



Data  
Accountability  
Center

Batya Elbaum, DAC, & Siobhan Colgan, ECO

# **INDICATOR C4 - FAMILY OUTCOMES: IMPROVING DATA QUALITY TO SUPPORT IMPROVED RESULTS**

---

# WHAT ARE “FAMILY OUTCOMES?”

---

- ✘ “. . . a benefit experienced by families as a result of services received”
  - + Bailey, D., Hebbeler, K., Olmsted, M., Raspa, M., & Bruder, M. (2008). Measuring Family Outcomes: Considerations for Large-Scale Data Collection in Early Intervention.
  - + Available at [http://www.fpg.unc.edu/~eco/pdfs/Measuring\\_Family\\_Outcomes\\_revised\\_27-April.pdf](http://www.fpg.unc.edu/~eco/pdfs/Measuring_Family_Outcomes_revised_27-April.pdf)

# PART C INDICATOR 4

---

- ✘ Percent of families participating in Part C who report that early intervention services have helped the family
  - ✘ a) *know their rights,*
  - ✘ b) *effectively communicate their children's needs,* and
  - ✘ c) *help their children develop and learn.*

# REQUIREMENTS OF THE SPP

---

- ✘ The data for Indicator C4 must come from families.
- ✘ States may use any method of data collection. All states are using a survey approach (44 states census, 11 states sampling)
- ✘ States are free to select or create their data collection instrument.
- ✘ Whether the distribution of surveys is to the whole population of families participating in Part C or to a sample of such families, states must report on the representativeness of their obtained sample.

