The Center for IDEA
Early Childhood Data Systems

State Data Systems and Critical Questions about Personnel

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The need to build a “data system”

The **hardware**, **software**, and other **applications** that enable Part C and Section 619 programs to **collect** data about children, families, workforce, and/or program characteristics (e.g., program quality), as well as the **analysis**, **reporting**, and **data use** practices associated with those data.

System for data

http://dasycenter.org/resources/dasy-framework/

Functions of a Data System/Uses of Data

Accountability

Program Improvement

Program Operations

Knowledge Development

Functions of a Data System/Uses of Data

Accountability

Report to funders and other stakeholders to support wisdom of investment, e.g., federal and state reporting

Program Operations

Knowledge Development

Functions of a Data System/Uses of Data

Identify strengths and shortcomings; addressing shortcomings

Program Improvement

Program Operations

Knowledge Development

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Functions of a Data System/Uses of Data

Accountability

Program Improvement

Program Operations

Improve effectiveness and/or efficiency day-to-day management and implementation

Functions of a Data System/Uses of Data

Accountability

Program Improvement

Contribute to general understanding of service delivery and outcomes

Knowledge Development

Questions are the drivers

- What data elements to collect
- What analyses to run
- What tables to produce

Need to design and build the data system based on questions

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Questions are the drivers

- What data elements to collect
- What analyses to run
- What tables to produce

Need to **enhance** the data system based on questions

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Critical Questions About Early Intervention and Early Childhood Special Education

Abby Winer, Kathy Hebbeler, Robin Nelson, Darla Gundler, Debbie Cate, Laura Hudson, Cornelia Taylor, & Mary Louise Peters

What is a high-quality statewide data system? One characteristic is that it provides the information needed to address important questions about early intervention and early childhood special education. But what are those questions? What questions should data users, such as program directors, advocates, and policymakers, be asking?

The Center for IDEA Early Childhood Data Systems (DaSy) compiled a set of **Critical Questions** that a quality state data system for early intervention (EI) or early childhood special education (ECSE) should provide the data to answer. The answers to these questions serve various functions, including supporting the state agency in effectively administering the program, meeting accountability requirements for EI and ECSE, and improving results for children and families through an examination of program features.

The questions are grouped into three sections, which align with the suggested data elements in the DaSy Data System Framework System Design Subcomponent [see System Design and Development, Quality Indicator 4 (SD4)]: child and family, practitioner, and local EI services program and local educational agency. Each section has a set of broad questions, with each broad question followed by more specific example questions. The broad questions represent critical global questions for state monitoring, evaluation, and program improvement efforts in EI/ECSE. The specific example questions illustrate more detailed approaches that will enable the state to address the issues raised by the overall broad questions.

The critical questions include both essential questions, denoted by the bread-and-butter symbol, and aspirational questions, denoted by the mountain climber symbol. Essential questions are those that a comprehensive, well-functioning state data system should provide the data to answer. Aspirational questions, although valuable to ask and answer, are more complex and require more information or more linkages to other data systems than would be expected even with a high-quality system. For both the essential and aspirational questions, there is no expectation that the data to answer them have to be in one system. The only expectation is that the state can access the data and link to data if necessary to answer the questions—wherever the data might reside.

A few of the example questions appear more than once. These questions were intentionally duplicated because they address more than one topic (e.g., questions that involve both child-level and practitioner-level data). Additionally, many if not all questions are relevant to ask at both the state and local levels.

Many state data systems do not currently have the data elements for answering all the essential questions. The purpose of this document is to help state staff think about some of the questions they would like to be able to answer with their data systems, take stock of where their data systems are relative to being able to provide the data to answer these important questions, and begin to plan for how to improve the power of their data systems.

How to use this document as a tool to plan enhancements to a data system:

1. Identify the questions in this document that are a priority for your state/locality.
2. Identify which of these questions can and cannot be answered with your current data system.
3. Prioritize the questions that currently cannot be answered.

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Section 2: Practioner-Level Questions

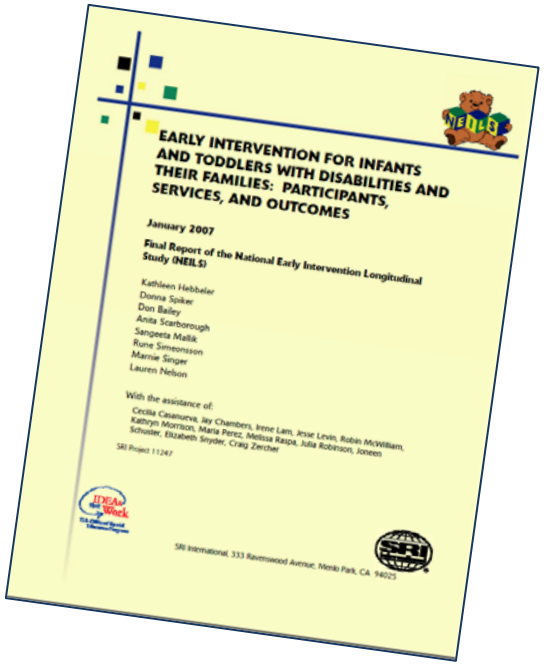
2.A. Practitioner Characteristics	
2.A.1. What are the characteristics of practitioners working in early intervention/early childhood special education (EI/ECSE)?	
2.A.1.a. What are the demographic characteristics of EI/ECSE practitioners (e.g., age, gender, ethnicity/race, language[s] spoken)?	
2.A.1.b. What are the levels of education and years of experience of EI/ECSE practitioners?	
2.A.1.c. How many EI/ECSE practitioners have specific types of credentials/licenses (e.g., EIS, preschool, special education, licensed therapist)?	
2.A.1.d. What is the turnover rate among EI/ECSE practitioners (by year, state, or local program)?	
2.A.1.e. What percentage of those working with children with IFSP/IEPs and their families entered the field with the academic preparation and/or experience for working with young children and families?	
2.A.2. What are the characteristics of the practitioners working with children with IFSP/IEPs in general early care and education?	
2.A.2.a. What are the demographic characteristics of practitioners working with children with IFSP/IEPs in general early care and education (e.g., age, gender, ethnicity/race, language[s] spoken)?	
2.A.2.b. What are the levels of education and years of experience of the general early care and education practitioners working with children with IFSP/IEPs?	
2.A.2.c. How many general early care and education practitioners working with children with IFSP/IEPs have specific types of credentials/licenses (e.g., early childhood, preschool, Child Development Associate [CDA], special education, licensed therapist)?	
2.A.3. What ongoing professional development do early intervention/early childhood special education (EI/ECSE) practitioners receive?	
2.A.3.a. What professional development activities do EI/ECSE service providers/teachers participate in during employment?	
2.A.3.b. How much professional development (e.g., hours, continuing education units [CEUs]) did EI/ECSE practitioners receive over a given time period (e.g., in a year, over a 5-year period) by role and profession?	
2.A.3.c. How much professional development specific to EI/ECSE did EI/ECSE practitioners receive over a given time period (e.g., in a year, over a 5-year period) by role and profession?	

http://dasycenter.org/resources/critical-questions/

What are the characteristics of the work force?

