

Year-to-Year Changes in State Child Outcomes Data: What Do They Mean?

Our state's child outcomes numbers are lower than last year's. Does this mean our state's program quality has decreased? Possibly but not necessarily. Interpreting year-to-year change in statewide child outcomes data requires understanding the possible reasons for fluctuations. This brief is designed to help stakeholders learn what questions to ask to understand year-to-year changes in child outcomes data.



Photograph by Alex Lazara

The Process of Building a Statewide System to Collect Child Outcomes Data

All states collect and report information on the functioning of infants, toddlers, and preschoolers participating in Part C early intervention and Part B 619 early childhood special education programs. Data are collected on three functional outcomes:

- Children have positive social-emotional skills (including social relationships).
- Children acquire and use knowledge and skills (including early language/communication [and early literacy]).
- Children use appropriate behaviors to meet their needs.

Building a statewide system to report accurate information on these three outcomes has been an important, enormous investment across the country. The assessment tools and processes used to collect this information are determined by states and local programs and span a range of standardized and curriculum-based assessments. Assessing outcomes for infants, toddlers, and preschoolers can be particularly challenging. While older children can typically take tests to help us assess their knowledge and skills, assessing young children's development relies on keen observation on the part of practitioners and family members. Assessing what young children with disabilities know requires even more specialized skills on the part of practitioners. Delays in language or

motor skills may impact their ability to convey what they understand when being assessed. For example, a preschooler with language and motor delays may use eye gaze to communicate his wants and needs. An assessor who is not tuned into the child's communication style or who does not understand nuances of development may not precisely capture what this child can do.

For data to be meaningful and actionable, they must be accurate. The data states are reporting may not always be of high quality because of the many challenges associated with building a statewide system to collect child outcomes data. To have high quality data, a state must have a method that produces an accurate measurement of children's development; implement effective data collection procedures consistently; and have an effective and timely process for local programs to provide the data to the state. If some of the programs in the state do not implement effective data collection processes for all children, the quality of the state data will suffer. Similarly, if the tool used to collect statewide data is not a valid and reliable measure, the quality of the state data will suffer.

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Over the last 10 years, states have made tremendous strides in building accurate child outcomes measurement systems. Work remains to be done, because ensuring accurate data is an ongoing activity. Examples of states' improvement activities include:

- Providing practitioners with additional training on assessment procedures
- Adding assessment instruments that are more sensitive to delay in harder-to-measure areas of development such as social emotional skills
- Increasing family participation in the assessment process
- Implementing data quality review processes to catch and fix problems with data collection.

Interpreting State Child Outcomes Data

A number of factors can influence increases or decreases in statewide child outcomes results. It is important to recognize that changes may be due to program improvement, but they also may be related to changes in data quality or substantial changes in the population served. When a state implements activities designed to improve the quality of programs and services, outcomes data would be expected to move upward as evidence of the positive impacts of better services on child outcomes. But what about efforts to improve data quality? When states put activities in place that focus on improving data quality, changes in the data are to be expected. Those changes may result in higher or lower outcomes data, depending on the data quality issues. Finally, a substantial change in the number and/or type of children being served in the program also could explain a change in outcomes data.

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How can stakeholders tell if year-to-year change is due to changes in data quality, change in program quality, or change in population? First, stakeholders need to determine whether the outcomes data are of high quality. Examples of questions to ask about data quality are as follows:

- **What percentage of children are represented in the outcomes data?** A state needs to know how much data are missing as one key aspect of data quality. If more than 80% of the expected data are not included in the analysis of outcomes data, the data is most likely not representative of the population, and therefore, not trustworthy.
- **What evidence does the state have that the data are high quality?** What procedures does the state implement to make sure the data are accurate? Have practitioners been trained on how to assess children and how to report the data? Does the state have procedures in place to check the accuracy of the data? If some critical processes for ensuring accuracy are not in place or have only recently been put in place, the data might not be trustworthy.

If the state cannot provide assurances that the child outcomes data are of high quality, the data should be viewed with skepticism regardless of whether the numbers look good or show what looks like “improvement” from year to year. On the other hand, if the state is undertaking activities to improve data quality, year-to-year

fluctuations may be due to improved quality and trustworthiness of the data. If the state is working to improve data quality and the numbers go down, this could indicate that the higher numbers of previous years were not an accurate reflection of how children were doing. The state is doing the right thing by working to improve the quality of the data, and, if these activities continue, the data will eventually reach a point where they are trustworthy. Having achieved high quality data, the state will need to undertake these kinds of activities to ensure the data continue to be of high quality.



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If the state can provide evidence that the data are trustworthy, then stakeholders need to ask a different set of questions.

- **Are differences due to changes in the program?** If the numbers have gone up, has the state been working with local programs to improve the quality of services, and do the improved outcomes reflect those improvements? If the numbers have gone down, what changes at local level could lead to children not doing as well now as they did in the past?

- **Are differences due to a significant change in the population being served?** Every year new children enter early intervention and early childhood special education and other children leave. An influx of children with more severe disabilities is likely to produce a decline in the outcomes data. This kind of population change can be an important factor in interpreting year-to-year data for smaller local programs where a change in a few children can make a substantial change in who the program serves. It is less likely to impact statewide numbers because an increase in the proportion of children with severe disabilities at one local program tends to be offset by a change in the opposite direction at another program. Nevertheless, stakeholders should be aware of whether a change in population served has occurred.

Another important consideration for interpreting year-to-year change is whether the change is large enough to be considered meaningful, for example, is a change from 67.5 to 67.8 a real increase? Researchers use *confidence*

intervals to determine whether the difference between two numbers is meaningful or what would be expected with random fluctuations. State data can be entered into an easy-to-use calculator that has been developed specifically for use with the child outcomes data. The calculator will show whether or not the difference should be considered meaningful.

Conclusion

Statewide child outcomes data can fluctuate from year to year for numerous reasons. Stakeholders need to review state data and ask questions so they interpret the state's data appropriately. One important question is what evidence does the state have to show that the data are high quality? If there is evidence that the data are of high quality, then stakeholders must examine whether year-to-year change is meaningful and ask about the factors associated with the changes. Having accurate outcomes data on children in early intervention and preschool special education is important for accountability and to drive program improvement.

Meaningful Differences Calculator: <http://ectacenter.org/eco/pages/childoutcomes-calc.asp>

More on the **federal reporting requirement:** http://ectacenter.org/eco/pages/fed_req.asp

More on the **child outcomes:** <http://ectacenter.org/eco/pages/videos.asp>

More on **improving data quality:** http://ectacenter.org/eco/pages/quality_assurance.asp

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