**Recommendation Paper**

*Early Childhood Longitudinal Data System*

*Feasibility Study*

*Cross-Departmental Project Team:*

*WI Department of Children and Families*

*WI Department of Health Services*

*WI Department of Public Instruction*

*WI Department of Workforce Development*

Unique Identifiers: Child, Early Childhood Workforce and Program Identifiers Recommendation Paper

*6/30/2012*

The Unique Identifiers Work Group

# Table of Contents

[Table of Contents ii](#_Toc331146449)

[Executive Summary iii](#_Toc331146450)

[Option 1 – Entity Resolution (Matching) Software Used for Linkages of Program-Specific Unique Identifiers iii](#_Toc331146451)

[Option 2 – Assignment and Maintenance of Shared Unique Identifiers Across All EC Program/Systems iii](#_Toc331146452)

[Recommendation: Option 1 - Entity Resolution (Matching) Software Used for Linkages of Program-Specific Unique Identifiers iv](#_Toc331146453)

[Full Report – Detailed Information 1](#_Toc331146454)

[Background 2](#_Toc331146455)

[Scope 4](#_Toc331146456)

[In-Scope 4](#_Toc331146457)

[Out-of-Scope 4](#_Toc331146458)

[Constraints and Assumptions 4](#_Toc331146459)

[Approach 4](#_Toc331146460)

[Option 1 – Entity Resolution (Matching) Software Used for Linkages of Program-Specific Unique Identifiers 5](#_Toc331146461)

[Pros 6](#_Toc331146462)

[Cons 6](#_Toc331146463)

[Option 2 – Assignment and Maintenance of Shared Unique Identifiers across All EC Program/Systems 7](#_Toc331146464)

[Pros 8](#_Toc331146465)

[Cons 8](#_Toc331146466)

[Recommended Approach and Rationale 8](#_Toc331146467)

[Recommendation: Option 1 - Entity Resolution (Matching) Software Used for Linkages of Program-Specific Unique Identifiers 8](#_Toc331146468)

Addendums

1 Race to the Top (RTTT) Round 1 October Application relevant sections (page 11-12)

2 Department of Health Services Example of Possible Use Of Shared Unique Child Identifier For Option 2 (page 12)

3 [EC LDS Project Charter](http://wise.dpi.wi.gov/files/ec/pdf/ec_lds_charter.pdf)

# Executive Summary

The Early Childhood Longitudinal Data System (EC LDS) project created a Unique Identifiers Work Group. The Unique Identifiers Work Group studied the options available to identify a unique individual (child/provider/educator/workforce adult) across various systems, programs and agencies. The work group also studied the options available to identify unique program sites.

The options available were determined to be **either** a matching process to **link program-specific unique identifiers** or an assignment to all programs of **shared unique identifiers**. Consideration was given to the ability to link data between the three areas (child, EC workforce, program site).

## Option 1 – Entity Resolution (Matching) Software Used for Linkages of Program-Specific Unique Identifiers

A matching method via software would be used for matching individuals. Under this option, all programs involved in sharing Early Childhood (EC) data across agencies would retain the program-specific unique identifiers they use today within each individual program. Each program would retain the unique identifier for the child, for the early childhood (EC) workforce (educator/provider) and for the program sites within the program by continuing to assign, retain and maintain their own unique identifiers. A matching software would be used to create and maintain the linkages and a crosswalk between the various programs involved in data sharing.

The workgroup feels the maintenance of the linkages is vital. This means that a constant audit process is executed and constant cleanup of errors is performed.

The importance of privacy and security is paramount. It is possible in some of the robust open-source (free) matching products to hold the personally identifiable information (PII) separately from the de-identified data. Separate crosswalk information is managed apart from the data and the PII information. This separation is well-vetted as a reliable approach to manage a high-confidence rate of accurate identification of individuals, as well as providing tight security and privacy.

