Evaluation Report IV:
State Maternal & Child Health Early Childhood
Comprehensive Systems Grant Program

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A BRIEF HISTORY OF ECCS

INTRODUCTION

The Indiana State Maternal and Child Health Early Childhood Comprehensive System (ECCS) was conceived as an initiative to engage state agencies, community partners, and families of young children to develop a coordinated, comprehensive, community-based system of services for children from birth through age 5. The ECCS system is designed to eliminate duplicated efforts in serving young children and their families, while ensuring that services are available universally across the state. The initiative intends to support ease of access to needed services, increase the utilization of appropriate services, and ensure that a holistic system of care supports young children and their families.

This evaluation will focus on benchmarking and assessing the implementation of the ECCS project as well as providing available data regarding early outcomes. The evaluation will identify issues of concern; however, it is outside the scope of this report to identify solutions for all of the issues that are reported.

INITIATIVE PROGRESS

The ECCS initiative began officially on July 1, 2003, with a grant from the Health Resources and Services Administration, Maternal and Child Health Bureau. As part of the project, The Indiana State Department of Health convened a group of core partners including representatives from several state and local agencies and individuals representing service
organizations and families. The core partners meet quarterly and are charged with educating their organizations on the guiding principles of the ECCS initiative, as well as establishing protocols to support communication across agencies and initiatives. As part of this mission, the committee and the subcommittees have developed a strategic plan for achieving the goal of coordinated services. The strategic plan outlines seven primary objectives to realize coordinated and comprehensive services for young children. These objectives include:

- All children in Indiana will have a medical home.
- All children will be covered by a source of payment, either public or private, for medical and developmental services that are identified by the medical home.
- The medical home will facilitate developmental, behavioral, and mental health screening with appropriate treatment referrals to community resources.
- An information clearinghouse will be established that includes information about resources and supports for families of young children and providers of early childhood services at both the state and local level.
- Quality resources and supports will be integrated to create a coordinated and accessible early childcare system.
- Parents will have the necessary information, support, and knowledge about child development and will be able to recognize their child’s progress.
- Families will have timely access to resources and supports to address their child’s health, safety, and developmental needs.

The committee developed several goals for each objective in order to provide a plan for achieving each objective. Further details regarding these goals and objectives, as well as
information on the accomplishments to date of the ECCS committee can be found in the strategic plan at www.sunnystart.in.gov.

EVALUATION

The strategic plan, as well as requirements set forth by the Health Resources and Services Administration, Maternal and Child Health Bureau, requires an evaluation of this initiative. Since June 2006, the Indiana State Department of Health has worked with the Center for Health Policy at Indiana University–Purdue University Indianapolis to develop and execute an evaluation plan. Due to the short time period in which this project will be completed, the central focus of the evaluation will be benchmarking and assessing the implementation of the ECCS project as well as providing available data regarding early outcomes. The evaluation will identify issues of concern; however, it is outside the scope of this report to identify solutions for all of the issues that are reported.

The parameters set forth by the ECCS committee for the evaluation were fairly broad in nature. Specifically, the strategic plan required that the evaluation:

- monitor the discrete activities of the strategic plan,
- determine whether Indiana families are better off as a result of implementation of the ECCS, and
- evaluate how well Indiana has implemented the strategic plan.

As mentioned previously, the time frame of this study limits conclusions regarding the effect of the ECCS plan on Indiana families; however, the results of the evaluation will provide a
benchmark for comparison as the initiative progresses as well as early indicators of potential longer term outcomes.

This report is the fourth evaluation report investigating the implementation of ECCS initiatives. Data and other information for this study come from a variety of sources, including the Indiana State Department of Health, the Indiana Family and Social Services Administration, Department of Child Services, the United States Census Bureau, and several other government entities and private organizations. This report, using the objectives set forth in the ECCS strategic plan, focuses on three key areas of impact:

- access and utilization of health care,
- source of payment for health care, and
- resources, support and development.

