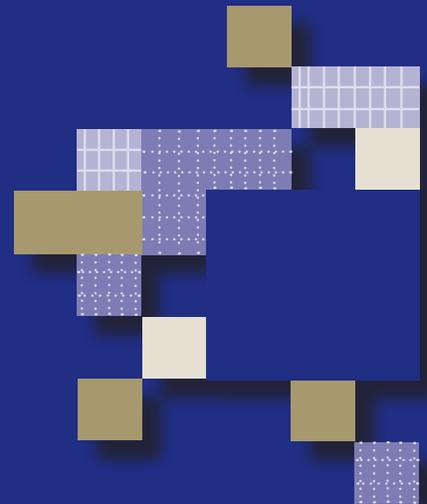




A LOOK AT PENNSYLVANIA'S EARLY CHILDHOOD DATA SYSTEM



During his administration, Pennsylvania Governor Edward Rendell spearheaded a new performance evaluation system for the state to help employees track and evaluate program results. At the same time, he created the Office of Child Development and Early Learning (OCDEL) under the departments of education and public welfare.

One major effort of the office was to update its information management system—Pennsylvania’s Enterprise to Link Information for Children Across Networks (PELICAN)—with the goal of supporting state early childhood programs. Among the tasks was developing an early childhood data system, the Early Learning Network (ELN), to enable better evaluation of and support for program decisions at all levels. Goals of the network are to improve the effectiveness and availability of state early childhood programs and to provide more specific information about teachers and children in the programs.

Development of the Early Learning Network (Figure 1) began with an opportunity created by the U.S. Department of Education’s Office of Special Education Programs. The office required measuring development and learning for all infants, toddlers and preschoolers in early intervention programs funded by the Individuals with Disability Education Act. The state received a federal grant to develop the state data and assessment system and proposed in its application enhancements to capture more information on children served by other state early childhood programs.¹

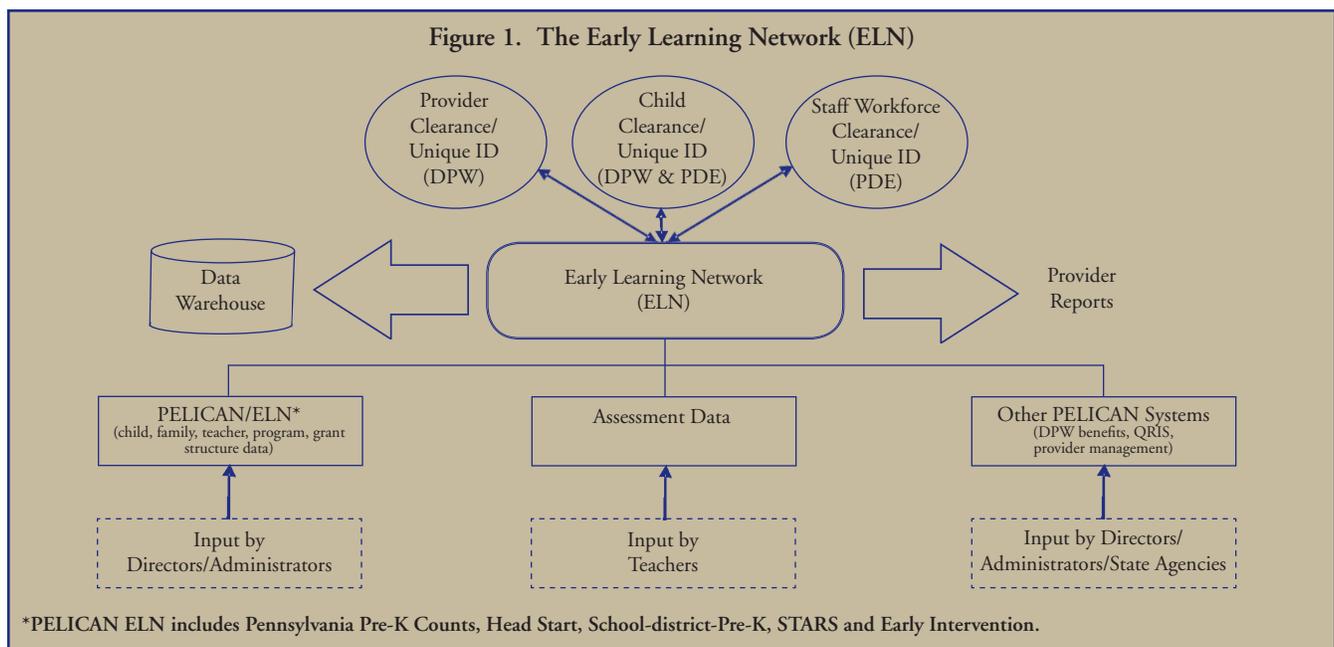
The Early Learning Network (ELN) collects information about children, teachers and programs overseen by