**Option 2 – Assignment and Maintenance of Shared Unique Identifiers Across All EC Program/Systems**

Under this option, all programs involved in sharing Early Childhood (EC) data would agree on one unique identifier to be used for the child, the EC workforce (educator/provider), and the program identifier. Each program involved would carry those unique identifiers within their systems. A conversion would be needed to adopt the chosen identifier within the systems that do not currently carry that identifier. The details of how the agreed upon identifier is carried will be determined. The new ID could be carried as an additional field, leaving the current ID as the key, or the new ID could replace the current ID as the key. The idea is to assign and agree upon a shared identifier.

Possible **child identifiers** discussed were the Wisconsin Student Number (WSN), the Birth Certificate Number, the Blood Card Number or the Master Customer Index (MCI).

Possible **workforce identifiers** discussed were the Wisconsin Educator Number (WEN), the Master Customer Index (MCI) and the number assigned to the workforce members of other programs outside of the educational area.

Another option to consider is the assignment of a single ID to an individual, regardless of what his or her current role is. For example – an ID assigned to a child in the school system will be used as that adult’s ID if s/he enters the workforce as an educator.

**Program sites** could be assigned sequential numbers and referenced by them. Examples of Program sites: medical clinics within the state of WI providing immunizations within the WI Immunizations Registry for the Immunization Program or the school districts for the 4K “program”.

## Recommendation: Option 1 - Entity Resolution (Matching) Software Used for Linkages of Program-Specific Unique Identifiers

At this time the workgroup strongly recommends the use of a robust entity resolution product or methodology, but refrains from recommending a specific entity resolution product/methodology. **O**pen-S**yst**em **E**ntity **R**esolution (OYSTER)/Knowledgebase Identity Management (KIM) or University of Wisconsin Institute for Research on Poverty’s (UW-IRP’s) matching methodology would be possible good choices, but the workgroup would like a little more time to study.

**Bearing in mind that more study is needed, a good long-term goal for the state would be to switch to Option 2 someday. The workgroup feels Option 1 is the most viable at this time to get the project off the ground.**

# Full Report – Detailed Information

**Recommendation Needed**

The Unique Identifiers Work Group studied the options available to identify a unique individual (child/provider/educator/workforce adult) across various systems, programs and agencies. The work group also examined the options available to identify unique program sites. The options available were determined to be **either** a matching process to **link program-specific unique identifiers** or anassignment to all programs of **shared unique identifiers**. Consideration was given to the ability to link data between the three areas (child, EC workforce, program site). The Unique Identifiers Work Group presented a recommendation.

**Summary**

The EC LDS project conducted a data survey across the three agencies that agreed to participate in the current project charter. [A summary of the WI data survey results](http://wise.dpi.wi.gov/files/ec/xls/ec_lds_summaryofwisurveyresults.xls) can be studied by those who would like the details. In reference to the four fundamentals listed below under Background, the data survey collected information on program-specific unique identifiers used in the various programs today. In short, all programs use program-specific unique identifiers and can operate well with these within the confines of their own program/system.

However, the linking of data across programs/systems becomes complex. Unique Identifiers can be used to link data, and supporting data can be used to add to the matching process, for example, to increase the confidence that the Johnny Smith in the 4K program is the same Johnny Smith receiving Medicaid and the same Johnny Smith whose family receives Food Share. Examples of good supporting child identifier data are: First name, Last Name, Mother’s First and Last Name, Mother’s Maiden Name, SSN, Date of Birth. Although other supporting data can be used, these are most commonly used.

With careful thought given to the **Early Childhood Data Collaborative (ECDC)[[1]](#footnote-1)** information below, the Unique Identifiers Work Group was able to complete analysis of the spreadsheet items, consider options and make a recommendation.