Within this report, the most recent appropriate data was used. This means that some data are from 2006 and some from 2007. Some data are for calendar years and some for fiscal years. In particular, the Medicaid data we report are for only the first three quarters of state fiscal year (SFY) 2007. The reason we report only the first three quarters of SFY 2007 for Medicaid data is because this is the only time period for which the age of the children is included with the data. Additional caveats concerning data are presented where appropriate in this report.

I. ACCESS AND UTILIZATION OF HEALTH CARE

A main goal of this initiative is ensuring that all children have access to health care services. To facilitate achievement of this goal, the ECCS program embraces the concept of a

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1 Indiana’s state fiscal year begins on July 1 and ends on June 30. Specifically, SFY 2007 runs from July 1, 2006, through June 30, 2007.
medical home. A medical home provides a consistent point of entry to the medical system through a primary care physician or team of caregivers. Prior research has shown that the comprehensiveness and coordination of care offered by a medical home provides better health outcomes and reduces disparities in the use of health services (Starfield & Shi, 2004). Currently, data regarding the number of children in Indiana with a medical home are unavailable. These data will be reported when they become available.

This initiative seeks to improve the health and well-being of all Indiana children; however, providing services to children from low-income households is of paramount concern. Due to limited ability to pay for services, children in low income families are at greater risk of receiving sporadic or piecemeal health services, often resulting in inadequate care.

To evaluate utilization of services, Indiana Medicaid claims data are used to determine the number of children who visited a medical professional. The Medicaid data, which we receive from the Office of Medicaid Policy and Planning (OMPP), includes all forms of Medicaid including traditional Medicaid programs as well as Hoosier Healthwise and the Children’s Health Insurance Programs (CHIP). Specifically, we calculated the number of children age 5 and under who visited a medical professional ("The 2006 HHS Federal Poverty Guidelines," 2006).2 This number provides a baseline measure for patterns of health care utilization among Indiana children receiving Medicaid coverage. While Medicaid claims data do not include a complete list of services rendered to all families, they do provide a substantial amount of treatment episode data for a large portion of Indiana children, particularly the most vulnerable and least likely to obtain regular services.

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2 Prior to state fiscal year (SFY) 2007, the data provided to us by Medicaid did not include age. Beginning in SFY 2007, age was included. This allows us to look directly at the number of children age 5 and younger, rather than having to estimate the number of children age 5 and younger by using Medicaid eligibility categories.
Our data showed that 268,419 children age 5 and younger were enrolled in Medicaid during the first three quarters of state fiscal year 2007\(^3\). Of these children, it is estimated that 202,845 (75.6\%) are covered by a plan with capitated payments to a Risk-Based Managed Care (RBMC) delivery system.\(^4\) An analysis of claims data reveals that during the same time period, 259,874 (96.8\%) of these children visited a medical professional. Due to the nature of Medicaid claims data, an accurate delineation of type of medical services that a child receives is unavailable. Nevertheless, this indicates that over 9 of 10 children enrolled in Medicaid received some form of medical services. This is an increase from the estimate in the previous report of only 3 of 5 children for SFY 2006.

The number of children receiving dental care provides an additional measure of access to medical care. Because the first recommended dental visit is at age 1, only those children between 1 and 5 years of age enrolled in Medicaid during the first three quarters of SFY 2007 are considered. There are a total of 218,833 such children. Medicaid claims data show that 46,366 (21.1\%) of these children visited a dentist during the first three quarters of SFY 2007. Thus, nearly 1 in 5 of these children visited a dentist, a low rate given that it is recommended that children over age 1 visit a dentist once every 6 months.

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\(^3\) This total includes all children who were enrolled in any Medicaid program for some portion of this period of time.