OCDEL. Information collected includes children’s family demographics, health information, service referrals, attendance and enrollment details, and a unique child identifier. ELN also includes program and workforce data such as teacher qualifications, benefits and turnover rates; classroom quality rating scores; and a unique provider identifier, which is the same teacher identifier system used in the K-12 system. Child developmental outcomes (from Pearson Work Sampling or Ounce assessments) come from the assessment data system, which feeds into ELN. The other major component of ELN is PELICAN, which contains data for PA Pre-K Counts (the state-funded prekindergarten program), Keystone STARS (program quality information), child care works subsidy case management information, and early intervention services.²

OCDEL began investigating the use of an assessment tool for children from birth to age 5 who attend early childhood programs. Discussions with program providers and other local and state stakeholders generated a set of principles to guide selection, including the need for a research-based, authentic assessment that could be used by teachers to monitor progress. The assessment also needed to be aligned with the state’s early learning standards so that results would support better instruction. The state determined that the Work Sampling System and Ounce assessments were the most appropriate.

POLICY

The Early Learning Network was designed to support various constituencies’ information needs. State legislators want evidence that early childhood services are a valid



GOVERNANCE

The Office of Child Development and Early Learning is responsible for developing the early childhood data system and works cooperatively with other state government entities including the information technology offices in the departments of education and public welfare. OCDEL's Early Learning Council—which consists of a broad set of early childhood stakeholders, convened pursuant to an executive order, and appointed by the governor—provides advice. The council's committees include an Early Learning Network advisory committee consisting of nearly 100 early childhood education program stakeholders, researchers and others. Within this committee, subgroups work on several issues including communications, research, infrastructure and technology.

VERTICAL AND HORIZONTAL LINKS

The state's goal is a true P-20 data system with bidirectional information access and data sharing.³ ELN will be linked to PIMS, the K-12 education data warehouse, which also will be connected to data from the post-secondary and workforce systems in a few years. All will be linked by a common child identifier and by common teacher identifiers. TIMS will be the teacher data warehouse for all birth to age 5 and K-12 teachers, including all certified and noncertified early childhood educators and early intervention therapists. Teachers will manage and monitor their own information, updating changes in professional development and educational achievement.

Kindergarten is the first point of access to information on all Pennsylvania's children, including those not served by OCDEL-funded programs. Kindergarten is jointly governed between the Department of Education and the Office of Child Development and Early Learning. The state is in the early stages of developing a plan, called Kindergarten Early Learning Network, the goal of which is to bridge ELN and PIMS, the K-12 education data system. The system may include data on child development and learning at kindergarten entry; demographic information; kindergarten classroom program quality information; and experience and education information on kindergarten teachers. The state also is in the early stages of evaluating a kindergarten assessment involving observation and documentation of children's skills and knowledge. This would be used by teachers to monitor progress and improve classroom instruction.⁴ Four school districts currently are piloting the kindergarten Work Sampling

public investment. Administrators want information to help support continuous program improvements. Community engagement groups use data to illustrate local issues of access, quality and results. The business community is interested in early childhood programs as a sound state investment, and researchers are interested in answering a wide range of questions that can be addressed only through longitudinal data systems.

Key policy questions that shaped the development of Pennsylvania's early childhood data system include:

- How is the development of Pennsylvania's children progressing?
- How are the state's early childhood programs improving?
- Where in the state are the most at-risk children, and do those children have access to high-quality programs?
- Are state investments in early childhood generating the intended results for children, providers and programs?
- Is the state providing information to all—parents, teachers, administrators, professional development organizations, higher education and OCDEL—to support improved quality of services?