The Work Group members were Dennis Winters (DWD), Angela Rohan (DHS), Linda Leonhart (DPI), Jill Haglund (DPI), Carol Noddings Eichinger (DPI), June Fox (DPI), Milda Aksamitauskas (DHS), Oskar Anderson (DHS), Jared Knowles(DPI), Sarita Jha (DPI), Sita Bhaskar (DCF), David Jakobson (DPI), Melissa Straw (DPI), Laura Ninneman (DHS), Patricia Janssen (DHS), Richard Miller (DHS), Jessica Seay (DHS), Missy Cochenour (State support Team TA) and Jeff Sellers (State Support Team TA).

The work was completed over the course of three primary meetings, with two additional meetings involving a discussion of one of the recommended open-source matching options (OYSTER).

## Background

**Ten Early Childhood Longitudinal Data Systems Fundamentals**

After identifying the critical policy questions confronting state policymakers, the Early Childhood Data Collaborative (ECDC) identified the 10 Fundamentals of coordinated state Early Childhood data systems.

The 10 Fundamentals allow stakeholders to better understand the relationships among children, program sites and EC workforce characteristics over time. In addition to collecting data, coordinated data systems can link select information longitudinally and with other key programs. A governance structure manages data collection and use, and states have transparent privacy protections and security practices and policies.

These EC Fundamentals are the backbone of the data systems. Based on a state's unique interests and political realities, state stakeholders may choose to include additional information and capabilities. The state of Wisconsin has an interest in ultimately including a very broad base of source data in the Early Childhood LDS, perhaps starting with pre-natal data. Wisconsin also intends to ultimately extend the longitudinal data view into the adult workforce.

The following 10 Fundamental Components, recommended for inclusion in a well-crafted EC LDS by the ECDC, have been adopted and included within Wisconsin’s EC LDS Project Charter. These were also referenced in the October, 2011 Race to the Top application (page 232) (round 1). See Addendum List page 10.

1. **Unique statewide child identifier.**
2. Child-level demographic and program participation information.
3. Child-level data on child development.
4. **Ability to link child-level data with K–12 and other key data systems.**
5. **Unique program site identifier with the ability to link with children and the EC workforce.**
6. Program site data on structure, quality and work environment.
7. **Unique EC workforce identifier with ability to link with program sites and children.**
8. Individual EC workforce demographics, including education, and professional development information.
9. State governance body to manage data collection and use.
10. Transparent privacy protection and security practices and policies.

The topic of this paper concerns Unique Identifiers and focuses on the Fundamentals **highlighted** above **(numbers 1, 4, 5, 7)**. The following is what the **ECDC (from www.ECEdata.org)** has to say about Unique Identifiers.

***Fundamental 1***

***Unique statewide child identifier***

“A unique statewide child identifier is a single, nonduplicated number that is assigned to and remains with a child throughout participation in EC programs and services and across key databases. The child identifier remains consistent even if the child moves or enrolls in different services within a state. State policies need to ensure that the unique identifiers are secure and protected, and only certain stakeholders, like parents and teachers, have access to identifiable information.

A child identifier allows the state to track progress of each child over time, throughout the early childhood years, and across programs and sites within the state to improve the coordination and provision of services. A unique child identifier alleviates redundant data entry on children participating in multiple EC programs by allowing information about a single child to be linked across various data systems.”

***Fundamental 4***

***Ability to link child-level data with K-12 and other key data systems***

“Linking child-level data with K–12 and other key data systems allows policymakers to track the progress of children over time as well as better understand relationships among EC programs and other child development programs and services. For example, linked data systems can provide two-way communications between EC programs and K–12 so that EC programs know how children progress in K–12 and K–12 programs can tailor instruction to meet individual children’s needs when they arrive at school.

Linking select and secure EC data with other programs and services, like health and child welfare, allows policymakers to understand the relationship between EC programs and other services that support child development, program administrators to improve the coordination of services with other providers, and the EC workforce to target and improve services for individual children based on their access to other supports. Linked data systems also can help with referrals, such as the federal mandate in the Child Abuse Prevention and Treatment Act to refer any child under age three who is involved in a substantiated case of abuse and neglect to Early Intervention services.”