National Early Intervention Longitudinal Study (NEILS)

- Nationally representative sample of 3,338 children and families who received early intervention
- Began EI in 1997 or 1998
- Data on the professionals who worked with the family in the first 6 months of service


EARLY INTERVENTION FOR INFANTS AND TODDLERS WITH DISABILITIES AND THEIR FAMILIES: PARTICIPANTS, SERVICES, AND OUTCOMES

January 2007

Final Report of the National Early Intervention Longitudinal Study (NEILS)

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https://www.sri.com/work/publications/national-early-intervention-longitudinal-study-neils-final-report

Who works with EI families?

- One professional had lots of titles: special educator, child development specialist, infant development specialist, early interventionist
- How many providers?
  - 22% Two
  - 23% Three
  - 13% Six or more
- Only 6% did not receive services from one or more of following: Special educator/child development specialist, SLP, OT, or PT

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Characteristics of the professionals

- Of all families who worked with this professional, X% had a provider who was…..
- "Sphere of influence"
  - 61% of families worked with a child development specialist or special educator; 38% with a PT
  - Implications for state data system: need to be able to link child data to personnel data

Characteristics of EI professionals

- Female
  - Child Development Specialists - 92%
  - OTs - 98%
- White
  - SLPs – 90%;
  - PTs – 89%;
  - Nurses- 79%)
- Any age
  - Nurses, Special educators were older
  - SLPs and Service coordinators were younger
- Not likely to speak another language
  - 19% for nurses which was the highest

Characteristics of EI professionals

- Highly educated
- Children/families in EI served by professional with a masters degree or higher
  - 93% SLPs
  - 79% Social workers
  - 70% Special educators
  - 53% Child development specialists
  - 51% Service coordinators
  - 44% PTs/PT Assistants
  - 37% OTs/OT Assistants
  - 30% Nurses

The Profession of the Providers

- SLP, PT, OT, Nursing, Social work– well defined field
  - Had undergraduate, graduate degree or both in the field and a license
- Service coordinators, child development specialists, special educators came from various backgrounds
- Child development specialists:
  - Psychology 16%
  - Child development 13%
  - Early childhood education 11%

Why would you want to know the characteristics of the work force?

What action could you take?

- Age?
- Race/Ethnicity?
- Preparation?


Professionals have knowledge and skills to implement evidence-based practices
Other factor
Other factor
Professionals implement evidence-based practices
Good outcomes for children and families

What kind of data are states collecting on personnel?

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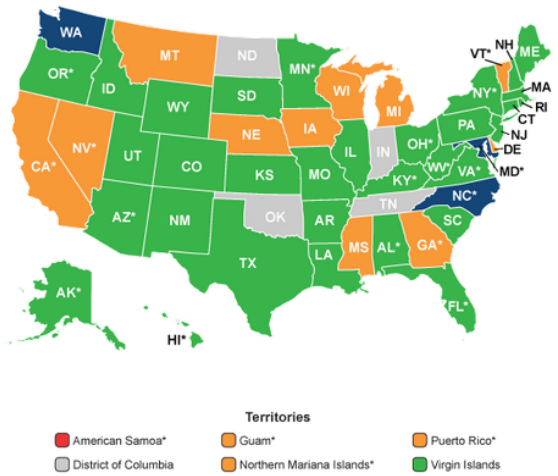
State of the States: Workforce-Level Data Systems

This map summarizes national results on Workforce-Level Data Systems. Click the tabs along the top to see national results on each of ten features of Part C and Part B 619 state data systems. Click a state to see the individual state results on all ten features for both Part C and Part B 619.

Overview	Child-Level Data Systems	Child Data Elements Linked or in 1 System	Workforce-Level Data Systems	Child Data Linked to Workforce Data	Unique Child ID	Same Unique Child ID in Part C & Part B 619	Part C Child Data Linked to Part B 619 Data	Child Data Linked to Other ECE Data	Child Data Linked to K-12 General Education Data	Data Governance Body



State has at least one electronic data system that contains personally identifiable workforce data about those providing services.

- Yes for Part C and Part B 619 (61%)
- Yes for Part C, No for Part B 619 (5%)
- No for Part C, Yes for Part B 619 (25%)
- No for Part C and Part B 619 (0)
- Data not available for at least one program (9%)

* 2015 data are unavailable across Part C and Part B 619. 2013 data are reported for one or both.

These data are based on information collected by the DaSy Center and the Infant Toddler Coordination Association (ITCA) in fall 2015. If data were not provided in 2015, 2013 data were used if available. Individual state information from 2015 and 2013 is presented with permission from authorized state Part C and Part B 619 staff. State Part C or Part B 619 coordinators or data managers may provide information, make a correction, or request a copy of their responses by contacting **Laura Hudson**.

http://dasycenter.org/state-of-the-states-2016/workforce-level-data-systems/

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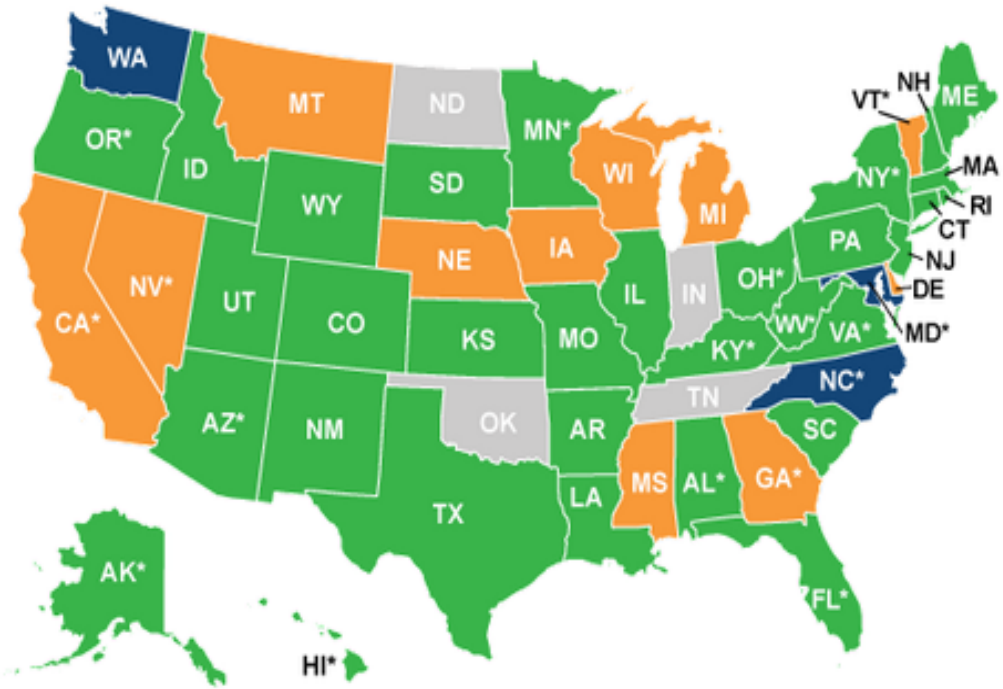

Territories

- American Samoa*
- Guam*
- Puerto Rico*
- District of Columbia
- Northern Mariana Islands*
- Virgin Islands

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	Data not available for at least one program (9%)