Ultimately, through ELN, the state hopes to address these additional issues:

- **Dosage** – How the number of hours, duration of services, and combination of various services affect children's development.
- **Targeted Interventions** – Which children require which treatment to produce the best developmental results?
- **Resource Management** – Given limited funds, what is the best use: a longer duration of services for a more targeted group of children (e.g., two full years of prekindergarten for those most at risk), or a more limited duration of services for a larger group of children?
- **Training and Credentialing** – What teacher training and experiences produce the best results for children?
- **Program Characteristics** – What program elements are most critical for children's success, and how should programs be restructured to ensure the best results?

System to understand its use for children and teachers in the classroom.

For accountability purposes, OCDEL also would like to understand the progress of the commonwealth's children compared to national norms and standards. The office hopes to use some type of norm-referenced, standardized assessments for a sample of the kindergarten population. This process will likely involve a random sample of children, and may involve one or more assessments across a range of domains.

Goals of the ELN include linking to the full range of health and human services touching this population, such as TANF, physical and behavioral health care through Medicaid, child welfare and juvenile justice. In addition, the state would like the federal government to ensure accessibility to federal Head Start data. Such links would enable the state to better understand the host of services available for various children and how these combined supports enable optimal child development and progress.

In addition, OCDEL would like to be able to assign state child identifiers—PA Secure IDs—to any child who applies for services, regardless of whether they are obtained. This would increase the understanding of child development and progress both for children who receive services and those who do not. Currently, between 20 percent and 40 percent of Pennsylvania children ages birth through 5 are touched by OCDEL programs, but no requirement exists for children to be in the system if they do not receive services. However, programs that do not receive funding from OCDEL can administer Work

Sampling and Ounce assessments and use the state's data system and reporting capabilities.

