

Information Technology Capital Investment Program
Project Close Out Report

To: Information Technology Strategy and Investment Committee
John Vittner, Office of Policy and Management

From: Michael Zimet, Director, Information Technology, OEC

Email: michael.zimet@ct.gov

Agency: Office of Early Childhood

Project: Office of Early Childhood - ECIS

Project Start Date: 11/1/2013



Project End Date: 6/30/2020



Project Manager: Michael Zimet, Director, Information Technology

Total Funds Requested: \$6,000,000

Total Funds Allotted to Agency: \$6,000,000

Accumulative Total Capital Fund Expenditures to Date: \$6,000,000

Brief Project Description/Summary:

The design of the Early Childhood Information System (ECIS) was to include two major components: A Transactional Data Collection System and a Database, that when extended, can function as a Data Warehouse for reporting across OEC's four (4) program areas (Early Care and Education (ECE), Home Visiting (HV), Birth to Three (B23), Workforce Professional Registry (WPR)). This will eventually allow the OEC to not only share and aggregate data across divisions, but also across other state agencies when necessary.

ECIS uses modern software and development techniques for building new systems and applications. The data once collected, is stored in the DAS BEST data center for security and backup in a manner that will adhere to FERPA and HIPAA regulations.

The Reporting component of the system will assist administrators to make timely assessments of their programs to improve outcomes and track quality, and meet state and federal reporting requirements

List Project Goals and Deliverables Completed:

(Please provide a brief summary of the goals and deliverables that were implemented. Please reference the IT Capital Investment Brief for the initial goals of the projects.)

Early Childhood Education (ECE)

The ECIS - Early Care and Education (ECE) module was initially developed to collect, share, analyze, and report on critical child data in state and federally funded early childhood programs. The initial service tools were built in collaboration between the State Department of Education (SDE) and the Office of Early Childhood to expand the service of the SASID Manager and Directory Manager used in the Public School Information System, to be able to be used by ECIS and other systems.

All data collected is stored securely within SDE's network infrastructure at DAS BEST data center. The OEC is currently in the process of migrating all ECIS Development, Testing, Production and Training environments to its own managed servers within the BEST datacenter.

Early Childhood Education (ECE) Development Timeline

In December of 2014 Phase I development commenced with the approval of the initial Business Requirement Document jointly developed the OEC and SDE IT. Features included integrating SDE's SASID manager and the creation of a data entry and real time data reporting system for OEC funded ECE programs.

Development began with a secure web-based application for data entry, which included the ability to upload large datasets via batch, a data conversion tool for existing program data, and data reporting capabilities. Security for ECIS and modules was integrated into SDE's existing Directory Manager (DM) portal. SDE had plans for Directory Manager future revisions and upgrades.

Early Childhood Education (ECE) SASID Manager

The SASID Manager design was expanded in late 2014 and development commenced; it was released into production for ECIS' ECE module in the Spring of 2016. Enhancements included:

- The ability to add Community –Based and Public School programs to administer their users and grant access based on Facility, Location or Funding Source
- Improved Role based access for granular permissions to the child level based on Facility, Location or Funding Source
- Additional functionality included read only access for School Readiness Liaisons restricted by community.

The ECE module features became the foundation for the Child Enrollment module that links program/provider data to funding, space type to child and family demographic and enrollment data.

Early Childhood Education (ECE) Reporting

Additional system functionality such as reporting implemented in the Spring of 2016 continue to evolve, as technology advances. Permission based Reporting features allow programs to view counts and the specific enrollments for a given point in time, or across a period, aggregated by community, provider, funding type, space type, household income level, and more; for reporting participation in programs as well as other more detailed analysis.

Early Childhood Education (ECE) Batch Upload

To alleviate the duplication of repetitive data entry, in the Spring of 2017, the Batch Upload feature was implemented and made available for use. This new feature allowed programs to migrate large sets of data between their internal systems and ECE. Based on user feedback, additions to Batch Upload were made and went into production in the Fall of 2018.

Early Childhood Education (ECE) Data and Usage

The ECE system supports approximately 400 individual Early Care and Education sites with an enrollment of approximately 18,000 children each year in state and federally funded early care and education programs.

These programs include School Readiness, Child Day Care contracts, Smart Start, Head Start, and Preschool Development Grant.

The primary use of ECE is to track enrollment data and to realize a better understanding of the children receiving services in their programs and communities for both Early Childhood Service Providers and the Office of Early Childhood.

Providers use child-level data to make case management and program decisions, including decisions about enrollment. Through ECE, they enter data, create, and download reports based on that data.

At the community level, School Readiness Liaisons, can access data on all early childhood providers in the community, which allows them to identify children receiving services from multiple programs and examine patterns of program access and participation; allowing them to coordinate, evaluate, and administer School Readiness program grants.

Access to these data supports collaboration across service areas (e.g., employment, childcare).

“Policymakers, early childhood providers, administrators, teachers, parents, funders, researchers, and the public benefit from having state-specific data for decisions, solutions, and conclusions to inform individual choices, policy initiatives, and outcome-based programs to best serve the needs of children.”