***Fundamental 5***

***Unique program site identifier with the ability to link with children and the EC workforce***

“States need information about program sites to understand whom they serve and their impact on children. A unique, statewide program site identifier is a single, nonduplicated number that is assigned to a school, center or home-based EC provider. States also may assign unique classroom identifiers to identify individual classrooms within a site. A program site identifier allows states to link data on EC services to a particular site and track these characteristics over time and across key databases. It also allows states to connect EC program sites with their staff and the children they serve to better understand the relationships among the site and staff characteristics, child program participation, and child outcomes to inform policy decisions.”

***Fundamental 7***

***Unique EC workforce identifier with ability to link with program sites and children***

“Coordinated state EC data systems that include a unique EC workforce identifier help states better understand information about the adults caring for children. A unique EC workforce identifier is a single, nonduplicated number that is assigned to individual members of the EC workforce consistently across program sites and links across key databases. This workforce includes teachers, assistant teachers, aides, master teachers, educational coordinators and directors, and other individuals who care for and educate young children.

A unique EC workforce identifier allows states to track workforce characteristics over time and connect the workforce to the EC programs in which they work and the children they serve. The result will be a better understanding of the relationships among the EC workforce, program site characteristics, the quality of services and child outcomes.”

## Scope

### In-Scope

* All the options listed in the current [Unique Identifiers Options](http://wise.dpi.wi.gov/files/ec/xls/ec_lds_uniqueidentifieroptions.xls) spreadsheet were considered. This spreadsheet was compiled by the Data Analyst as various options were brought to the attention of the project team over several months. These options consisted of approaches used by other states, local approaches and approaches used within the WI state agencies involved in this project.
* Consideration was given to maintaining the linkages. A constant audit process and constant cleanup of errors is important to the process.

### Out-of-Scope

* The focus of this work group is strictly on Unique Identifiers. Other related topics to follow will be studied by additional separate work groups; for example, a Data Governance work group.

### Constraints and Assumptions

* Assumption: Subject Matter Experts (SMEs) will form this work group, performing the analysis needed to make the decisions.
* Assumption: The Data Analyst will assist with answers to questions about the Unique Identifiers Options spreadsheet.
* Assumption: The Unique Identifiers Work Group will follow the Charge as outlined in the [Unique Identifiers Work Group](http://wise.dpi.wi.gov/files/ec/doc/ec_lds_uniqueIDworkgroup.docx.doc) document.
* Assumption: The selection of any of the three approaches is an independent decision that can be made within this unique identifiers workgroup. This decision is not dependent upon decisions to be made regarding potential system architecture (federated versus centralized versus hybrid).
* Constraint: No budget was given to the workgroup to test any of the options.

## Approach

The workgroup met on 5/3/2012. Changes/additions were made to the Unique Identifiers Work Group document (the charge), to the Unique Identifiers Options spreadsheet and to the Recommendation Paper. [Minutes](http://wise.dpi.wi.gov/files/ec/doc/ec_lds_meetingminutes1uniqueID.docx.doc) for the meeting are available. The options in the Unique Identifiers Options spreadsheet were discussed at a high level.

The workgroup felt the options could be more broadly classified into two general options. The two approaches are defined below and a recommendation is made at the end of this paper..

The second meeting for this workgroup took place on 6/4/2012. Final changes/approval occurred for the Unique Identifiers Work Group document (the charge) and for the Unique Identifiers Options spreadsheet. The first draft attempt at the Recommendation Paper, with the options discussed in the first meeting, was the primary topic for review at this meeting. [Minutes](http://wise.dpi.wi.gov/files/ec/doc/ec_lds_meetingminutes2uniqueID.docx) for the meeting are available.

The final meeting took place on 6/29/2012. Final edits to and approval of the Recommendation Paper took place.

[Minutes](http://wise.dpi.wi.gov/files/ec/doc/ec_lds_meetingminutes3uniqueID.docx) for the meeting are available.