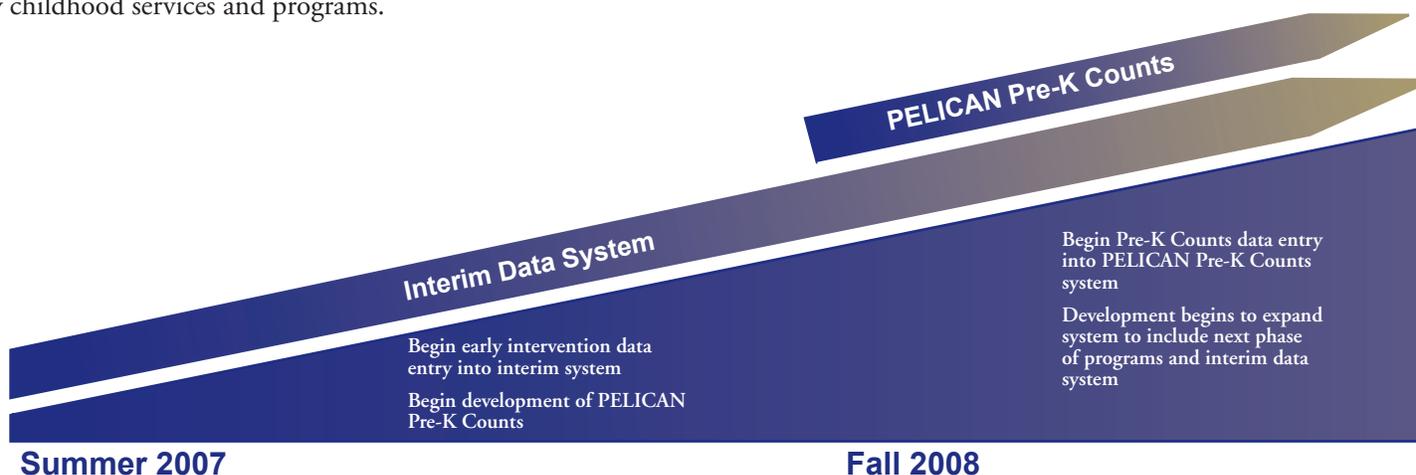
DATA ACCESS, REPORTING AND USE

In general, access to data and reports is based on a person's level of oversight of children and operations. For example, classroom teachers can access information related only to the children in their care, and only those child records pertaining to the program in which they teach. Staff with higher levels of oversight and management can obtain only records and reports of the programs they oversee, as defined by the funding stream. In other words, a person who oversees all state-funded prekindergarten in a region of the state has access to all child data and reports related to that program; however, they cannot get information about these children if it pertains to other funding streams (e.g., early intervention services federally funded through the Individuals with Disability Education Act). In addition, confidentiality of information is protected by aggregating the data, and by not identifying individual information when appropriate.

The ELN is designed to enable production of standard reports and use of raw data to produce new "as needed" reports. Reporting will be available to meet the needs of parents, teachers, administrators, researchers, policymakers and other community members. OCDEL currently is developing a series of reports based on input from various groups. Current and planned reports include the following.

Figure 2. Pennsylvania's Early Childhood Data Systems Timeline

While major pieces of the system are in operation, the development is ongoing. Work to be completed in the near future includes linking to the state's K-12 data system (PIMS), and developing a series of reports for various people involved in early childhood services and programs.



- **For parents** – Reports based on Work Sampling and Ounce assessments, including child status and progress in various developmental domains (e.g., physical development, emerging literacy).⁵
- **For teachers** – Individual and classroom information, including child assessment information by developmental domain, gains in development, information about primary language and other relevant background information.
- **For local program providers** – Program and child-level information, including child demographics, child progress, program quality standards, and teacher training and professional development information. Data can be compared across programs.
- **For regional and state administrators** – Aggregate data on participation rates, attendance, staff qualifications, teacher retention rates; retrospective aggregate reports on later school achievement compared to early childhood indicators; and aggregate child development information compared to amount of services received. Data will be available by community or region for geographic comparisons.
- **For state legislators and other policymakers** – Information about program accessibility and quality; aggregate information on children’s progress among various programs and on children’s progress longitudinally from early childhood through K-12 and

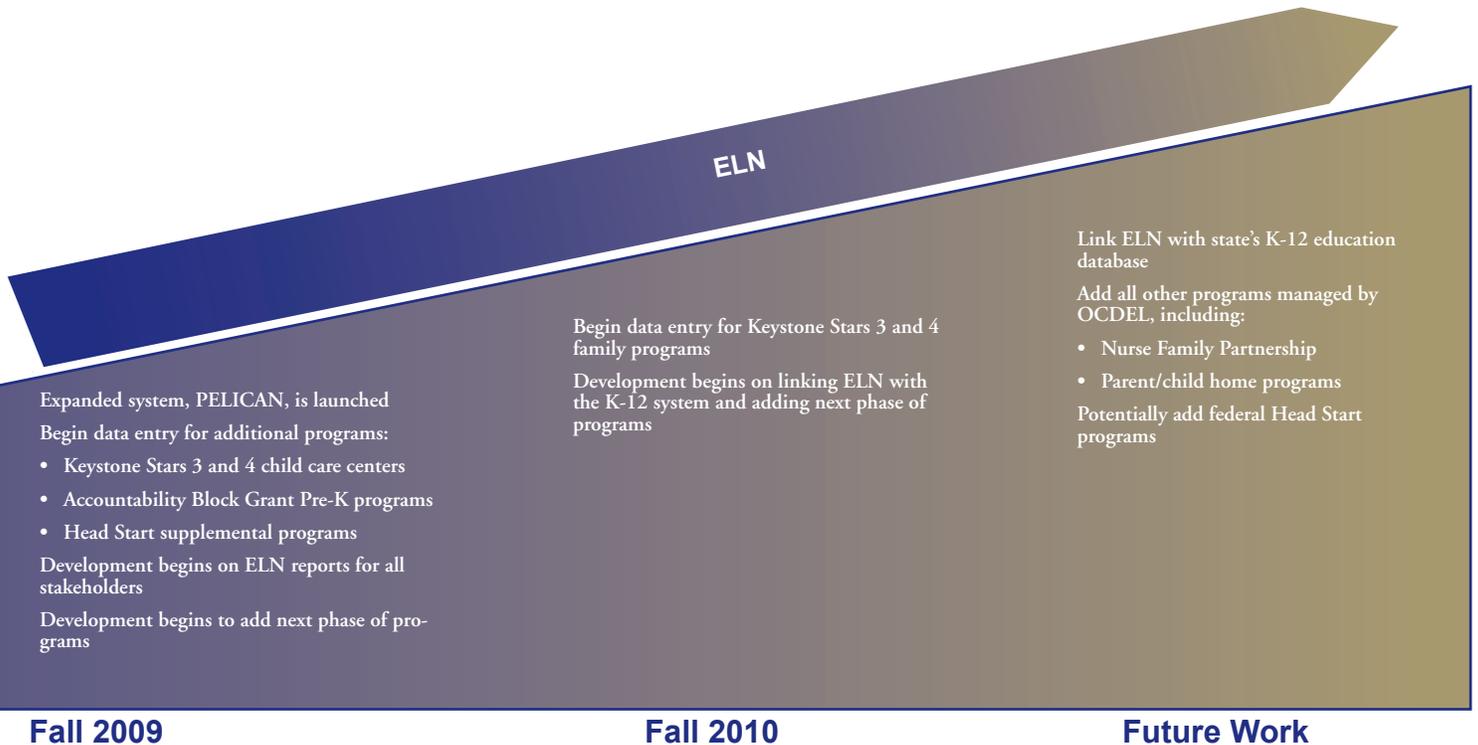
beyond; and comparisons of programs, providers and child populations among legislative districts.