\(^4\) Some of the Medicaid managed care programs in Indiana provide a capitation payment to a managed care organization (MCO) which is then responsible for arranging, providing, and paying for the services of its members as designated by the OMPP.
As mentioned previously, the goal of providing continuity of care, through the use of a medical home is to improve the health and well-being of young children in Indiana. Along with evaluating medical visits, one way to measure trends in the well-being of children is to investigate immunization rates of young children. According to the Indiana State Department of Health, data for the 2004-2005 child care immunization assessment indicates that of those children enrolled in a licensed child care center, 77% of children age 15-23 months and 83% of children age 2-5 received complete vaccines (Indiana State Department of Health, 2005). Additionally, 95% of children enrolled in kindergarten, first grade, and sixth grade at reporting Indiana schools were fully vaccinated (Indiana State Department of Health, 2004). As an additional measure of immunization, the Centers for Disease Control and Prevention conducts an annual telephone survey regarding immunization of a sample of each state’s population (see...
Figure 1). These data show that 80.8% of Indiana children age 19-35 months were immunized in 2006\textsuperscript{5} compared to a national rate of 82.3% (U.S. Department of Health and Human Services, National Center for Health Statistics, 2006).

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{immunization.png}
\caption{Figure 2: Infant Mortality Rate (per 1,000): Indiana versus US}
\end{figure}

The infant mortality rate (for children under 1 year of age) for the state of Indiana was 8.14 deaths per 1,000 in 2004 ("CDC WONDER," 2007). The infant mortality rate for the United States was 6.85 deaths per 1,000 (see Figure 2). The infant mortality rate in Indiana has consistently been higher than the rate for the nation and has also followed a similar trend from 1999 to 2004.

\textsuperscript{5} Immunization in this case refers to children who received the 4:3:1:3 combined series which includes four or more doses of diphtheria and tetanus toxoids and pertussis vaccine, diphtheria and tetanus toxoids, or diphtheria and tetanus toxoids and acellular pertussis vaccine; three or more doses of any poliovirus vaccine; one or more doses of a measles containing vaccine; and three or more doses of Haemophilus influenzae type b vaccine.
Figure 3: Child Mortality Rate (per 1,000): Indiana versus US

Source: CDC
The mortality rate for children 1-4 years of age was 0.37 per 1,000, compared to a rate of 0.30 per 1,000 for the United States (see Figure 3). The rate in Indiana is higher than for the nation, and the gap between the two rates narrowed between 1999 and 2001, but then widened again from 2002 to 2003.

![Figure 4: Infant Injury Mortality Rate (per 1,000): Indiana versus US](image)

The injury mortality rate in 2004 for infants under 1 year of age was 0.67 per 1,000, compared to a national rate of 0.37 per 1,000 (see Figure 4). Injury deaths include unintentional injuries, violence-related injuries (homicide, legal intervention, and suicide), as well as injuries in which the intent was undetermined ("Welcome to WISQARS," 2007). The injury mortality rate in 2004 for children age 1 to 5 was 0.16 per 1,000, compared to a national rate of 0.12 per 1,000 (see Figure 5).
Access to health care is of particular importance to children with special health care needs. The evaluation reviewed the number of children enrolled in the Indiana State Department of Health Children’s Special Health Care Services (CSHCS) program as a measure of health care access. In 2006, a total of 3,423 children age 5 and younger participated in the CSHCS program. This is 0.6% of the population age 5 and younger and is also a decrease of 28% from the 4,758 children enrolled during 2003 (Indiana State Department of Health).
Another program that supports access for children with special health care needs is the Individuals with Disabilities Education Act (IDEA). This program provides needed services to children with disabilities. During 2005, a total of 28,911 children age five and under were served by this act, an increase of 76% since 1995. Of these children, 19,364 were between the ages of 3 and 5, an increase of 58% since 1995. The remaining 9,547 children were age 2 or younger and were provided services through the Early Intervention Program for Infants and Toddlers with Disabilities coordinated by First Steps, an increase of 128% since 1995. (IdeaData.org, 2006; Indiana Family and Social Services Administration. First Steps, 2006).

Figure 6 shows the percent of children in Indiana enrolled in IDEA by age group.

Another component of high quality continuous care is to identify children with developmental, behavioral, and mental health needs. Establishment of a medical home for young
children will help increase the likelihood that care providers will recognize symptoms early through the use of screening tools, and will also aid physicians in providing comprehensive and coordinated services. Research indicates that facilitating this type of coordination improves the quality of life for young children identified as needing developmental, behavioral, and mental health services, children who may not have received treatment prior to ECCS (American Academy of Pediatrics Committee on Children with Disabilities, 2001).

