

# **Massachusetts Department of Public Health**



## **Analysis of Family Survey Data Addressing Part C SPP/APR Indicator #4**

### **State Report**

**2023-2024**

## TABLE OF CONTENTS

<b>1 - EXECUTIVE SUMMARY</b>	<b>3</b>
<b>2 - BACKGROUND</b>	<b>5</b>
<b>3 - CHARACTERISTICS OF THE SAMPLE DATA</b>	<b>8</b>
3.1. Distribution of Race/Ethnicity in the Sample	8
3.2. Distribution of Survey Language in the Sample	8
3.3. Distribution of Region in the Sample	9
<b>4 - RESULTS PERTAINING TO INDICATOR #4</b>	<b>10</b>
4.1. Distribution of the IFS Measures	10
4.2. Interpretation of the Mean IFS Measure	12
4.3. Performance of the MDPH: Percent of Families Meeting Each of the Standards for Indicator #4	15
4.4. Percent of Families Meeting Each of the Standards by Race/Ethnicity	16
4.5. Percent of Families Meeting Each of the Standards by Survey Language	18
4.6. Percent of Families Meeting Each of the Standards by Region	19
4.7. Percent of Families Meeting Each of the Standards by Program	20
<b>5 - MEASUREMENT FRAMEWORK</b>	<b>22</b>
<b>6 - RESULTS PERTAINING TO THE PSYCHOMETRIC PROPERTIES OF THE IMPACT ON FAMILIES SCALE (IFS)</b>	<b>25</b>
6.1. Psychometric Properties of the IFS Measures	25
6.2. Psychometric Properties of the IFS Items	26
<b>7 - CALIBRATION METHODOLOGY FOR THE IFS</b>	<b>28</b>
<b>8 - DESCRIPTION OF WEIGHTED PROPORTIONS AND MEANS</b>	<b>29</b>
<b>REFERENCES</b>	<b>30</b>
<b>APPENDIX A: LONGITUDINAL FIGURES</b>	<b>31</b>
<b>APPENDIX B: SAMPLE FAMILY SURVEY</b>	<b>33</b>
<b>APPENDIX C: RESPONSE FREQUENCIES BY ITEM</b>	<b>35</b>
<b>APPENDIX D: WINSTEPS CONTROL FILE</b>	<b>42</b>
<b>APPENDIX E: SELECTED WINSTEPS OUTPUT</b>	<b>44</b>
<b>APPENDIX F: FFY 2023 SPP/APR DATA</b>	<b>48</b>



## SECTION 1

### Executive Summary

In accordance with federal reporting requirements mandated by the U.S. Department of Education, Office of Special Education Programs (OSEP) under the Individuals with Disabilities Education Act (IDEA 2004), Part C Lead Agencies must report annually on performance indicators related to early intervention services for children ages birth to three. This report presents findings of a survey conducted by the Massachusetts Department of Public Health (MDPH) to address Indicator #4, the “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”.

The survey administered by the MDPH included one rating scale developed and validated by the National Center for Special Education Accountability Monitoring (NCSEAM). The 23-item Impact on Family Scale (IFS) measures the extent to which Early Intervention helped families achieve positive outcomes, including the three outcomes specified in Indicator #4.

#### Response Rate

A total of 15,031 surveys were distributed to families in 59 Early Intervention Programs (EIPs). Overall, 4,331 completed surveys were returned, for a **return rate of 28.8%** (4,331/15,031). All returned surveys provided usable data. The number of returned surveys exceeds the minimum number required for an adequate confidence level based on established survey sample guidelines (e.g., <https://www.surveysystem.com/sscalc.htm>).

Data from the scale was analyzed through the Rasch measurement framework. For the IFS scale, the analysis produces a measure for each survey respondent. Individual measures can range from 0 to 1,000. For the IFS, each family’s measure reflects the extent to which the family perceives that Early Intervention has helped them achieve positive family outcomes. The IFS measures of all respondents were averaged to yield a mean measure reflecting the overall performance of the state in regard to the impact of Early Intervention on family outcomes.

As noted, OSEP requires that the state’s performance be reported as the percent of families who report that Early Intervention services helped them achieve specific outcomes. Deriving a percent from a continuous distribution requires application of a standard, or cut-score. The MDPH elected to apply the Part C standards recommended by a nationally representative stakeholder group convened by NCSEAM. The recommended standards, established based on item content expressed in the scale, were as follows: for Indicator 4a, *know their rights*, a measure of 539; for Indicator 4b, *effectively communicate their children’s needs*, a measure of 556; and for Indicator 4c, *help their children develop and learn*, a measure of 516.

The following points represent the major findings related to Indicator #4:

#### **Massachusetts’ Mean Measure on the IFS**

The mean measure on the IFS is 723 with a standard deviation of 186. The standard error of the mean is 2.8, and the 95% confidence interval for the mean is 717.6–728.7. This means that there is a 95% likelihood that the true value of the mean lies between these two values.