The workgroup also held two meetings with the experts in an open-source entity resolution product (OYSTER/KIM). An overview meeting occurred on 5/15/2012 and a more detailed meeting took place on 6/15/2012. This was to become familiar with what this type of product can do. See [OYSTER/KIM](http://wise.dpi.wi.gov/files/ec/ppt/ec_lds_oyster.ppt) powerpoint.

**Note:** Other projects within DPI are also considering Entity Resolution (Matching) tools. Educator Licensing Online (ELO), for example, is one of the projects considering a tool choice. ELO will provide the WEN (Wisconsin Educator Number) unique ID for the EC educational workforce and the workforce related to education (school bus drivers, classroom assistants, etc.) It will be very beneficial for all projects across agencies selecting a tool, to select the same tool. Since the Recommendation from the EC LDS Project Unique Identifiers Work Group is Option 1 below, the EC LDS project team must remain informed regarding tool choices made by others. Other DPI project teams are taking a close look at OYSTER, as this is a very robust product.

## Option 1 – Entity Resolution (Matching) Software Used for Linkages of Program-Specific Unique Identifiers

A matching method via software would be used for matching individuals. Under this option, all programs involved in sharing Early Childhood (EC) data across agencies would retain the program-specific unique identifiers they use today within each individual program. Each program would retain the unique identifier for the child, for the early childhood (EC) workforce (educator/provider) and for the program sites within the program by continuing to assign, retain and maintain their own unique identifiers. For example, the Medicaid program will maintain the Master Customer Index (MCI) ID and DPI will maintain the Wisconsin Student Number (WSN) ID. A matching software will be used to create and maintain the linkages between the various programs and systems involved in data sharing.

The workgroup has studied one highly recommended entity resolution solution: OYSTER. The **O**pen-S**yst**em **E**ntity **R**esolution (or OYSTER) is an effective proven open-source (free) product that matches to determine entity resolution. The more recent version of OYSTER makes use of Knowledgebase Identity Management (KIM)and separates out information, as shown in the diagram below.

The importance of privacy and security is well illustrated below. KIM contains the personally identifiable information (PII) which is held separately from the de-identified data (TrustED). TIM contains and manages the crosswalk information. This separation is well-vetted as a reliable approach to manage a high-confidence rate of accurate identification of individuals, as well as providing tight security and privacy of data and identifiers.

**Definitions for terms below:**

PII – Personally Identifiable Information

KIM – Knowledgebase Identity Manager

TIM – TrustEd Identifier Manager



The workgroup feels the maintenance of the linkages is vital. This means that a constant audit process is executed and constant cleanup of errors is performed. The workgroup met with the Arkansas Research Center (ARC) personnel to learn more about this product. Here is an [overview.](http://wise.dpi.wi.gov/files/ec/ppt/ec_lds_oyster.ppt)  And, here is some [detail on matching and security/privacy](http://wise.dpi.wi.gov/files/ec/doc/ec_lds_TrustEd.docx).

## Pros

* Linkages can be maintained (allows for consistent audit and cleanup)
* High level of confidence in matching can be established
* High level of security and privacy is maintained
* Free software
* Proven product
* As data from more cross-agency programs are added to the EC LDS, the reality is that each program is more likely to want to assign, retain and maintain their own unique identifiers.
* Both over- and under-consolidations are handled

## Cons

* May not be able to use for service provision/case management across systems, only for research.
* Overhead will be involved in the matching process (length of time for query execution is a consideration, for example)
* Not 100% certainty in matching process

May be more costly due to personnel, expertise, programming required for matching process

The information, pros and cons above, were provided by the workgroup after study of one product, as an example, that the workgroup was recommended to study by the State Support Team members as well as recommended in conversations with other states. OYSTER/KIM is a good representation of an Entity Resolution product. However, the workgroup recommends study of other products for comparison, prior to selection of an Entity Resolution product, in the Design phase of the EC LDS Implementation Project.