# DATA COLLECTION INSTRUMENTS

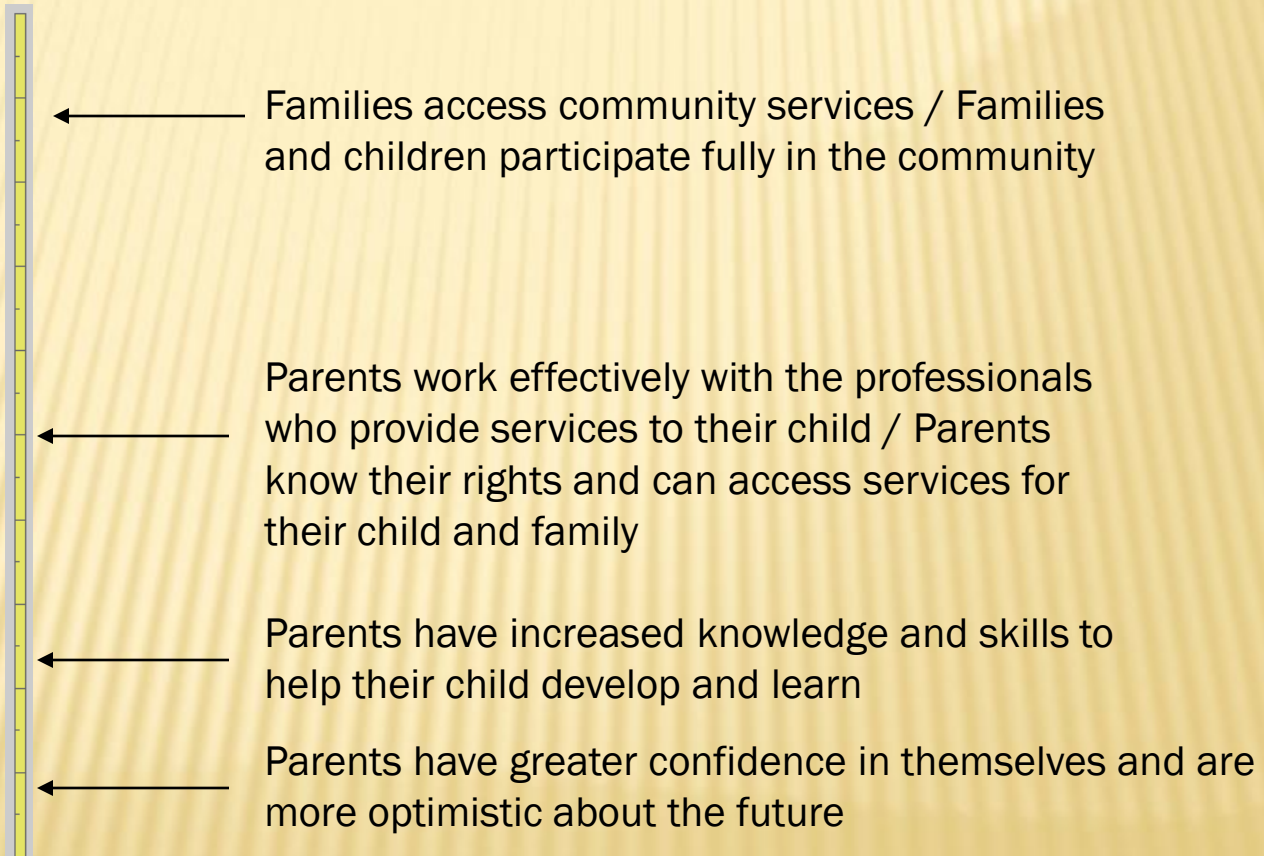
---

ECO <i>Family Outcomes Survey</i> , Items 16-18	25 states
NCSEAM <i>Impact on Family Scale</i>	25 states
State Survey	6 states

# COMPARISON OF THE ECO AND NCSEAM INSTRUMENTS IN RELATION TO CONTENT

- ✘ The instruments were developed separately by ECO and NCSEAM, but both centers used significant input from families and other stakeholders to develop instrument content
- ✘ The content of both instruments goes beyond the content of the three indicators specified in Part C Indicator 4

# POSITIVE OUTCOMES RESULTING FROM FAMILIES' PARTICIPATION IN EARLY INTERVENTION



# FAMILY OUTCOMES SURVEY (FOS) – ORIGINAL VERSION

---

- ✘ The FOS addresses families' perceptions of their **current status** in five outcome areas, each of which is represented by 3 items. The five areas are:
  - + Understanding your child's strengths, abilities and special needs
  - + Knowing your rights and advocating for your child
  - + Helping your child develop and learn
  - + Having support systems
  - + Accessing your community
- ✘ Three additional questions address families' perceptions' of the extent to which early intervention services helped them achieve the 3 specific Indicator C4 outcomes

# THE 3 FOS ITEMS (ORIGINAL VERSION)

## ADDRESSING C4

---

- ✘ 16. To what extent has early intervention helped your family know and understand your rights?
- ✘ 17. To what extent has early intervention helped your family effectively communicate your child's needs?
- ✘ 18. To what extent has early intervention helped your family be able to help your child develop and learn?
  
- ✘ Families respond on a scale from 1-7. Most states have considered a response of 5 or above as fulfilling the intent of the indicator.

# FOS (REVISED)

---

- ✘ The FOS has recently undergone a revision
  - ✘ Section A now has 24 items addressing the five family outcome areas
  - ✘ Section B now uses 17 items to address the three Indicator C4 outcomes
  - ✘ The original 7-point response scale has been replaced with a 5-point scale

# THE NCSEAM IMPACT ON FAMILY SCALE

- ✘ The NCSEAM *Impact on Family Scale* draws on a large set of items suggested by families as embodying family outcomes of early intervention services. The items address the same general content as the FOS.
- ✘ The items were validated in a pilot involving over 1700 families participating in early intervention in 6 states.

# THE NCSEAM IMPACT ON FAMILY SCALE

- ✘ NCSEAM ascertained that use of 22 items would yield a scale with measurement reliability  $> .90$ .
- ✘ The scale yields one single measure (overall score) per family. Three different cut-scores, one for each of the 3 OSEP sub-indicators, are applied to determine whether a given measure counts as fulfilling the intent of each of the sub-indicators.