About the ITCA 2015 Data Survey

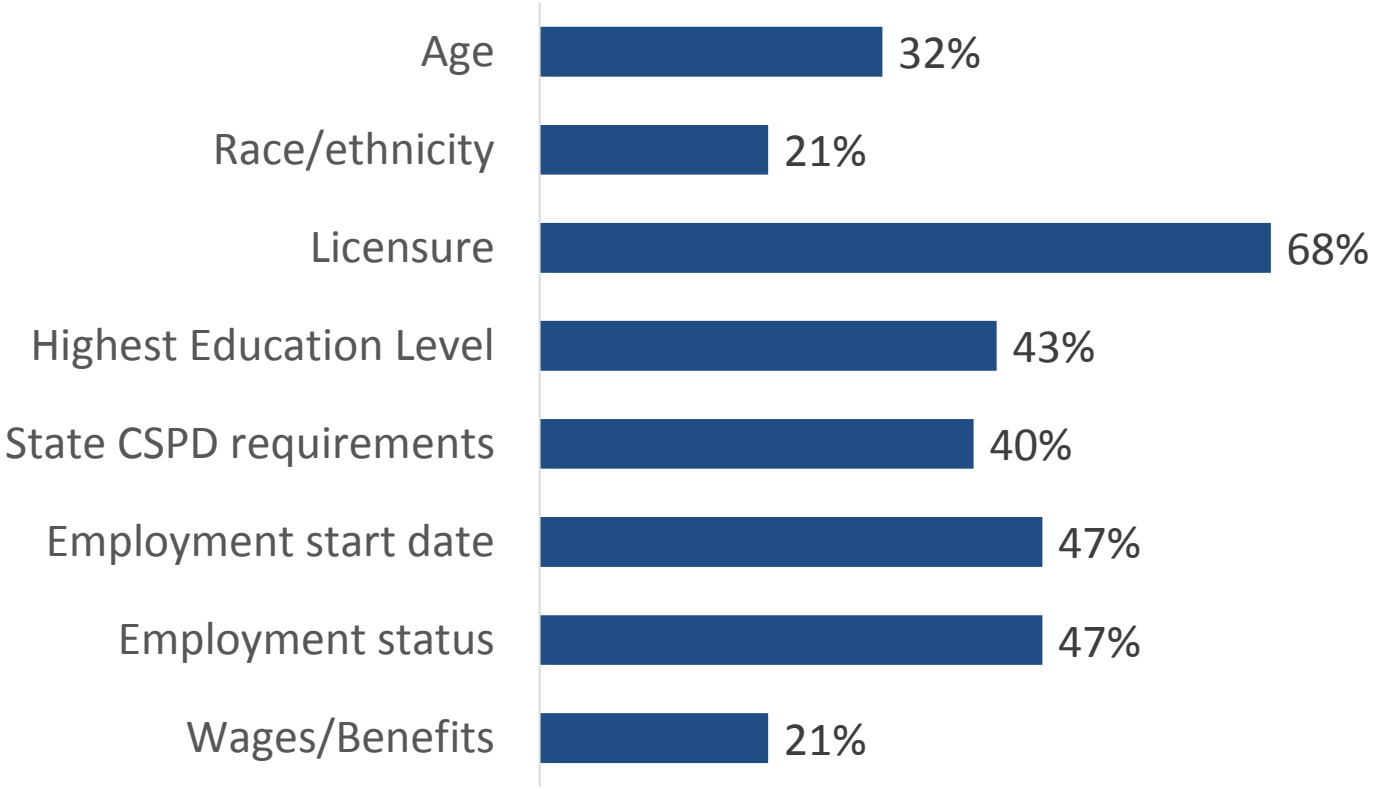
- Data collected through online survey
- Conducted survey in 2015
- Sent to Part C Coordinators in all states and territories
- 47 states responded
- Percents are percent of states

Early Intervention

- At least one data system with data on work force member — **72%**
- Unique identifier for the work force member — **31%**
- Ever linked work force data to child level data — **49%**

Early Intervention

The majority of states have licensure date. Not many states have demographic data.



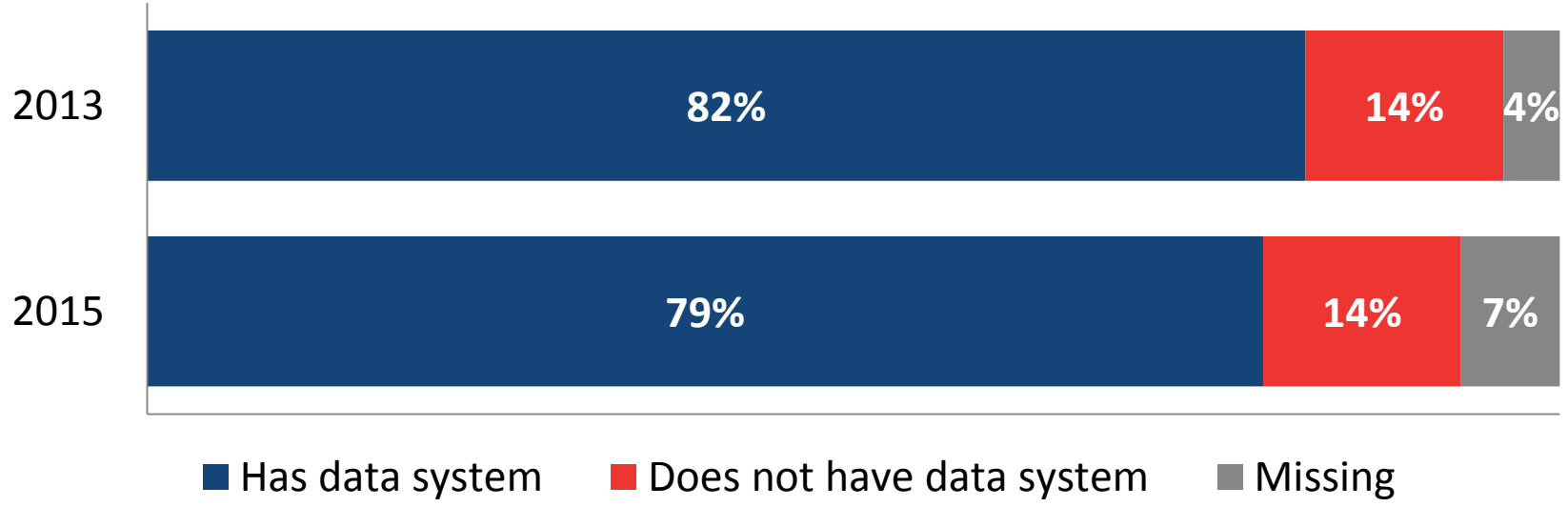
About the DaSy Part B 619 survey

- Data collected through online survey
  - Conducted survey in mid 2013 and fall 2015
  - Sent to 619 coordinators in 56 states and jurisdictions, group effort encouraged
- Response rates
  - 2013: 96% (54/56)
  - 2015: 93% (52/56)
  - 89% (51 states) answered the survey both years
- Percents are percent of states.

