardization, not on its correlation with other tests since all tests are constructed slightly differently” (Dodds, et al., 1992).

## **Infant-Toddler Developmental Assessment (IDA)**

Provence, S., Erikson, J., Vater, S., & Palmeri, S., (1995). The IDA is a screening method used to assess the health and development of children ages 0-3, and to identify those that may be at risk and in need of additional screenings or services.

The IDA is designed to be implemented “by an interdisciplinary team of two (or more) professionals credentialed in one of the developmental disciplines” (Provence, Erikson, Vater & Palmeri, 1995). The IDA is organized into six phases: Referral and Preinterview Data Gathering, Initial Parent Interview; Health Review; Developmental Observation and Assessment; Integration and Synthesis; and Sharing Findings, Completion, and Report. The IDA assesses children in eight domains: gross motor, fine motor, relationship to inanimate objects, language/communication, self-help, relationship to persons, emotions and feeling states, and coping. The first five domains are taken from the Provence Birth-to-Three Developmental Profile (Provence Profile), and the last three are unique to the IDA. The assessment also includes a review of Behavioral and Developmental Concerns to identify problems that may not be evident from the profile.

### ***Reliability and Validity***

In 1984, during the development of the IDA, 18 health, education, and mental health professionals with expertise in infant development gathered to evaluate and field test IDA administration procedures and Domains and Sequences content. IDA items were compared with several commonly used developmental measures, including the Hawaii Early Learning Profile (HELP), the LAP, the Vineland, the Bayley, and the Language Scales of Schiffelbusch and Oller. It was found that the “domains and sequences are consistent with the content of the skills and abilities of infants and toddlers that other major developmental scales have selected as important for assessment” (Anastasiow, 1988, p.12, as reported in Provence, et al., 1995).

The authors report that several studies have also found the IDA to possess high inter-rater reliability, including one study involving the authors and clinical staff from the Hartford Child Development Resource Clinic. “These studies reviewed the subscales of each domain and found a very high level of inter-rater agreement on the subscales and on the findings of the full IDA process” (Provence, et al., 1995).

The authors also wanted to assess whether the IDA facilitated valid referrals to follow-up services. A study including 57 children and families and 15 community agencies showed that service providers found IDA-assisted referrals to be accurate and appropriate.

While the Provence Profile utilizes standardized methods and procedures, there has been no special norming sample obtained for the IDA “because the aspects of development measured by the Provence Profile are well-established as milestones of normal development during the first three years of life” (Provence, et al., 1995). Hence, the IDA scores represent the relationship between a child’s age and the developmental milestones that s/he has achieved, rather than a comparison between the individual child and others in the child’s age group.

## **Preschool Individual Growth and Development Indicators (IGDIs)**

Early Childhood Research Institute on Measuring Growth and Development (1988). IGDIs are sets of measures that assess children’s language and literacy skills repeatedly during

preschool and kindergarten. IGDIs use the General Outcomes Measurement (GOM) approach, which measures the same set of skills over time in order to characterize the child's growth toward specific outcomes. IGDIs are meant to not only identify children who are not making adequate progress, but also to monitor both children who are experiencing delays as well as children who are progressing normally.

The particular test that has been used for ASAP-PIE programs is titled "Picture Naming". The administrator presents the child with a series of individual picture cards and asks the child to name the picture on each card as it is shown. The child has approximately five seconds to name each picture, and only one minute is allowed for the test in its entirety. The administrator records the number of correctly named pictures on the recording form.

***Reliability and Validity***

In summary, the research on IGDIs shows that: There is evidence that this measure is sensitive to children's growth in skill over time; the measure assesses preschoolers' ability to express meaning as well as standardized tools, such as the Peabody Picture Vocabulary Test; there are differences in performance between children with and without disabilities; and, there are no differences in performance between normally developing girls and boys.