To monitor the frequency of early screening and diagnosis, the number of children enrolled in Medicaid who were assessed for social-emotional development through the Early and Periodic Screening, Diagnosis and Treatment (EPSDT) program in SFY 2006 was determined. Medicaid enrollment data reveal that of the 268,419 children enrolled in Medicaid, at least 194,538 (72.5%) received EPSDT services. This estimate is biased downwards because many types of services fall under the umbrella of EPSDT services and some EPSDT services may be billed to other service categories. Approximately 86.8% of the 202,845 children covered by a managed care program received EPSDT services, while only 67.8% of those under a fee-for-service-plan received EPSDT services. This finding suggests that managed care plans and the medical home they provide result in more preventive and screening care and provide additional evidence of the benefits of a medical home. Another measure of EPSDT services is the participant ratio from the annual EPSDT Participation Report. The 2004 report, the most recent available for Indiana, states that 66% of eligible children age birth through 5 received at least one EPSDT screening.
II. SOURCE OF PAYMENT FOR HEALTH CARE

Inability to pay is one of the greatest barriers to healthcare access. Research confirms that disparities in the use of primary care exist between insured children and uninsured children (Newacheck, Hughes, & Stoddard, 1996). Children with no health care coverage are also significantly less likely to have a regular source of care and to consistently see the same physician. Furthermore, uninsured children are more likely to be inadequately vaccinated and have fewer annual physician visits (Newacheck et al., 1996). The ECCS initiative seeks to eliminate this disparity by promoting access to health care for all Indiana children.

To monitor the success of this objective, data from the United States Census Bureau’s Current Population Survey–Annual Social and Economic Supplement was used to estimate the
number of uninsured children below the 200% poverty guideline, as well as the total number of uninsured children age 5 or younger (see Figure 7). As of March 2007, there were a total of 512,005 children age 5 or younger in the state of Indiana, and 43,404 (8.5%) of these children were not covered by any type of health insurance. Furthermore, 200,923 (39.2%) children lived in a household below the 200% FPL, and of these children, 24,327 (12.1%) lacked any form of health coverage (*Current Population Survey, Annual Social and Economic Supplement, 2006*).

Children living below the 200% FPL are nearly twice as likely to lack any kind of health insurance as those who live above the 200% FPL.

The above figures provide an estimate of the number of children eligible for Medicaid, a program that provides health care insurance at little or no cost to Indiana families. Medicaid enrollment data for the first three quarters of SFY 2007 indicate that 268,419 children under age 6 were covered by Medicaid for at least part of the first three quarters of SFY 2007. Estimates from the March 2007 Current Population Survey (CPS) are that 59.7% (119,870) of Indiana children below 200% of the FPL are covered by Medicaid and that an additional 35,880 children above 200% of the FPL are also covered by Medicaid. Clearly there is a substantial number of children who are eligible for Medicaid but not enrolled. As the ECCS initiative continues, the ability to follow the availability and consequent enrollment in Medicaid can provide baseline measurements for covering all children with a source of payment for medical and developmental services. By comparing the data provided by this evaluation, future work can investigate changes in the number and percentages of children enrolled in programs for low-income families and gauge the longer-term effectiveness of this initiative.
III. RESOURCES, SUPPORT AND DEVELOPMENT

To create a coordinated and accessible childhood system, quality resources and supports must be fully integrated. By assessing quality standards and focusing on local resources and supports, this part of the evaluation examines the effectiveness of the ECCS initiative with regard to child care resources, available supports, and educational development opportunities.