Early Childhood Special Education

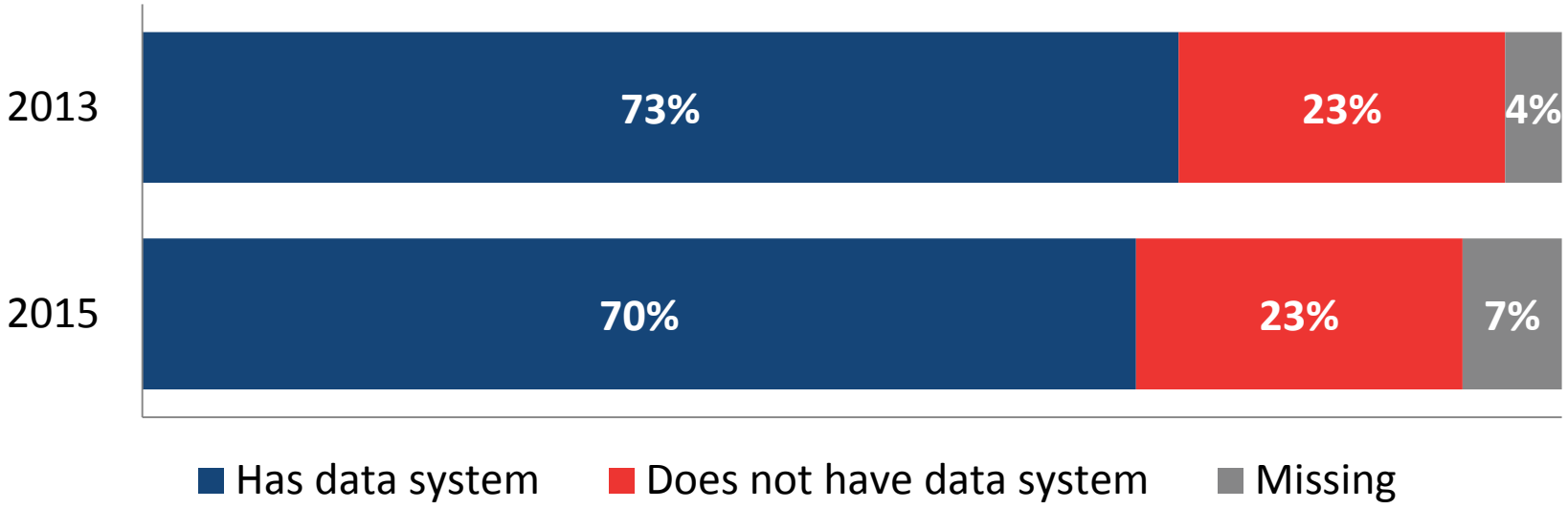
Majority of states have at least one data system with data on **preschool special education teachers.**

Little change over time.



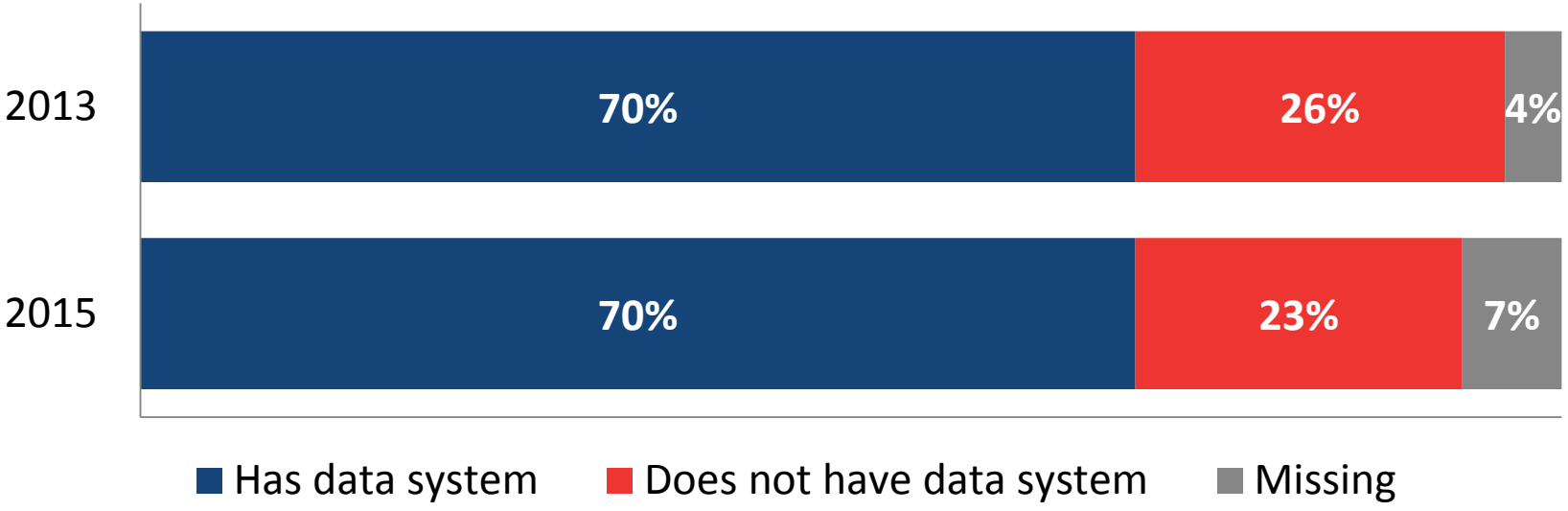
Early Childhood Special Education

Majority of states have at least one data system with data on individual **related services personnel**



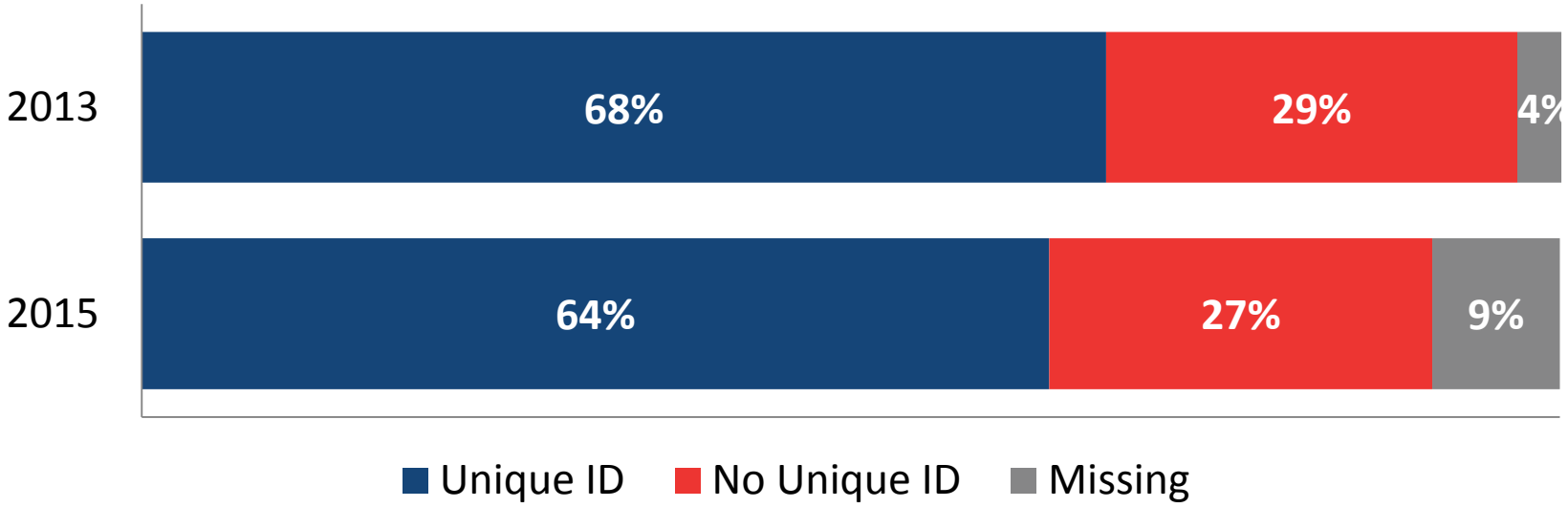
Early Childhood Special Education

The **majority** of states have at least one data system with data on individual **general education teachers** working with children with IEPs, and there has been little change over time.