The use of data is tied to the stakeholder’s role and is a critical consideration in designing reports. Parents want to understand their child’s strengths and weaknesses so they can help them learn. Administrators will tailor professional development and direct continuous quality improvement plans based on the analysis of specific program strengths and weaknesses. Policymakers can use the data to guide allocation of resources.

PRIVACY

The Health Insurance Portability and Accountability Act (HIPAA) and Family Educational Rights and Privacy Act (FERPA) are the primary federal statutes that relate to early childhood data. Because establishment of OCDEL combined staff from two agencies, the departments of Public Welfare and Education, many issues of privacy and data sharing related to these federal laws were addressed when OCDEL was formed.

FERPA applies to information in programs supported by federal funding from the U.S. Department of Education. In general, the programs previously administered by the Department of Education—such as Early Intervention programs for children ages 3 to 5 and Head Start—are covered by FERPA. The Department of Public Welfare is a covered entity under HIPAA. Therefore, protected health information for recipients of services in those programs



ELN

Expanded system, PELICAN, is launched

Begin data entry for additional programs:

- Keystone Stars 3 and 4 child care centers
- Accountability Block Grant Pre-K programs
- Head Start supplemental programs

Development begins on ELN reports for all stakeholders

Development begins to add next phase of programs

Begin data entry for Keystone Stars 3 and 4 family programs

Development begins on linking ELN with the K-12 system and adding next phase of programs

Link ELN with state’s K-12 education database

Add all other programs managed by OCDEL, including:

- Nurse Family Partnership
- Parent/child home programs

Potentially add federal Head Start programs

Fall 2009

Fall 2010

Future Work

previously administered by the Department of Public Welfare—such as subsidized child care and information relating to the Medicaid program—are covered by HIPAA, in addition to specific confidentiality requirements of the particular programs. The Early Intervention program for children from birth to age 3, which had been administered by the Department of Public Welfare, is an exception. All Early Intervention programs, which are supported by federal funds through the U.S. Department of Education, are covered by FERPA.

HIPAA contains an express provision that, if information is covered by FERPA, it is not covered by HIPAA. In Pennsylvania, this means information about a child concerning a program administered by the state Department of Education and/or funded by the U.S. Department of Education is covered by FERPA. As long as this data flows upward from ELN into the K-12 PIMS system, HIPAA does not apply. School districts will not receive information about a child's prior involvement in early childhood programs covered by HIPAA. Instead, when a child enters kindergarten with a unique PA Secure ID already assigned by the Department of Education, the electronic record will indicate only that the child is already known to OCDEL. The ELN data system also collects Social Security numbers for children on a voluntary basis pursuant to the federal Privacy Act (5 U.S.C. §552a).