Licensed child care facilities in the state of Indiana are required to meet certain minimum standards in order to remain licensed, thus the quality of these facilities should be assured. The number of licensed facilities and the overall licensed capacity provide one measure of the availability of childcare. Using data from the Bureau of Child Care (BCC), as of February 19, 2007, there are 3,609 licensed child care facilities in the state with a total licensed capacity for 107,309 children. This licensed capacity could serve up to 20.2% of all Indiana children age 5 and younger. Among these facilities, 86.5% of them are licensed to care for infants and toddlers from age of birth to 2, providing an estimated statewide capacity of up to 44,621 infants and toddlers ("CareFinder Indiana,"). The March 2007 CPS estimate of the number of children age birth through 2 in Indiana is 236,433 children. Approximately 18.9% of the children between ages birth through 2 could be served by a licensed child care facility. Additional children could be cared for in ministry-based child care facilities which are not subject to licensing. While not subject to licensing, ministry-based care must meet minimum requirements regarding sanitation and fire and life safety. Information regarding the capacity of unlicensed, registered childcare ministries was not available at the time this report was compiled.

The number and percent of children enrolled in the Child Care Development Fund (CCDF) who are enrolled in licensed child care centers or homes is determined using data from the BCC. The CCDF is a federal fund providing needy families with assistance obtaining child
care so that parents may work or attend training or education. As of September 30, 2006, a total of 55,844 children were served by the CCDF, 70.2% (39,202) of whom were enrolled in a licensed child care setting, while the remaining 29.8% received services from a ministry or faith-based day care setting (Indiana Family and Social Services Administration, 2006).

Research shows that increased parental involvement in child care is correlated with better outcomes for the children. Despite the positive outcomes associated with increased parental involvement, some parents remain unwilling or unable, due to stress and/or fear, to get involved because of a lack of information regarding their child’s care (Coyne, 1995). One of the ECCS’s objectives is to provide parents with the information and knowledge about their child’s development to help them overcome any stresses and fears they may feel and encourage them to become more involved. This is an important step in improving the well-being of Indiana children because parents, who see their children frequently, can potentially recognize symptoms of delayed progression earlier than a physician.
Teen pregnancy is a problem because young mothers often lack resources needed to provide for their child. The birth rate for mothers ages 10 to 14 was 0.5 per 1,000 females in 2005, down from 1.1 per 1,000 in 1995 (see Figure 8). The birth rate for white mothers ages 10 to 14 was 0.4 per 1,000, while that for black mothers of the same age was 1.2 per 1,000. The birth rate for mothers ages 15 to 19 was 43.2 per 1,000 females in 2005, down from 57.2 per 1,000 in 1995 (see Figure 9). The birth rate for white mothers ages 15 to 19 was 39.8 per 1,000, while that for black mothers of the same age was 77.3 per 1,000.
In order for parents to quickly and effectively address their child’s health, safety, and developmental needs, families must have access to resources that enable them to fulfill their children’s basic needs. The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) assists families in meeting their children’s nutritional needs by providing food stamps. According to the U.S. Department of Agriculture, the Indiana WIC program served an average of 137,374 individuals each month during federal fiscal year (FFY) 2006 (U.S. Department of Agriculture, 2007). Using information provided by the Indiana State Department of Health, we estimate that approximately 39,000 infants and 62,000 children were aided through WIC (Indiana State Department of Health). The preliminary count for FFY 2007 produces an average of 140,561 individuals per month served by WIC in Indiana.

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The number of children expelled from early care or early educational settings due to behavioral problems provides a measurement of child behavioral and mental health. Of a total of 75,500 kindergarten students, there were 328 in school suspensions, 613 out-of-school suspensions, and 1 expulsion during the 2005-2006 school year. Fifty-four of the in-school suspensions and 138 of the out-of-school suspensions were for special education students. There were 10,463 pre-kindergarten students during the 2005-2006 school year. There was one in-school suspension of a Pre-Kindergarten student and five out-of-school suspensions of pre-kindergarten students.

An additional measure of childhood well-being is the number of children reported as abused or neglected. During the 12-month period ending March 2006, 2,880 unique children age 5 and under were abused and/or neglected and consequently declared a child in need of services.
(CHINS) or removed from their foster placement (DCS). Thus approximately one-half of 1 percent of children under 5 in Indiana were reported as being abused or neglected.