Early Childhood Special Education

Most states reported using a **unique identifier** for workforce members.

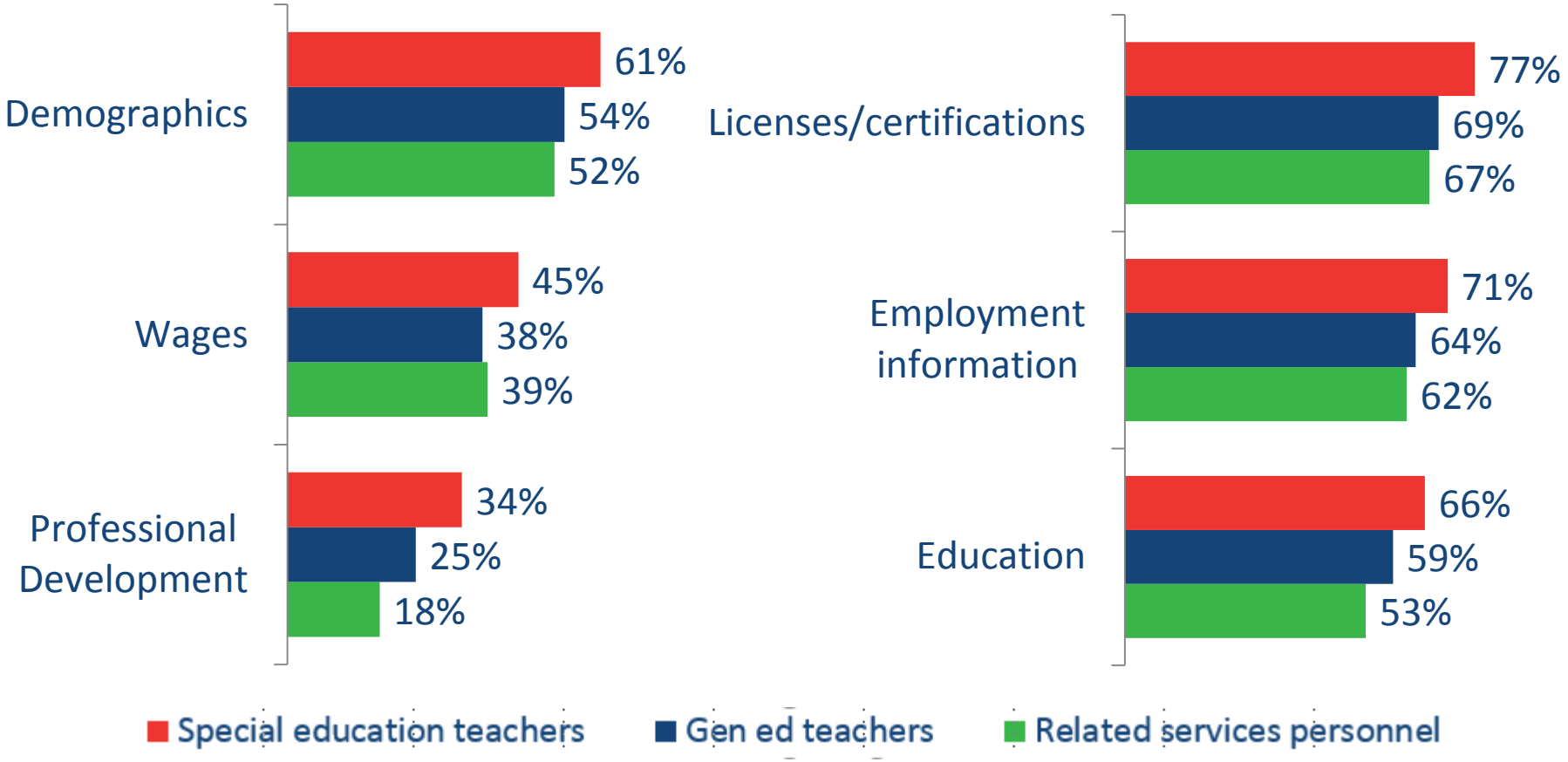


Seven states reported that they used the **same unique workforce ID as Part C.**

Early Childhood Special Education

More states have data on **special education teachers** than the other professions.

Licensure is the most common data across states.



Early Intervention

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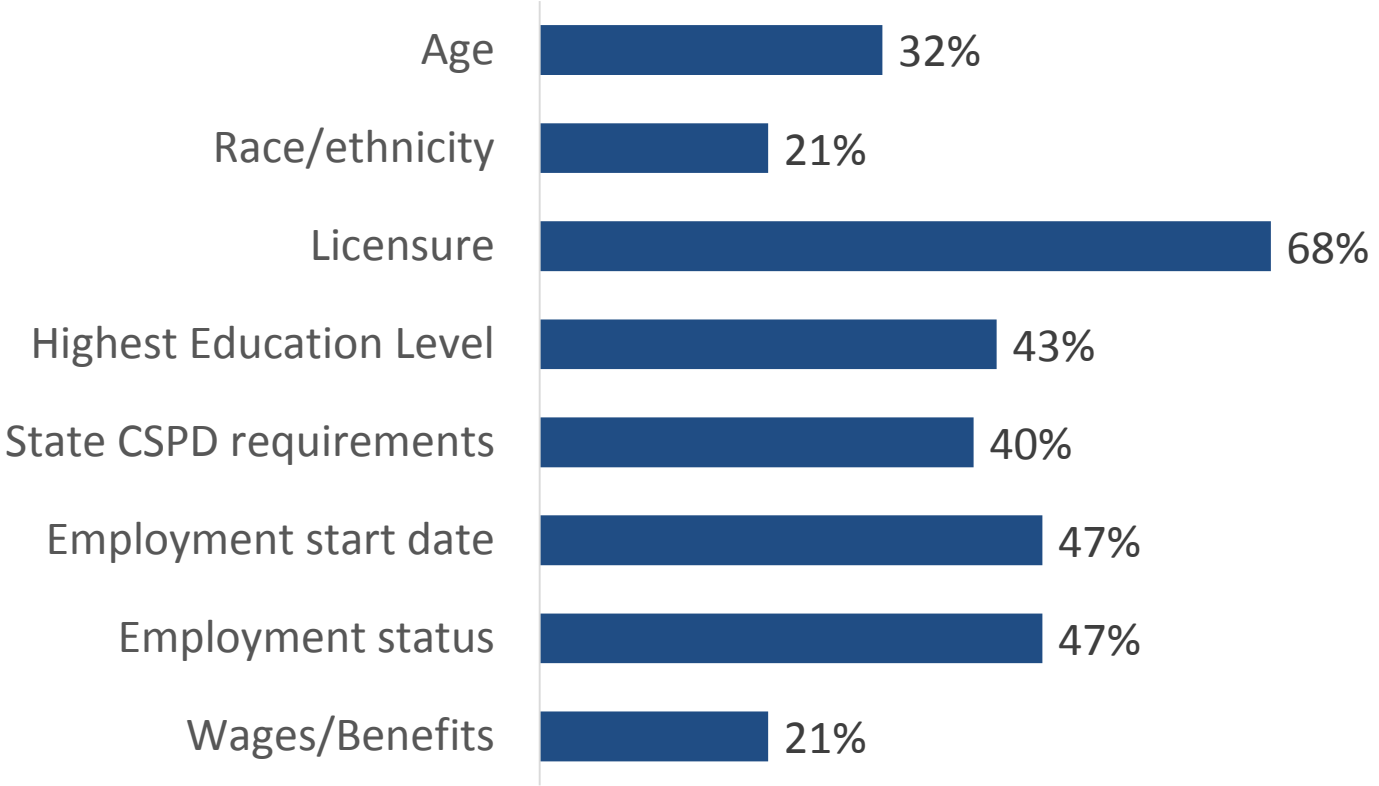