# SPACING OF RESPONSE CHOICES

▣

1

▣

2

▣

3

▣

4

▣

5

▣

6

**Very**

**Strongly  
Disagree**

**Strongly  
Disagree**

**Disagree**

**Agree**

**Strongly  
Agree**

**Very  
Strongly  
Agree**

1

2

3

4

5

6

7

**POOR**

**FAIR**

**GOOD**

**EXCELLENT**

# POPULATIONS SURVEYED

All families in program	25
Combination	15
In services >6 months	10
Families in Child Count	2
Based on monitoring schedule	1
All families at exit	1
Other	1
Not reported	1
Total	56

# VARIABLES RELATED TO RESPONSE RATES

- ✘ Overall response rate: 33.3%
  - + Range 5.8% to 100%
- ✘ Survey type: FOS, NCSEAM, State Survey
- ✘ Census vs. sample population
- ✘ Distribution methods: mail, in-person and multiple methods (e-mail, phone, etc)
- ✘ Return methods: mail, in-person, multiple methods (on-line survey, interviews)

# Variables Related to Response Rates

Overall Response Rate

33%

Survey Type

FOS Survey (35%)

State Survey (33%)

NCSEAM (32%)

Population Surveyed

Sample (34%)

Census (34%)

Distribution Method

In-person (45%)

Multiple Methods (37%)

Mail (24%)

Return Method

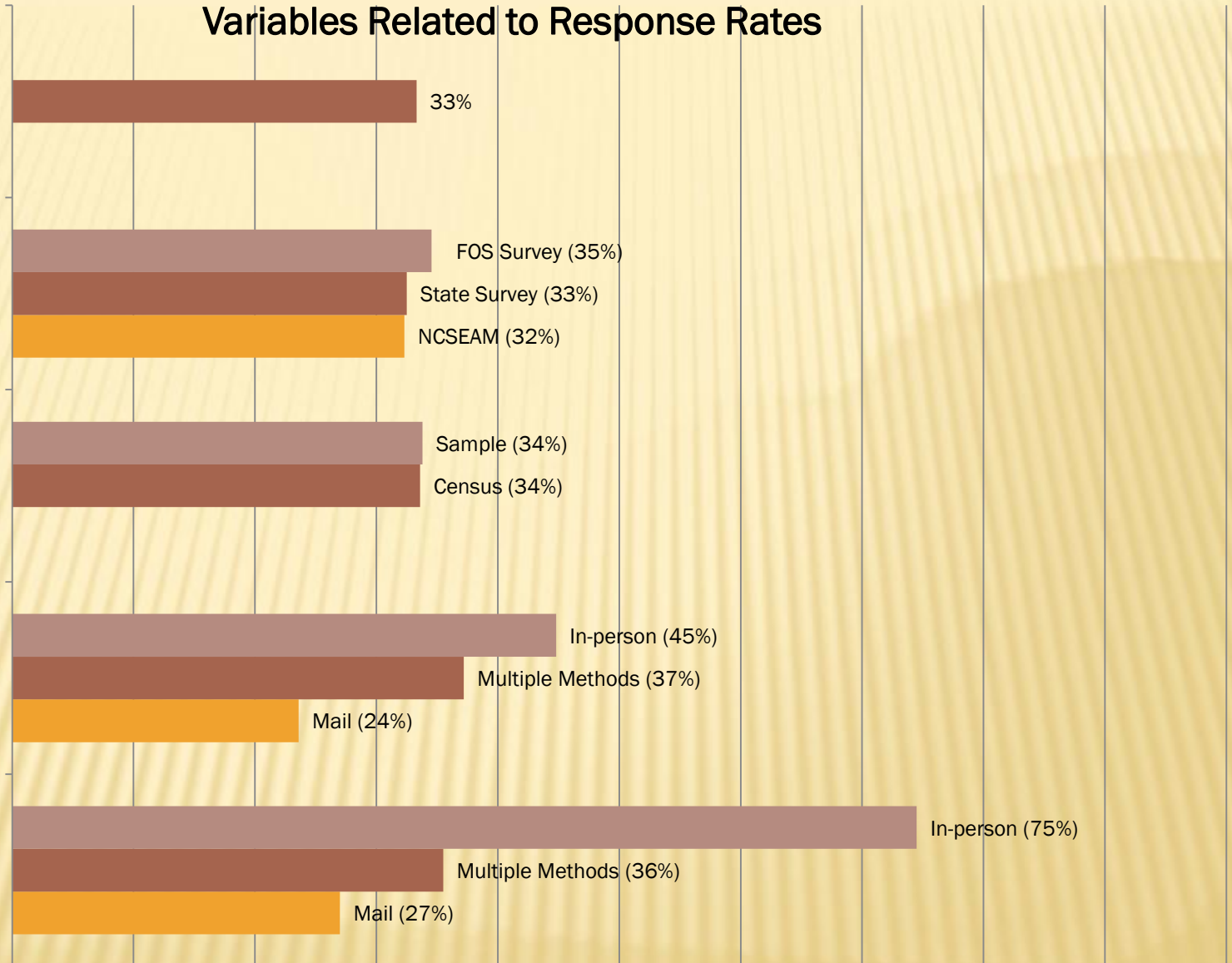
In-person (75%)