## 

## Option 2 – Assignment and Maintenance of Shared Unique Identifiers across All EC Program/Systems

Under this option all programs involved in sharing Early Childhood data across agencies would agree on one unique identifier to be used for the child identifier, the EC Workforce (educator/provider) and the program identifier. Each program involved will carry those unique identifiers within their systems. A conversion would be needed to adopt the chosen identifier within the systems that do not currently carry that identifier. The details of how the agreed upon identifier is carried would be determined. The new ID could be carried as an additional field, leaving the current ID as the key, or the new ID could replace the current ID as the key. The idea is to assign and agree upon one shared identifier.

Possible **child identifiers** discussed were the Wisconsin Student Number (WSN), the Birth Certificate Number, the Blood Card Number, the Social Security Number (SSN) or the Master Customer Index (MCI). MCI is mentioned in the October, 2011 Race To The Top application (page 236 and page 287). See Addendum List page 10. An example provided by DHS referring to the assignment of a unique child identifier is provided as an addendum at the end of this paper (See Addendum List page 10).

Possible **workforce identifiers** discussed were the Wisconsin Educator Number (WEN), the Master Customer Index (MCI) and the number assigned to the workforce members of other programs outside of the educational area.

Another option to consider is the assignment of a single ID to an individual, regardless of what his or her current role is. For example – an ID assigned to a child in the school system will be used as that adult’s ID if s/he enters the workforce as an educator.

**Program sites** could be assigned sequential numbers and referenced by them. Examples of Program sites: medical clinics within the state of WI providing immunizations within the WI Immunizations Registry for the Immunization Program or the school districts for the 4K “program”.

Relevant to this discussion is the consideration of the Social Security Number (SSN) as a Unique Identifier, if Option 2 is selected.

See [SSN Florida Paper](http://wise.dpi.wi.gov/files/ec/ppt/ec_lds_flpaper.ppt). The slide within the SSN Florida Paper entitled “Cautions” contains some of the following points:

1. The public is skittish about the use of SSNs, especially for children
2. SSN provision should never be a condition of enrollment in public education, alternatives should be available
3. SSN reporting is subject to several sources of significant error including applicability, validity, and accuracy, as is any Identifier
4. SSNs should not be integral to the assignment of identification numbers
5. The use of SSNs in education data systems should be limited to “must do situations” involving such things as transcript transfers out-of-state, financial aid processes, linkages to postsecondary and the workforce

While the above are excellent cautions for any PII (personally identifiable information), the workgroup recommends the SSN **not** be used as a Unique Identifier. However, it could be used as an associated data item (supporting data), along with name, birth date, zip code and gender for example, to allow for entity resolution within the Option1 matching methodology.

## Pros

* A unified ID is recognized across systems, across agencies for child, workforce member and program site.
* Can potentially use for case management/service provision across systems
* May be able to achieve closer to 100% identification confidence
* No extra matching is required, same ID already can be linked across agencies
* Efficient system in the long term

Saves time, money, etc. because don’t need to match

Convenient

Useful for other purposes

## Cons

* Requires state-level leadership to implement one and the same ID for all relevant programs
* As data from more cross-agency programs are added to the EC LDS, the reality is that each program is more likely to want to assign, retain and maintain their own unique identifiers.
* A conversion will be needed to adopt the chosen identifier within the systems that do not currently carry that identifier.
* An audit and cleanup process will need to be maintained within each agency to ensure the IDs remain valid and accurate. This may extend to a cross-agency audit and cleanup effort, which could include an OYSTER-like process (redundant).
* Timing delays on assignment of IDs could impact programs.
* Requires further decisions on the timing of assignment of the unique ID and a process for assignment for children entering the system later than the typical assignment period.