ADVICE FOR OTHER STATES

Pennsylvania used several critical state and federal opportunities in developing its early childhood data system. The goal of the system—to support improvement across all early childhood programs—continues to guide the work. The state has made enormous strides in a short period of time and has continued to incorporate feedback from various early childhood stakeholders. As with all major innovations, Pennsylvania's experience can help guide the process of building early childhood data systems in other states.

- During the planning stage, include a wide variety of stakeholders—teachers unions, parents, superintendents—and continue to solicit and respond to feedback.
- The involvement of several agencies may impede progress. Although it is not essential to building a system, the Office of Child Development and Early Learning's oversight of all ELN programs has mitigated turf and other potential cross-agency issues.
- Ensure the process is transparent, authentic and reciprocal to allay fears and concerns; listen to objections and quickly address them.
- Be intentional and consistent about the system's purpose and use. A system explicitly designed for quality improvement is beneficial to everyone involved in early childhood education.
- Understand that a system's utility will help ensure its sustainability. If teachers, policymakers and others find the information useful, sustained support and investment can be expected.

NOTES

1. During this time, then-Deputy Secretary Harriet Dichter, Office of Child Development, Pennsylvania Department of Public Welfare and Policy Director, participated in the National Early Childhood Accountability Task Force, sponsored by the Pew Charitable Trusts (see the task force's final report, *Taking Stock: Assessing and Improving Early Childhood Learning and Program Quality*). Participation in the task force stimulated conceptualization of the Early Learning Network, and members of the task force provided welcome guidance.

2. Keystone STARS is a voluntary quality rating system for all family, group and center-based child care in the state. Almost 50 percent of regulated family providers and 64 percent of child care centers participate in Keystone STARS. The foundation of Keystone STARS is research-based performance standards tiered in levels that

range from Start with STARS to STAR 4. Keystone STARS works with Pennsylvania Department of Public Welfare certified programs, family providers, school-age programs, Head Start, school districts and accrediting bodies.

3. One advantage of creating full P-20 data systems is the ability for information-sharing through all grades. Pennsylvania is studying data access issues across the early childhood and K-12 data system, including privacy considerations, and, with federal guidance, hopes to resolve these issues in the near future.

4. There also has been some discussion about extending authentic assessments to second and third grades to understand children's progress and development in the earliest years of formal education.

5. These reports, which are available through the assessment vendor, are currently not available through ELN.

APPENDIX. PENNSYLVANIA EARLY CHILDHOOD DATA SYSTEM

The following contains additional details on the data system, including links to state documents.

Data Platform and Infrastructure/Systems

ELN was developed using existing enterprise systems in order to reduce costs. ELN was built onto the existing PELICAN Pre-K Counts platform and the Early Intervention system platform, which is related to the state's Home and Community Services Information System (HCSIS), the approved Medicaid Management Information System. For more details on the analysis of infrastructure, platform options, and the capabilities of existing systems see **DPW and PDE Available System Capabilities Report** and the **Gap Analysis Report** at <http://www.pattan.net/files/ELN/ELN-Del-AvailSysRpt.pdf> and <http://www.pattan.net/files/ELN/ELN-Del-Gap-AnRept.pdf>, respectively

System Costs and Funding

The ELN planning phase included a cost analysis of various system development options. See the report, **ELN Alternative Cost Analysis**, for more information: <http://www.pattan.net/files/ELN/ELN-Cost-Analysis.pdf>.

The following is a breakdown of costs to develop the current ELN system.

- ELN Feasibility study: \$500,000
- Cost to create ELN in its current form: \$4 million
- Maintenance of system: \$800,000 - \$1.2 M (estimated at 20%-30% of system cost). Includes staffing, overhead, modifications, quality control.
- Training and technical assistance \$900,000 (costs may be less in future years as more staff gain experience with the system)
- Pearson Assessment Costs \$650,000 (\$7.50-\$6.50 per child annually. Includes three assessments per year. Cost dependent on number of child licenses purchased.)