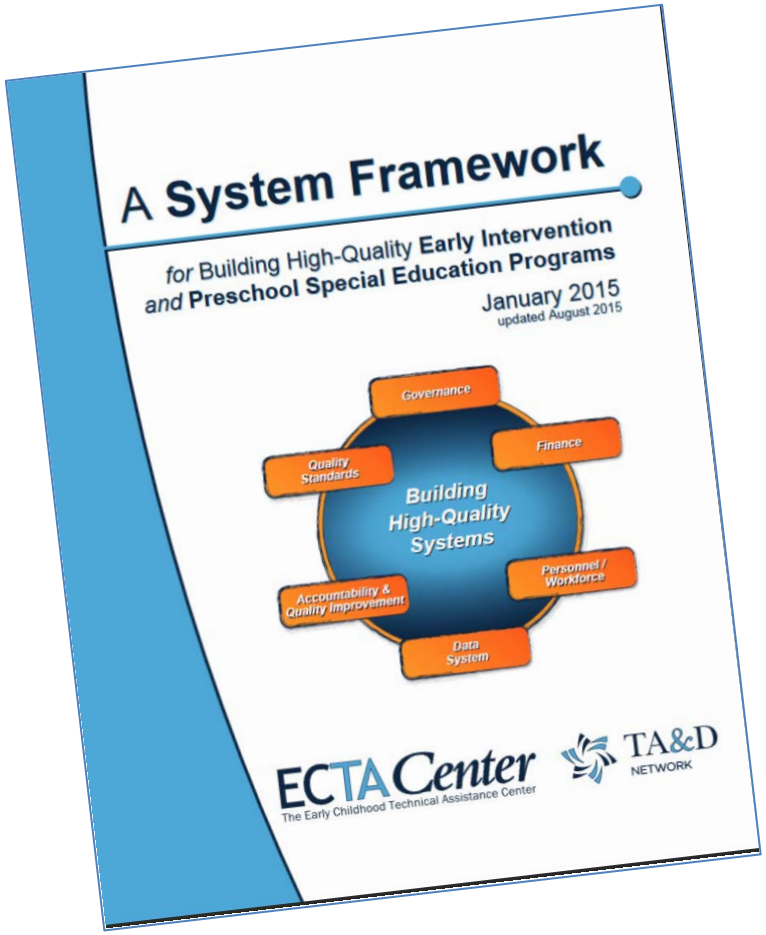

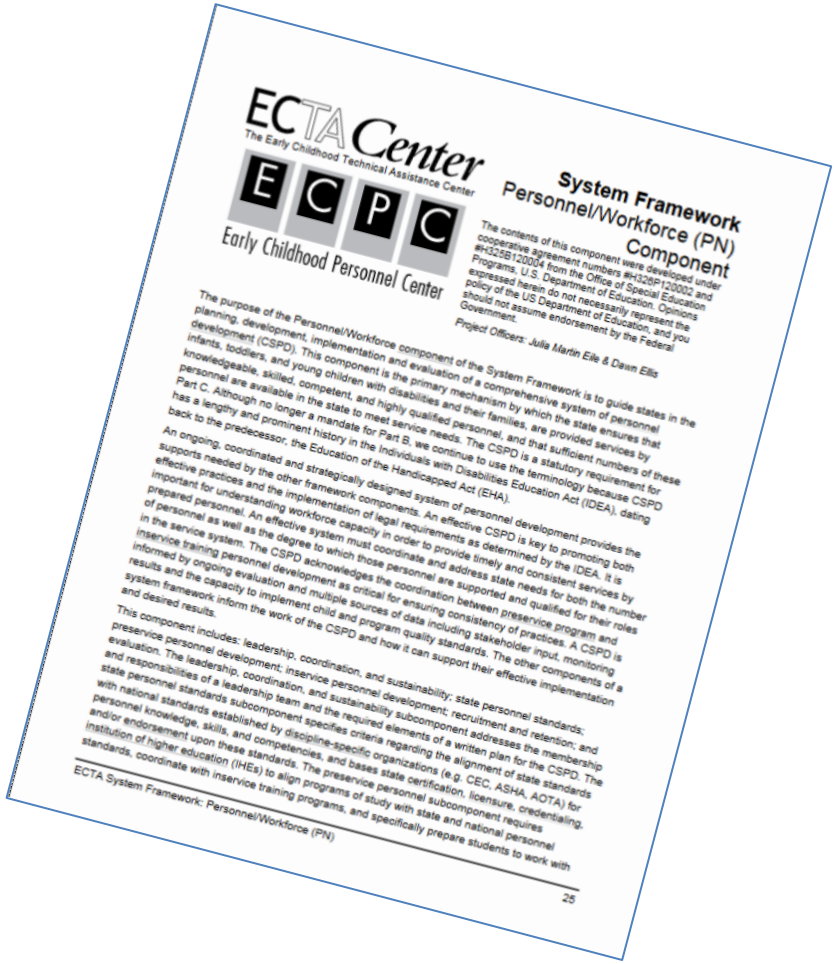

http://ectacenter.org/sysframe/

"An effective system must coordinate and address state needs for both the number of personnel as well as the degree to which those personnel are supported and qualified for their roles in the service system"

ECTA System Framework

How does leadership build a state system that does that?

How does leadership know if the state system does that?

PN2 (There is a plan..) e. The leadership team monitors both the implementation and effectiveness of the activities of the CSPD plan.

PN7 (…statewide system for inservice..) d. The inservice personnel development component of the CSPD plan is guided by updated needs assessment of the capability of the work force in relation to the desired knowledge and skill competencies.

PN9 (..recruitment and retention…) c. The effectiveness of strategies is tracked, reviewed annually, and updated as appropriate based on data, current research, and stakeholder input.