## Recommended Approach and Rationale

The workgroup feels the maintenance of the linkages is vital. This means that a constant audit process is executed and constant cleanup of errors is performed. That makes **Option 1** the recommendation – as it allows for this in a very robust and secure manner. **Realizing that the identifiers are only as good as the source data from each program, Option 1 allows the source programs to clean up their data at their own pace, while auditing and maintaining the identifiers in a separate secure environment.** Also, the reality is that each program is more likely to want to assign, retain and maintain their own unique identifiers, rather than to convert to a commonly agreed upon unique identifier.

## Recommendation: Option 1 - Entity Resolution (Matching) Software Used for Linkages of Program-Specific Unique Identifiers

A matching method via software would be used for matching individuals. Under this option, all programs involved in sharing Early Childhood (EC) data across agencies would retain the program-specific unique identifiers they use today within each individual program. Each program would retain the unique identifier for the child, for the early childhood (EC) workforce (educator/provider) and for the program sites within the program by continuing to assign, retain and maintain their own unique identifiers. A matching software would be used to create and maintain the linkages and a crosswalk between the various programs involved in data sharing.

At this time the workgroup strongly recommends the use of a robust entity resolution product or methodology, but refrains from recommending a specific entity resolution product/methodology. **O**pen-S**yst**em **E**ntity **R**esolution (OYSTER)/Knowledgebase Identity Management (KIM) or University of Wisconsin Institute for Research on Poverty’s (UW-IRP’s) matching methodology would be possible good choices, but the workgroup would like a little more time to study. UW-IRP is mentioned in the October, 2011 Race To The Top application (page 236). See Addendum List page 10.

The four fundamentals below are fulfilled by the selection of Option 1:

***Fundamental 1***

***Unique statewide child identifier***

The entity resolution methodology will identify, with a high level of confidence, that this Johnny Smith is the same Johnny Smith across all potential data sources. Although potentially not high enough to perform case management, if case management is a key goal. Using OYSTER/KIM as an example, this personally identifiable information will be stored in KIM, per the diagram above in the Option 1 section, held separately from the crosswalk information in TIM and the actual data used for research.

***Fundamental 4***

***Ability to link child-level data with K-12 and other key data systems***

The ability to link child data across programs will occur via the ability to uniquely identify the same child across programs, as a result of having Fundamental 1 in place.

***Fundamental 5***

***Unique program site identifier with the ability to link with children and the EC workforce***

The entity resolution methodology will identify, with a high level of confidence, that this same Johnny Smith is enrolled and attending at these uniquely identified program sites and that this teacher and this provider of a service are serving the same Johnny Smith.

***Fundamental 7***

***Unique EC workforce identifier with ability to link with program sites and children***

The entity resolution methodology will identify, with a high level of confidence, that this teacher and this provider of a service both serve the same Johnny Smith at these uniquely identified program sites.

Either of the two options here will require MOUs and possible changes to state statutes. The selection of Option1 will help set direction for the next EC LDS Project Team work group regarding Data Governance.

**Bearing in mind that more study is needed, a good long-term goal for the state would be to switch to Option 2 someday. The workgroup feels Option 1 is the most viable at this time to get the project off the ground.**

The long-term goal of moving towards a shared unique identifier is recommended by this workgroup. This includes the recommendation that DCF and DHS continue their work to create more shared unique identifiers between their programs. It also includes the recommendation that DPI continues to find ways to bring more children into the current DPI ID (Today this is the Wisconsin Student Number – WSN.).

**List of Addendums**

Addendum 1: Race to the Top (RTTT) Round 1 October Application relevant sections (page 11-12)

Addendum 2: Department of Health Services Example of Possible Use Of Shared Unique Child Identifier For Option 2 (page 12)

Addendum 3: [EC LDS Project Charter](http://wise.dpi.wi.gov/files/ec/pdf/ec_lds_charter.pdf)

RTTT- ELC p.232 (round 1) (High Quality Plan to Accelerate Implementation of the EC LDS)

*Key Goals.*

The main goal of the State‘s LDS efforts is to develop an interoperable system that supports data exchanges as well as ad hoc research requests. Specifically, Wisconsin will build an ECLDS that