Multiple Methods (36%)

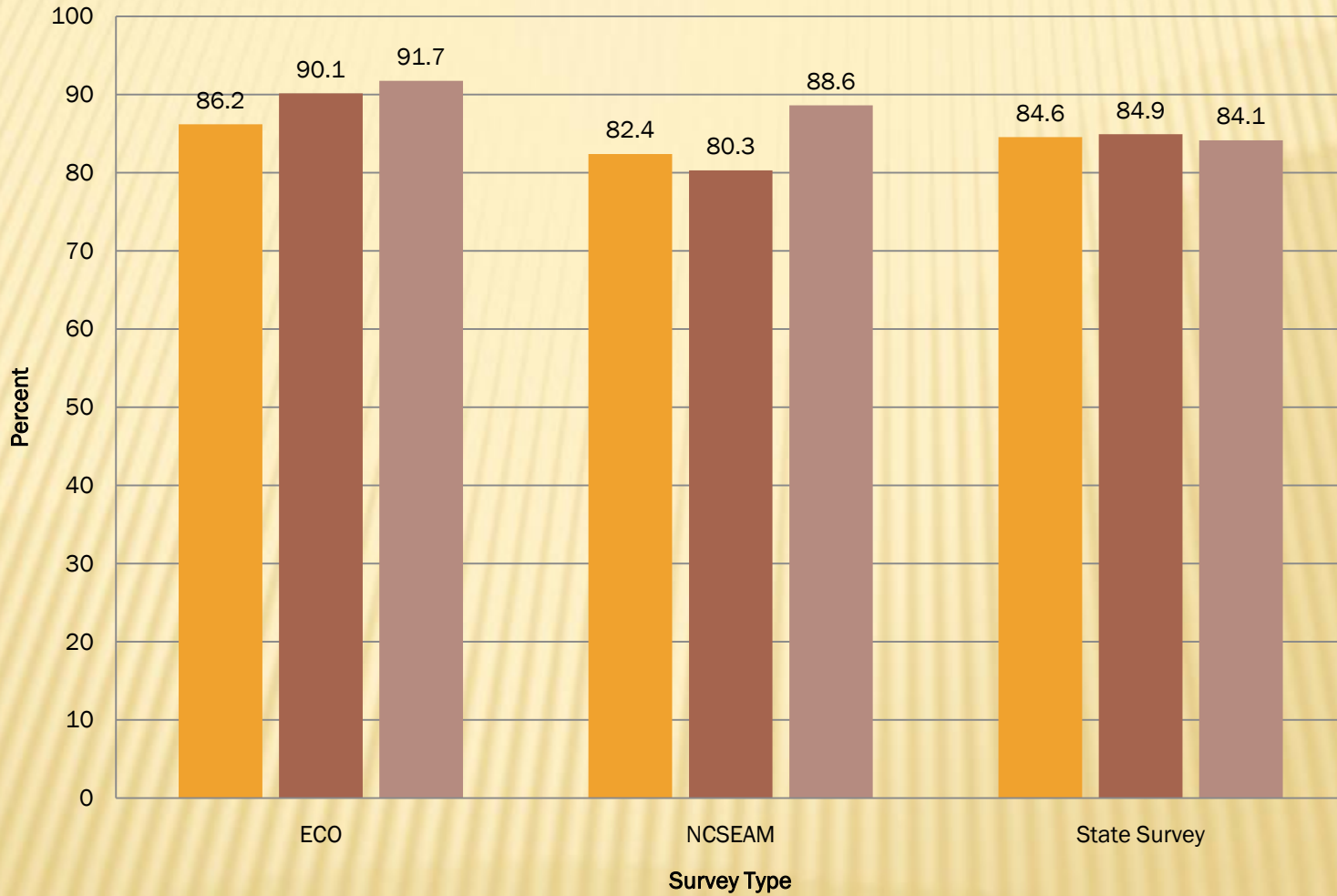
Mail (27%)