PN11. The evaluation plan for CSPD includes processes and mechanisms to collect, store, and analyze data across all subcomponents.

c. The state has the capacity to support data collection, management, and analysis for personnel qualifications, needs assessment, preservice and inservice personnel development, and personnel supply and demand.

d. Quality review processes for data collection, verification, storage and management, and analysis are defined and implemented regularly.

e. Personnel data are linked to child and family outcomes.

PN12 (…evaluation plan is implemented)

c. Data are collected on personnel variables, such as personnel development participation, acquisition of content, and performance of competencies and those data are examined in relation to relevant child and family outcomes.

d. Data are collected on personnel development variables, such as units of personnel development, type and amount of support (e.g., observational feedback, coaching, practica and content), and those data are examined in relationship to relevant child and family outcomes

Bottom line:

High quality data on personnel is essential to achieving a system with high quality personnel

To be useful, data must be

- Current
- Trustworthy
- Accessible

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How accurate/trustworthy do you data need to be?

- There is **always** error in measurement.
- As accurate as you need them to be for the kind of decisions you plan to make from them
- What does it cost to get the data 100% accurate?
  - $X to get to 95% accuracy (?)
  - 2 times $X to get to 99% accuracy (?)
- Is it really worth it? Rarely.
- Depends on the implications for the decision

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Building a culture of data use

- CQs are starter list of questions.
- Goal: Data conversations permeate your agency's day to day work
- **DEC Recommended Practices**

  L12. Leaders collaborate with stakeholders to collect and use data for program management and continuous program improvement and to examine the effectiveness of services and supports in improving child and family outcomes. https://divisionearlychildhood.egnyte.com/dl/tgv6GUXhVo

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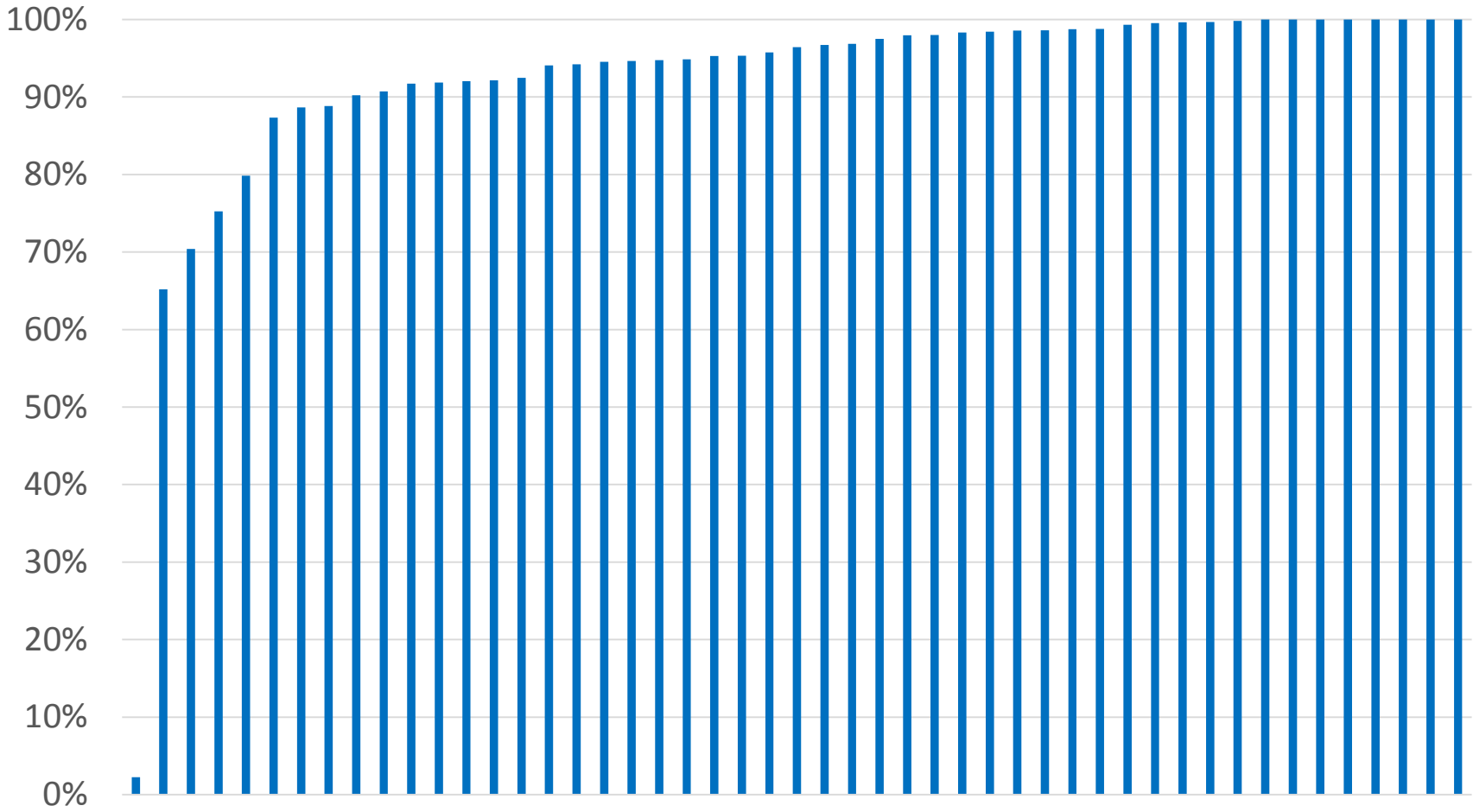
Examples of Simple Data Conversations