A grant from the U.S Department of Education's Office of Special Education Programs (OSEP) funded the original early intervention system and training. Various foundations, the William Penn Foundation, the Grable Foundation, and the Heinz Foundation have funded ELN training and development work. A grant from the U.S. Department of Education's Institute for Education Sciences (IES) is funding the linking of the ELN and PIMS, the state's K-12 education data system. The remainder of the work is supported by state funds.

Training

Pennsylvania utilizes a core group of regional trainers for ELN trainings. Training is mandatory for some programs (Pre-K Counts) and strongly encouraged for others; however all early intervention staff and child care staff are required to attend a certain amount of training annually (which may or may not be related to ELN). For more information, including ELN training manuals, visit http://www.pakeys.org/pages/get.aspx?page=EarlyLearning_Network.

Data Quality

As part of ensuring data quality ELN contains checks and controls for many data fields (e.g., drop-down menus limiting selections, range controls on birth dates). For more information, see the ELN training manuals and **ELN Data Repository User**

Guide. The guide can be found at <http://www.pattan.net/files/ELN/ELN-Data-RepGuide.pdf>.

Program Quality

For information on Keystone STARS, the state's voluntary quality rating system for all family, group and center based child care in the state, visit <http://www.pakeys.org/pages/get.aspx?page=Keys>.

Data Elements

The **ELN Data Repository User Guide** (referenced above) contains information on all data elements within ELN and includes source of data and confidentiality level.

Child, Workforce and Provider Identifiers

The following provides some information on identifier assignment for children, providers, and workforce. Please see the **ELN Data Repository User Guide** for more information.

Child Identifier: Once a child begins services currently covered by ELN their program provider initiates a clearance process in PELICAN to match the child to his or her existing Pennsylvania Secure ID (PASID) or assign a new unique PASID. The PASID is the same identifier used in the K-12 public education data system. During the clearance process, PELICAN can identify children who already have a PASID (as a result of prior OCDEL services) by matching information on name, date of birth, and other demographic information. Social Security Numbers, which are optional to provide, can also be used to match. If a match cannot be determined from the available information, an authorized individual at OCDEL will conduct manual clearing. Once entered into PELICAN, children receive both a PASID and a Master Client Index (MCI) number. The MCI is automatically assigned through the Department of Public Welfare (DPW) and is used to track contact history information. The two identifiers are maintained in order to eventually allow linkages to other databases in DPW, and eventually could be used through adulthood.

Workforce Identifier: Once a teacher or other professional begins providing services governed by OCDEL, they receive an ID, the Personal Professional Identifier (PPID). The PPID is the same identifier used in the K-12 public education data system. This identifier covers all staff including program directors, teachers, aides, and special services professionals (e.g., speech therapists). A clearance process identifies those individuals who already have PPID's and assigns new ID's for those new to the system. Individuals are matched based on Social Security Number, name, and other demographics. The state plans to link early childhood workforce PPID's with TIMS, the state's K-12 teacher database. This database will span early childhood and K-12 and thus can follow professionals who serve children of various ages throughout their career.

Provider Identifier: All providers of services governed by OCDEL receive a provider identifier, a Master Provider Index (MPI) number. The MPI is a location-based identifier that contains operational information including details about the grant structure of the program and the grantee name and location. Providers are assigned an ID based on a Federal Employer Identification number. Providers with multiple locations are assigned a four-digit extension for each location operated by the provider.

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By
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This case study is based on a joint site visit to Pennsylvania conducted in October 2009 by Elizabeth Laird of the Data Quality Campaign and Jennifer Stedron of NCSL. We would like to thank Harriet Dichter, Kirsty Brown, and the Early Learning Network team in Pennsylvania for their contributions of time, information, and feedback in the development of this document. We would also like to thank the Birth to Five Policy Alliance and The Pew Charitable Trusts for their generous support of this project.

This is part of a series of case studies that document states' progress toward building and using early childhood data systems. The case studies include information on: key policy questions driving the work; governance structures; current or planned linkage efforts within early childhood and with K-12, postsecondary and the workforce; and, strategies and challenges to building and using comprehensive early childhood data systems.

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Supporting state policymakers' development and use of early childhood data systems

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