



CASE STUDY:

Seeing the Longitudinal Picture: How Pennsylvania Identifies Students from Early Childhood to K12 and Links Data Across Agencies

PENNSYLVANIA DEPARTMENT OF EDUCATION (PDE)

PDE is on the leading edge of innovation and effectiveness in the education data field, and not only for its ability to link data across agencies.

PROBLEM: CALCULATING UNDUPLICATED COUNTS AND LINKING DATA

Numerous research studies have shown that early childhood education provides a strong foundation for future success. Early childhood education (ECE) programs, such as Head Start and home visiting services, have been shown to improve education outcomes in various ways. This includes the better outcomes in social and behavioral development, improved family relationships, and increased educational attainment¹.

In order to fund and continue to develop effective programs, states need unduplicated counts of their ECE participants. These unduplicated counts can enable states to calculate an accurate measure of program participation and participation rates. Linking ECE participant data to their K-12 data allows states to analyze this data longitudinally. This enables states to analyze the longer-term outcomes for these children and analyze data by cohorts².

SOLUTION: HOW PENNSYLVANIA LINKED EARLY CHILDHOOD TO K12 DATA

PDE began assigning unique identifiers known as the [PAsecureID](#) to its K-12 student population in 2007. In 2009, PDE, through OCDEL, began assigning the PAsecureID to all children enrolled in publicly funded ECE programs and linking this data to the K-12 data³. ECE programs that are included are Head Start, state pre-kindergarten, early intervention programs, subsidized childcare, and the top two tiers of the Tiered Quality Rating and Improvement System⁴.

The PAsecureID enables Pennsylvania agencies to link data across two systems from two separate agencies: the Pennsylvania Information Management System (PIMS), the Early Learning Network (ELN). PIMS is PDE's K-12 longitudinal data system, while ELN is part of the Department of Public Welfare. With this link, authorized users can see reports that provide insights on the outcomes of children who participated in early childhood programs⁵.

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RESULTS: UNDUPLICATED COUNTS AND LINKED DATA ACROSS AGENCIES

By implementing eScholar Uniq-ID as the PASecureID, Pennsylvania knows how many unique children and what percent of the population age 3-4 are enrolled in each program. Pennsylvania can also answer questions about program quality and outcomes. For example, with unduplicated counts and linked data, Pennsylvania can explore whether receiving more years of early intervention and/or pre-school special education is associated with improved outcomes by third grade. The state can also analyze how the quality of care is related to outcomes by third grade⁶.

“When unique identifiers (UIDs) are not used consistently across programs and data systems, ECIDS staff must employ complex matching techniques to link individual child records. A more efficient and accurate way to integrate data is to develop a process of assigning protected UIDs to children, either at the time of birth or at the time of first contact with designated programs or services.”

- [The Integration of Early Childhood Data, a Report by US ED and HHS](#)

References: 1: Key research studies on early learning effectiveness. (n.d.). Retrieved March 5, 2020, from <https://www.ed.gov/early-learning/research>. 2: The Integration of Early Childhood Data. (2016, November 15). US Department of Education and US Department of Health and Human Services. Retrieved from <https://www.acf.hhs.gov/ece/ece-early-childhood-data>. 3: The Pennsylvania Information Management System: A Comprehensive Report. December 2010/4: Roadmap for Early Childhood and K-12 Data Linkages. (January 2016). Data Quality Campaign and Early Childhood Data Collaborative. 5: Sirinides, Philip M. (2013). Pennsylvania’s Early Childhood Data Systems: History, Uses & Opportunities. CPRE Working Papers. Retrieved from http://repository.upenn.edu/cpre_workingpapers/16 6: The Integration of Early Childhood Data. (2016, November 15). US Department of Education and US Department of Health and Human Services. Retrieved from <https://www.acf.hhs.gov/ece/ece-early-childhood-data>

BENEFITS

The PASecureID is powered by the eScholar Uniq-ID® solution. eScholar Uniq-ID uses a combination of matching algorithms to ensure that records are matched accurately. These matching algorithms include, but are not limited to:

- Population Rule Set, which accounts for regional and ethnic name characteristics
- Deterministic, probabilistic, fuzzy, phonetic, and transliterate match types
- Spelling errors, multi-part, typos, and mixed usage name handling
- Handling for special characters

Since 2007, Pennsylvania has assigned over 5 million unique identifiers to ECE and K-12 students.

LEARN MORE

For more information on how to PDE is leveraging eScholar solutions for its SLDS projects, visit www.escholar.com or contact Elissa Seto at eseto@escholar.com.



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