0 10 20 30 40 50 60 70 80 90 100

Percent



# Performance by Survey Type

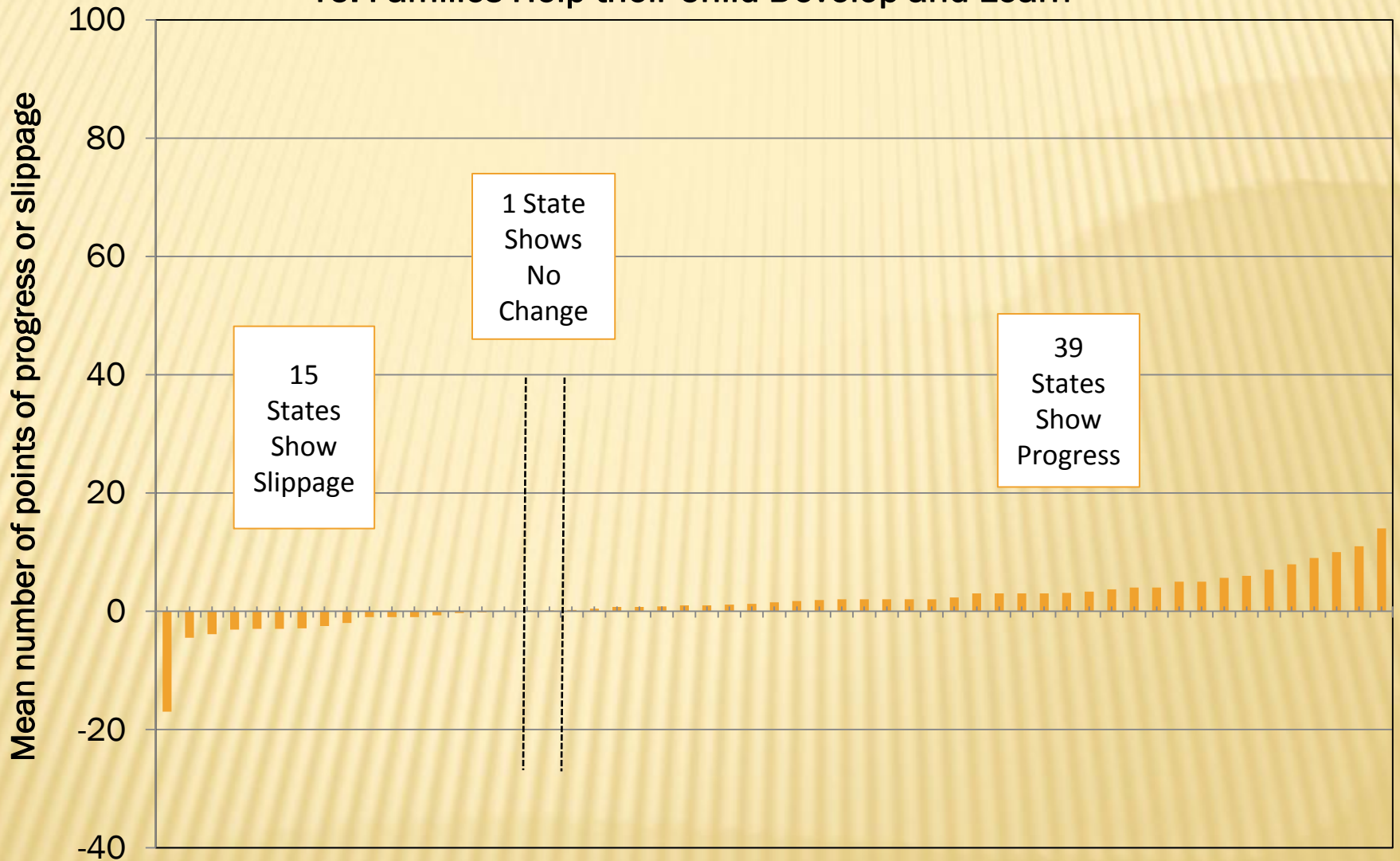


4A: Helped families know rights

4B: Helped families communicate child's needs

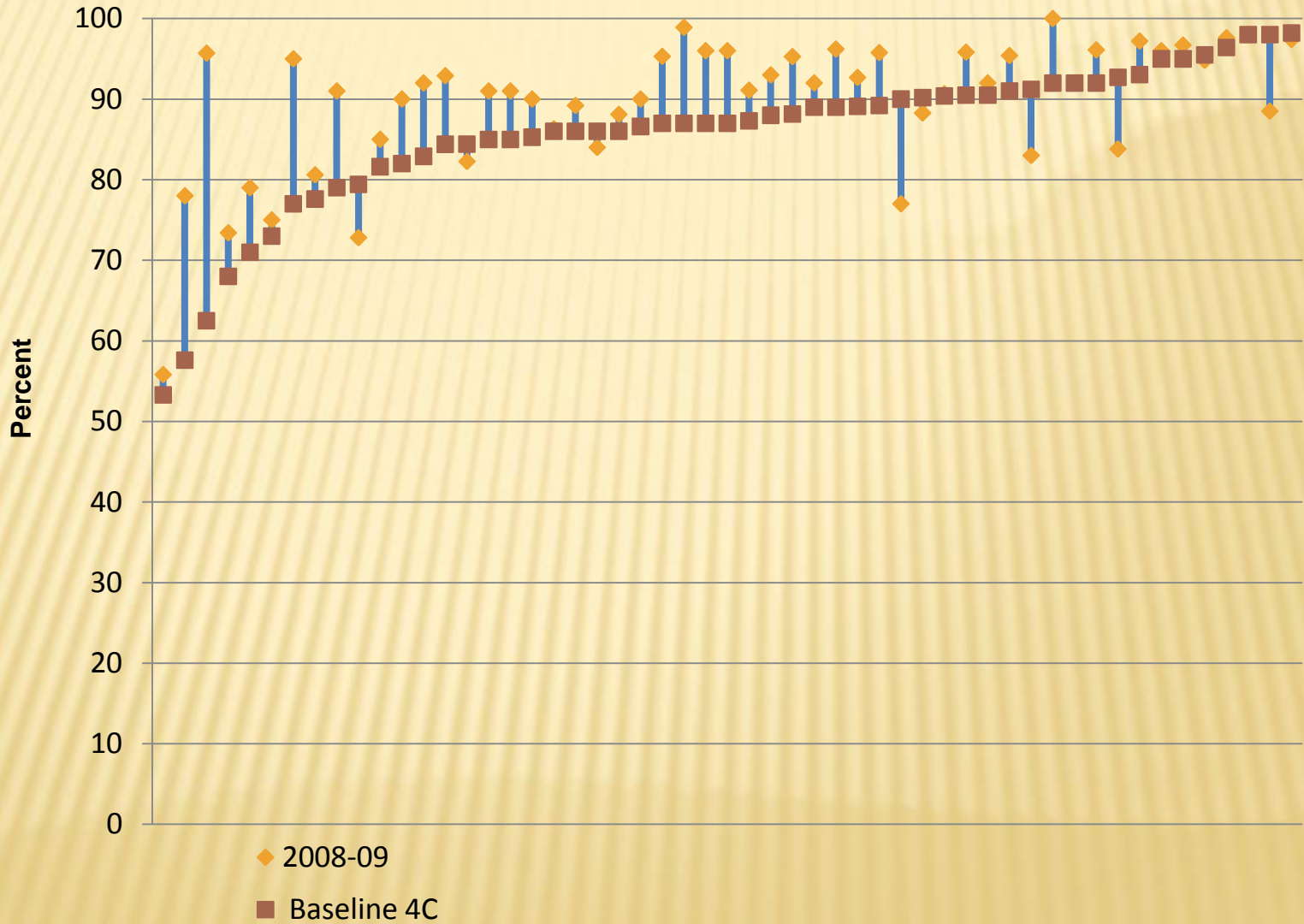
4C: Helped child develop and learn

# Progress and Slippage from 2007-08 to 2008-09: 4C: Families Help their Child Develop and Learn



Each column represents one State/Jurisdiction

# Indicator 4C: Early intervention services have helped the family help their children develop and learn





Data  
Accountability  
Center

# CHALLENGES RELATED TO DATA QUALITY FOR INDICATOR C4: REPRESENTATIVENESS OF THE DATA AND ACCURACY OF THE POPULATION ESTIMATE