In order to provide families of young children with a single comprehensive guide to available resources throughout the state and in their community, the ECCS initiative established an information clearinghouse. This clearinghouse, known as the Early Childhood Meeting Place (ECMP, http://earlychildhoodmeetingplace.indiana.edu) is maintained by the Indiana Institute on Disability and Community at Indiana University (IDC). The ECMP lists a vast array of resources, including 112 community resources, 42 child care and early education resources, 233 health and safety resources, and 234 parenting and family resources. The usage of this site was monitored to aid in evaluating the success of the clearinghouse. During state fiscal year 2007, there were 18,696\textsuperscript{7} visits to the ECMP site made by 6,598 unique visitors. The average number of visits per month was 1,700 during SFY 2007; however, the number of visits increased from just 1,696 in May of 2007 to 7,095 during June of 2007. This spike in visitors is likely due to an ad for the ECMP in the Indianapolis Star that summer and may also have been due to the distribution of promotional materials for the ECMP in the spring of that year. The number of visits decreased after the spike in June; however, the trend since August 2007 has been a continuing increase in the number of visitors.

The availability of information and knowledge about child development and the ability to recognize progress is another component of resources, support, and development. The Early Childhood Meeting Place (ECMP) Web site’s events calendar was used to assess the availability of development opportunities offered throughout the state with regard to infant and toddler developmental, behavior, and mental health. A total of 1,297 unique events occurring in Indiana

\textsuperscript{7} The data excludes September 2006 for which data was unavailable.
during fiscal year 2007 were listed on the ECMP website. The distribution of these events by county is shown in the appendices of this report.  

An additional source of information for young children is a new publication, *A Parent’s Guide to Raising Healthy, Happy Babies*. This publication contains parenting guidelines and suggestions for children from birth to age 5 and also provides space to record information about the child, including doctor visits and growth and immunization records. In addition, the guide provides a list of developmental benchmarks to aid parents in monitoring the development of their child and to assist in the identification of areas needing further attention from a doctor or nurse.

The above measurements provide a gauge of the accessibility of child development information and will be useful as benchmarks for future comparisons.

**CONCLUSION**

The ECCS initiative seeks to improve the health and well-being of children in Indiana by ensuring the continuity of care as well as by increasing parental involvement. The core partners, acting as the steering committee, have acted quickly to implement the changes necessary to achieve the objectives set forth in the ECCS initiative.

Several key concerns are highlighted in this report, including:

- The first concern is low usage of dental care by children age 1 through 5. Children in this age group should be visiting the dentist twice a year; however, only 21.1% of children ages 1 through 5 who receive Medicaid visited a dentist.

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8 Please note that the maps only show the number of events listed on the ECMP Website. There are certainly other relevant events, but since there is no central clearing house, this report is unable to account for other events.
• A second concern is a decrease in the number of children enrolled in the Indiana State Department of Health Children’s Special Health Care Services (CSHCS) program. The number of enrolled children has dropped by 28% since 2003.

• Our analysis also shows evidence that suggests that managed care programs and the medical home they provide lead to a higher rate of preventive and screening care. Of the 202,845 children covered by a managed care program, approximately 86.8% received EPSDT services, while only 67.8% of those under a fee-for-service plan received EPSDT services. This further highlights the need to ensure that children in Indiana have a medical home.

This evaluation will provide the ECCS committee with the available information and data to gauge the success of this initiative as it progresses. The evaluation provides a benchmark for future comparisons to measure the effectiveness of the Sunny Start Project.

While the ability to attribute changes in outcomes to the ECCS initiative is limited by both the extraordinary breadth of system changes and by gaps in the availability of data, this evaluation does provide valuable insight into the progress of the initiative and a baseline for future comparisons.
APPENDIX A

Total Number of Events Listed on ECMP Website, by County (SFY 2007)

Number of Events

- 0
- 1 - 20
- 21 - 60
- > 60
APPENDIX B

Professional Development Events Listed on ECMP Website, by County (SFY 2007)
APPENDIX D

Chart 1: Number of Visits and Unique Hosts to Early Childhood Meeting Place: Family Section
BIBLIOGRAPHY