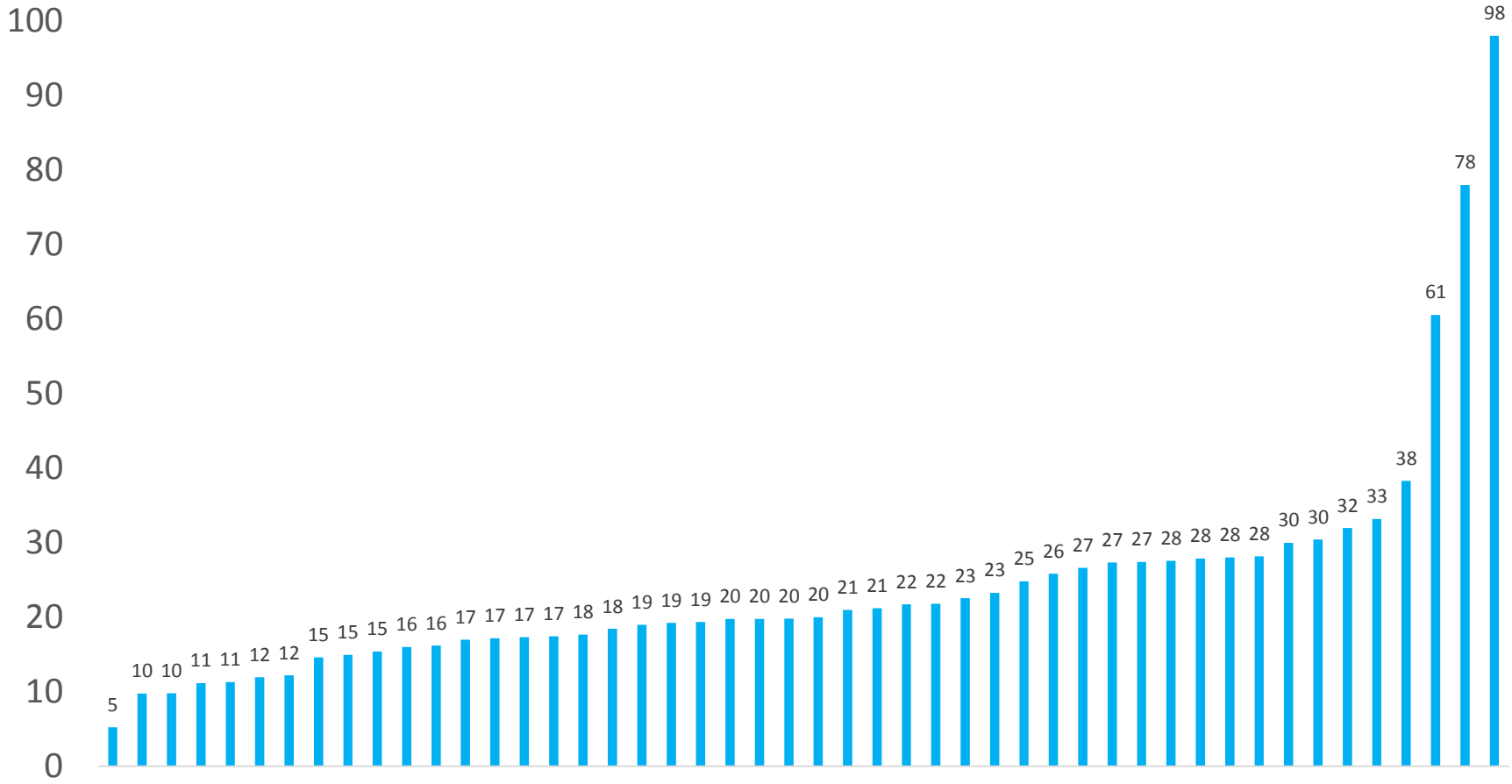
- Let's look at some 619 data reported to OSEP
- States report on total number on personnel who are employed, highly qualified, not highly qualified.

Percent of Employed Teachers of 3-5 Year Olds Who Are Highly Qualified by State, 2014-15



Source: U.S. Department of Education, EDFacts Data Warehouse (EDW): "IDEA Part B Personnel Collection," SY 2014-15.

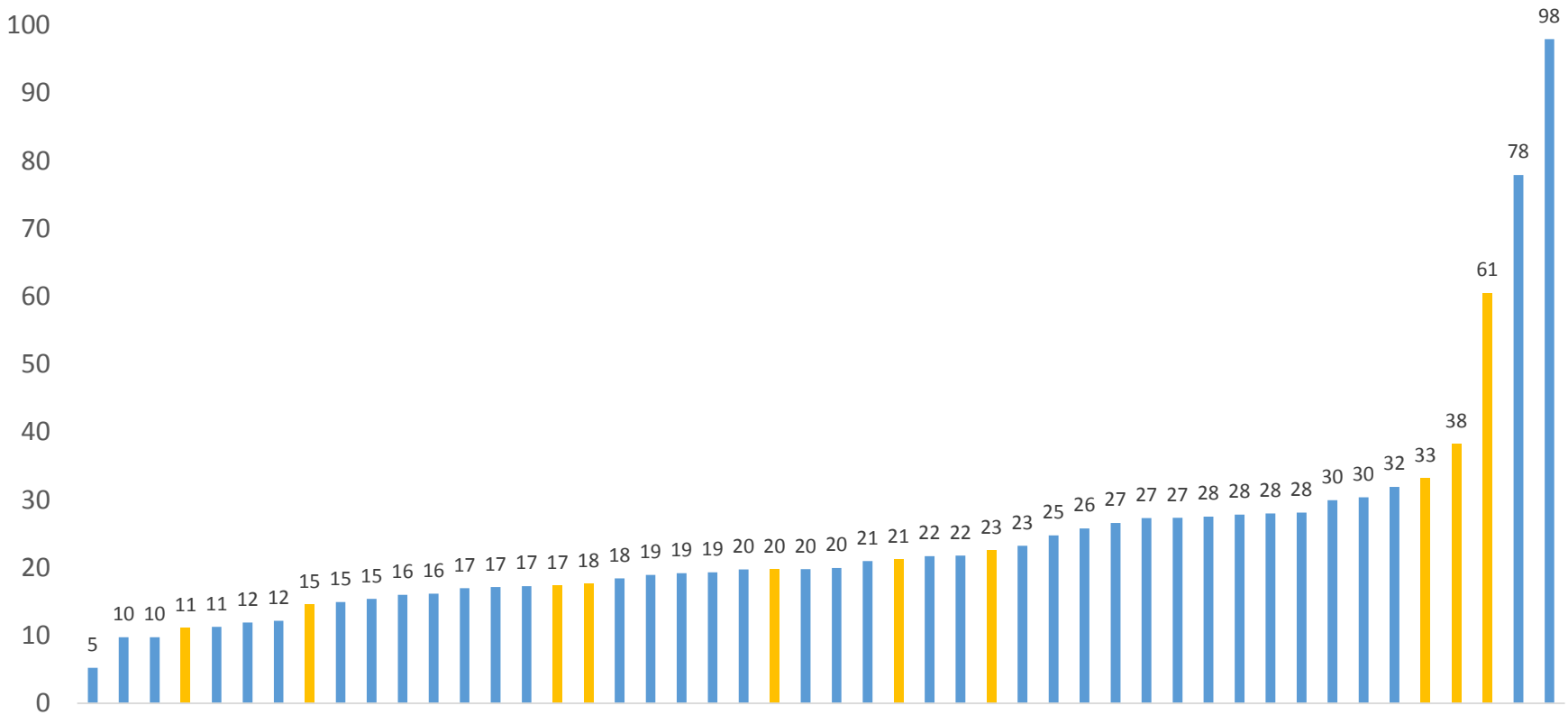
Number of 3 to 5 years olds per Number of 3 to 5 Teacher FTEs by State, 2014-15



Note: State with a ratio of 160 to 1 not shown.

Is there a relationship between percent served and the child to teacher ratio?

Number of 3 to 5 years olds per Number of 3 to 5 Teacher FTEs for Each State, 2014-15



States serving the highest percentage of 3 to 5 population shown in **yellow .**
Correlation between percent served and ratio = .15
Correlation between number served and ratio = -.01

How often do you need data?

Why is the speedometer stuck on 35?

The car only collects speed data once a year.

freshspectrum.com

Not everything has to be in one of the big state data systems

- Some things are time limited (e.g., an initiative).
- Some things are spot checks.
  - Implementing practice based coaching
- Continuous quality improvement vs. a one time evaluation.
- For the data elements you don't have:
  - How many of the data elements do you need regularly?
  - How many do you need intermittently?

Personnel Data System: Vision for Every State

1. Comprehensive set of data elements on personnel (demographics, education, employment start date, additional training, etc.).
2. All of the data are trustworthy.
3. All of the data are current.
4. Coordinator has reasonably easy access to the data and can get analysis completed when they are needed.

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For more information

- Visit the DaSy website at: http://dasycenter.org/
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Thank You

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IDEAs that Work
U.S. Office of Special Education Programs

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