For example, the OEC uses ECE data to look at access to child care by income and age, along with provision of services by age; in particular, three- and four-year-olds. OEC staff uses this aggregate ECE data to make higher level program and policy decisions.

Early Childhood Education (ECE) Future Development

The OEC is planning to developing aggregate reports that will also become available to researchers and the public.

Project Replication Opportunities: the option of looking at data by year, population sub-groups (such as child's age), geographic areas, or even by the subject matter of the data. **Please provide a brief explanation of the new security solution may be replicable for other agencies. On the whole, the project solution is focused on agency operations within the OEC.**

The business requirements and design specifications for integral components such as the Child Attendance Module and the Data Governance Dashboard are fully underway.

More work is required at this time to complete the integration between ECE with the existing State Assigned Student Identifier (SASID) Manager. Additionally, The Directory Manager Portal, managed by the Connecticut State Department of Education (SDE) is being sunsetted; plans are however underway to replace it with OEC's own secure user portal.

Key Lessons Learned: (Provide any lessons learned or experienced during this project that may be helpful to other agencies starting a similar project.) This new OEC portal will consolidate access across all OEC divisional applications and give OEC application's users a single sign-on for their access. This portal will be the secure gateway to all of the modules mentioned above ECE, HV, B23, WBB, as well as others within the agency. Although the majority of the developers used were consultants for the sake of expediency, in the near-term, the knowledge transfer and turnover take-over will undoubtedly add cost and affect new ECIS feature delivery schedules. In the winter of 2020, the IT team tested and stood up a new security solution to be used with OEC continues to grow its internal Information Technology capabilities lessening its reliance on consultants, and third party vendors to reduce future development and maintenance costs. This security solution will be rolled out to other applications in future phases.

Planned and ongoing changes to partner and state agency systems in some cases will require re-design and re-**Home Visiting (HV)** of the current system. The OEC is being diligent in designing its systems moving forward in a more loosely coupled manner in order to mitigate these partner system changes.

The Home Visiting (HV) application module as designed and implemented captures extensive demographic and outcome information. Demographic data elements include personal identifiers (name, address, contact information, required integration into new State Agency systems will burden internal development initiatives and OEC current IT resources, date of birth, race, gender), as well as income, education, health and risk information, and information about referrals made during the course of enrollment. The "outcome" information that is collected corresponds to 19 federally **At the OEC, the home visits** to leverage the current ECIS project investment, one key initiative is determining how best to extend the work already completed, while incorporating the large amount of valuable user and partner feedback it has received. Planned improvements are already incorporating a more agile development methodology as we work closer with our users, partners and program managers to ensure the Early Childhood Education System (ECES) is a benefit to everyone. Most benchmark measures incorporate the many data elements captured in HV, about caregivers and their children (up to eight years old) enrolled in home visiting. The dataset elements are specific to a caregiver, child, or household.

HV joins children with their respective caregivers. In other words, each child and each caregiver has a unique individual record with an associated family ID; allowing HV to identify family units and aggregate family data. Similarly, HV keeps track of "households" this allows HV to know which children and caregivers belong to which household and at which residence address. HV can identify family units and aggregate family data when the family does not reside together in the same residence.

Security and access within HV is granular to the data element level. This along with user-level permission based reporting allow administrators to limit access to both the input, and reporting of data to specific users, as they deem necessary. HV tracks all changes to data and archives all historic information. HV security can also limit a user's access to only to the records of the caregivers and children they directly work with. This feature allows administrators to grant access to the information about a mother, a child, and the family for one user, while a different user has access to the information about the father, the child, and the family (i.e. not the mother). Home visiting supervisors will only have access to the records created by the home visitors they supervise.

Home Visiting (HV) Rate Card Success

In early 2018, the OEC launched the yearlong Outcomes Rate Card Pilot. Through the pilot, a subset of the state's home visiting providers could receive bonus payments up to 3% of their total contract value for the achievement of two-generational outcomes (positive outcomes for entire families) among clients. Outcomes rate cards belong to the umbrella of Pay for Success models, which are contracting strategies in which payment is contingent on the achievement of certain measurable outcomes. These bonus payments to Providers were for achieving outcomes related to the following categories:

- (1) Safe children
- (2) Caregiver employment/education
- (3) Full-term births and/or
- (4) Family stability.

In 2019, the "universe" of programs, which were offered rate card expanded to all home visiting programs funded by the OEC. The outcomes and eligibility requirements varied a little in the second rollout in order to accommodate shorter contracting periods, and to pilot an additional outcome. The OEC is in the process now of onboarding additional home visiting programs. Rate card as a procurement tool is included in the contracts for each of these new agencies as well.

*Connecticut has been recognized as being a leader in the field of **Pay for Success** for using rate card as a procurement tool. Connecticut was included in an article featured in the New York Times (March 6, 2018), and was recognized as a national model by the Aspen Institute (June 2018).*

The ability to adapt the data collection and reporting capacity of HV was critical to the success of the rate card effort at the OEC.