1. has all of the Essential Data Elements;
2. enables uniform data collection and easy entry of the Essential Data Elements by PSAs and Participating Programs;
3. facilitates the exchange of data among PSAs by using standard data structures, data formats, and data definitions such as Common Education Data Standards to ensure interoperability among the various levels and types of data;
4. generates information that is timely, relevant, accessible, and easy for Early Learning and Development Programs and Early Childhood Educators to use for continuous
5. improvement and decision making; and
6. meets the Data System Oversight Requirements and complies with the requirements of Federal, State, and local privacy laws.

RTTT- ELC p.236 (round 1) (High Quality Plan to Accelerate Implementation of the EC LDS)

*Define and establish structures and policies to identify and implement initial Essential Data Elements and data linkages.* Usinginformation garnered as a result of Project Team charter activities,IT Staff and Administrators from each PSA will work with theProject Manager and Project Team to:

1. Identify and institute the best option for assigning unique child, program, and early educator identifiers, going forward.
2. Conduct research to identify short-term (low-cost, high return) opportunities for data linkages. For example, work with UW-IRP, leveraging its Integrated Data System work, to identify and employ highly accurate, proven matching methods to link data between existing administrative systems (particularly between DCF child care data and the DPI LDS) and leverage work at DHS regarding the MCI.
3. Establish and institute long-term data sharing architecture and strategies.
4. Identify, plan, staff, and fund programming and infrastructure upgrades needed to align data collection standards and
5. Create efficient and reliable interoperability between PSA data systems, including standardization of child and family demographic data collection, Early Childhood Educator demographic information; and program-level data.

RTTT- ELC p.287 (round 1) (Budget Narrative – Contractual Services)

Master Client Index. Provide IT programming, annual maintenance, and report development to connect seven programs to the DHS Master Client Index (MCI). The MCI is a system that provides a unique common identifier for an individual that allows all program in the system to access the index and connect all client records that have been created. Candidate systems to add include WIC (Women, Infants and Children, WIR (WI Immunization Registry), WE-Trac (Newborn Screening), SPHERE (Secure Public Health Electronic Record), and WBBR-WEDS (Electronic Disease Surveillance).

**Department of Health Services Example of Possible Use Of Shared Unique Child Identifier For Option 2**

One option of how one unique identifier could work is presented here. Records for children start with their birth and the first system that registers children is the Vital Records system, which registers births and issues birth certificates for Wisconsin children. Vital Records are housed in the Department of Health Services (DHS). The largest program in DHS is medical assistance which uses Master Customer Index (MCI) to identify individuals. It would probably make sense to create an MCI ID for each child born in Wisconsin, add the MCI ID to the Vital Records system and then the MCI ID would follow the child throughout early childhood and into the school system.

A hearing screen is usually performed right after the birth and information is kept in the public health system. A blood screening and immunization information is also kept in the public health systems. Together this is the earliest information available about children before they even enter daycares and preschools. Assuming the MCI ID follows children through their schooling (Department of Public Instruction and Department of Children and Families) and working age (this impacts the Department of Workforce Development programs), the closing records for each individual is again the Vital Records system, which issues death certificates. One ID can truly follow a person throughout their life as they “touch” different systems.

1. The Early Childhood Data Collaborative (ECDC), a consortium of national organizations working to help states build, link, and use early childhood data systems, has developed guidelines defining a well-crafted EC LDS. Partner organizations in the Early Childhood Data Collaborative include the Council of Chief State School Officers, **Center for the Study of Child Care Employment at UC Berkeley, Data Quality Campaign, National Center for Children in Poverty at Columbia University’s Mailman School of Public Health, National Conference of State Legislatures, National Governors Association for Best Practices, and Pre-K Now at the Pew Center on the States.** [***www.ECEdata.org***](http://www.ecedata.org) [↑](#footnote-ref-1)