---

# REPRESENTATIVENESS OF THE DATA

APR Requirements: All states must . . .

- Ensure family survey data are valid and reliable
- Determine if survey response data is representative of the characteristics of the population of children whose families are surveyed

# DATA USED FOR COMPARISON

---

Thirty-nine states (70%) reported a source of data used for comparison

Data sources included:

- + Part C population/ 618 data: 31 states
- + Program population data: 3 states
- + Target population: 3 states
- + State data (not specified): 2 states

# CRITERIA USED FOR EVALUATING REPRESENTATIVENESS

---

Forty-six states (89%) reported the criteria they used for determining representativeness. These include:

- Race/ ethnicity: 73% (41 states)
- Geography (district, county, region): 50% (28 states)
- Sex: 21% (12 states)
- Child's age: 20% (11 states)
- Disability/ eligibility category: 9% (5 states)
- Length of time in services: 9% (5 states)
- Program size : 9% (5 states)

# WERE DATA REPRESENTATIVE?

---

- ✘ Forty-four states reported whether their data were representative (79%). They said:
  - + Yes, some data provided: 36% (20 states)
  - + Yes, no data provided: 14% (8 states)
  - + No: 11% (6 states)
  - + Varied results: 18% (10 states)
- ✘ No statement of representativeness reported among the remaining 12 states (21%)

# SPECIFIC CHALLENGES RELATED TO REPRESENTATIVENESS

---

## Challenges identified through APR analysis

- What criteria to use in determining representativeness
- What comparison data to use in the analyses
- How to analyze the data and make conclusions
- What improvement activities to develop to address the issue of representativeness

# ACCURACY OF THE POPULATION ESTIMATE

- ✘ Whenever data are based on a sample (whether owing to sampling or to a less than 100% return rate), there is some amount of error in generalizing to the population (“margin of error”)
- ✘ As the number of responses in the sample decreases, the “error of estimate,” as quantified in a margin of error or confidence interval, increases
- ✘ The increase is not linear:
  - + n=400, margin of error = +/- 5%
  - + n=200, margin of error = +/- 7%
  - + n=100, margin of error = +/- 10%
  - + n= 50, margin of error = +/- 14%
  - + n= 25, margin of error = +/- 22%
  - + n= 12, margin of error = +/- 28%

# LOCAL PROGRAM DATA

Local EI Program	n	Percent on the Indicator	Confidence Interval	% and Confidence Interval					State Percent on 4A = 45% LEA vs. State
				0	25	50	75	100	
A	2	50%	9.4% - 90.6%			-----X-----			=
B	2	0%	0.0% - 65.8%	X-----					=
C	5	40%	11.8% - 76.9%			-----X-----			=
D	5	33%	8.5% - 72.3%			-----X-----			=
E	10	20%	5.7% - 51.0%			-----X-----			=
F	15	24%	9.3% - 49.3%			-----X-----			=
G	15	44%	22.8% - 67.7%			-----X-----			=
H	16	20%	7.3% - 44.3%			-----X-----			↓
I	20	67%	45.2% - 83.3%			-----X-----			↑
J	30	37%	22.1% - 54.8%			-----X-----			=
K	40	21%	11.2% - 35.9%			-----X-----			↓
L	64	67%	54.8% - 77.3%				-----X---		↑
M	87	50%	39.7% - 60.3%			---X---			=
N	173	11%	7.2% - 16.5%	-X-					↓



Data  
Accountability  
Center

# **DISCUSSION: ISSUES AND STRATEGIES TO IMPROVE DATA QUALITY RELATED TO INDICATOR C4**

---