The HV module allows for, and tracks the meeting of Rate Card requirements such as:

- Specific information being entered by the user within prescribed periods (for example, certain fields need to be entered within 10 business days after the close of a quarter).
- Enrollment eligibility information (for example, whether a caregiver was enrolled for at least one year)
- Evidence that a measure was met (for example, whether a caregiver maintained full employment)
- Entry and calculation of all required additional data fields.

Home Visiting (HV) Reporting

The HV application includes many reports; specifically, three that are required for federal reporting (Forms 1, 2, and 4), a summary report, and two rate card reports.

The "Form one" report includes 21 tables of demographic information. These are required annual reports to maintain federal (MIECHV) funding for home visiting.

The "Form two" is also a required annual report for the 19 federally mandated benchmark measures.

The "Form four" is a required quarterly report to federal funders. This report summarizes information about total numbers of families served, including new families versus those who have been continuously enrolled for a given time period, and a measure of retention as well as summarizing families served by zip code and town.

The summary report provides an additional snapshot of total numbers of children and their caregivers served in a format that has proven useful for internal and state-level reporting.

These reports are available to the user for any period they determine necessary; each report can be filtered funding source(s), program model(s), and/or program agency.

Extended reporting functions created for the rate card feature include how many caregivers or families (depending on the measure) "achieved" each outcome, and the dollar values for each measure achieved. The fiscal department at the OEC uses this report as the basis for rate card payments to agencies.

Updated Rate Card reports were created as the OEC piloted different outcomes measurements, and various contract terms; these have resulted in different retention requirements.

- With the exception form four, all reports can contain interactive links, which display further drill-down data and the supporting records for the report. This is a valuable feature, especially to the home visiting agencies allowing them to verify all measures for accuracy and data inclusiveness.

Home Visiting (HV) SSPT Program

In the spring of 2019, enhancements to ECIS included information specific to the SPPT program (Supporting Pregnant and Parenting Teens). This is a joint effort between the OEC and the State Department of Education. The program provides both a home visitor and a school social worker serve each enrolled teen. Additions to ECIS included expanded data elements for school-based staff to collect, as well as an expansion of user access for school social workers.

ECIS enhancements for the fall of 2019 include four additional home visiting "models" expanded the number from two to six. The changes to ECIS to accommodate these models include revising the current screening and enrollment forms, expanding the capturing of non-consent data by creating a minimal, de-identified data form to track families who when approached for home visiting but did not enroll and did not give consent. The new enhancements allow the system transfer referrals electronically to a broader network of service providers with greater ease.

Home Visiting (HV) Future planned enhancements:

- Waitlists
- Form 4 changes that were recently released by HRSA
- Timely alerts to help users keep track of when certain screenings, assessments, documentation, etc.
- Alerts for when data is required to be entered into the system
- Information and tracking of phone support services
- Information and tracking of group-based services
- Reports to summarize for, and share information with other agencies
- Modifications to models as necessary to meet agency and provider needs

Home Visiting (HV) Development Timeline

- August 2017- Rolled out ECIS to the first group of federally funded users. This included uploading the existing home visiting information from a previous data system, into ECIS.
- October 2017 – Implemented reports federal data requirements.
- January-March 2018 – Added additional data entry fields and reports for the rate card pilot, for federally-funded users
- June/July 2018 – Added state-funded users to ECIS
- July 2018 - Enhanced reporting for state-funded users of the rate card pilot
- May 2019 - Added additional data entry fields and granted additional user access for the SPPT program.
- September 2019 - Anticipated roll out of enhancements accommodate new models, revisions to the current screening and enrollment forms, expand the capturing of non-consent data via minimal de-identified data form for tracking families who when approached for home visiting but did not enroll and did not give consent. The ability to transfer referrals electronically to a broader network of service providers with greater ease.

Workforce Professional Registry (WPR) Matching Engine

The Workforce Professional Registry Matching Engine is an automated process designed to correct and synchronize data between Connecticut e-License database and the OEC Early Childhood Professional Registry currently built by and housed at an external vendor. Future planned enhancements include notifications to programs and providers for renewals and lapses in licensing requirements.

2019 Summary and Project Update

Over the past year (2019) the OEC has continued to modify and enhance the ECIS platform with features such as Rate Card, enhanced reporting and planning of 5 new models for the Home Visiting module. We have also used OEC internal resources and funding to add additional enhancements to the ECIS ECE module which allows Child Care facilities to more easily enter their child data and submit their required reporting to the OEC with just a button click.

We have designed and commenced development on our new Single Sign-on Identity Server allowing the OEC to more easily create a Master Data Index across divisional data and have begun the foundation of tying ECIS into other agency systems such as Background Checks (BCIS) and e-License.

While the original plan for the use of bond funds included broader development of the four components, the agency has chosen to focus greater efforts on the two components discussed above due to agency and technology capacity. In addition, changing agency leadership has impacted the broad vision for the project. Current agency leadership has a new set of digital and data priorities and the technology and research leadership is working to meet those expectations. The work supported by these bond funds has put the agency in a solid state and we are dedicating new funds to continue development and enhancement of this work.