#### **Massachusetts’ Percent on Indicators**

**Indicator 4a:** The percent of families who reported that Early Intervention services helped them *know their rights* is **84.4%**. The 95% confidence interval for the true population percentage is 83.3%–85.4%. This means that there is a 95% likelihood that the true value of the state percentage for Indicator 4a is between these two values.

**Indicator 4b:** The percent of families who reported that Early Intervention services helped them *effectively communicate their children’s needs* is **80.9%**. The 95% confidence interval for the true population percentage is 79.7%–82.0%.

**Indicator 4c:** The percent of families who reported that Early Intervention services helped them *help their children develop and learn* is **92.4%**. The 95% confidence interval for the true population percentage is 91.6%–93.2%.

See Appendix A for Massachusetts’ historical response rates and Indicator #4 percentages; Appendix F contains the FFY 2023 SPP/APR data template.



## SECTION 2

### Background

#### Federal Requirements

State Lead Agencies under Part C of the IDEA are required to report data annually addressing key performance indicators. Each state is required to submit an Annual Performance Report (APR) to OSEP addressing established targets set in the State Performance Plan (SPP). Indicator #4, the “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,” is one of the indicators in the federal accountability system. Performance on the indicator is reported annually.

#### Survey Instrument

The IFS was developed by NCSEAM to provide states with valid and reliable instruments to measure (a) positive outcomes that families experience as a result of their participation in Early Intervention and (b) families’ perceptions of the quality of Early Intervention services. Items were developed with substantial input from families and other key stakeholders across the country.

As part of its National Item Validation Study, NCSEAM collected data from a nationally representative sample of over 1,700 families participating in early intervention. Results of NCSEAM’s data analyses supported the high reliability and validity of both scales. It was determined that scale reliabilities of .90 or above could be achieved with 22 items for the IFS. NCSEAM provided states with an appropriate sample item set for each scale, as well as instructions for customizing the scale by drawing on the larger bank of piloted items that NCSEAM made available on its website. The MDPH elected to use 23 items for the IFS.

## **Survey Administration**

The primary survey delivery method for the current administration year was the online version, which was available in seven languages (i.e., English, Spanish, Portuguese, Haitian Creole, Vietnamese, Chinese, and Arabic). Programs distributed unique survey logins to families in person, via online meetings, and by other electronic means. If requested, families still had the option of completing the paper survey, which was available in five primary languages (i.e., all of the previously listed languages except for Chinese and Arabic). The majority of respondents completed online versions of the survey. Only a small number of paper surveys were distributed to families. Online logins and paper surveys were distributed to families in October 2023 and April 2024; the survey return deadline was May 31, 2024.

A total of 15,031 surveys, in seven languages, as noted above, were distributed to families across 59 EIPs; 4,331 were returned (including 4,260 Web submissions), for a response rate of 28.8%. See Appendix B for a sample 2023-24 family survey.

## **Standards**

The MDPH elected to apply the standards recommended by NCSEAM as a way of deriving the percentages to be reported for Indicators 4a, 4b, and 4c.

To establish a recommended standard, NCSEAM convened a group of nationally representative stakeholders, including parents of children with disabilities, state directors of special education, state early intervention coordinators, district and program personnel, advocates, attorneys, and community representatives. Participants were invited to examine a set of items from the IFS, laid out in their calibration order (see Table 11). The items toward the bottom of the scale, having lower calibrations, are items that families tend to agree with most.

The items toward the top of the scale, having higher calibrations, are items that families tend to agree with least. Because of the robust structure of the scale, a respondent who agrees with a given statement will have a very high likelihood of agreeing, or agreeing even more strongly, with all the items below it on the scale.

For Indicator 4a, the stakeholder group agreed that families needed to endorse all items up to and including the item, “Over the past year, Early Intervention services have helped me and/or my family, know about my child's and family's rights concerning Early Intervention services.” For Indicator 4b, the stakeholder group agreed that families needed to endorse all items up to and including the item, “Over the past year, Early Intervention services have helped me and/or my family, communicate more effectively with the people who work with my child and family.” For Indicator 4c, the stakeholder group agreed that families needed to endorse all items up to and including the item, “Over the past year, Early Intervention services have helped me and/or my family, understand my child's special needs.” These standards were operationalized by designating as the numerical standard the measure that, in each case, corresponds to the threshold item's calibration. For Indicators 4a, 4b, and 4c, the measures representing the standards are 539, 556, and 516, respectively. This ensures that in each case, families with a measure at or above the standard have a .95 likelihood of agreeing with the threshold item.



## SECTION 3

### Characteristics of the Sample Data

#### 3.1. Distribution of Race/Ethnicity in the Sample

Table 1 displays the distribution of race/ethnicity in the survey sample.

<b>Table 1. Race/Ethnicity Distribution</b>		
<b>Race/Ethnicity</b>	<b>N</b>	<b>Percentage*</b>
American Indian or Alaskan Native	8	<1%
Asian	228	5%
Black or African American	317	7%
Hispanic/Latino	794	18%
Native Hawaiian or Other Pacific Islander	2	<1%
Two or more races	596	14%
White	2,357	54%
Missing	29	1%

#### 3.2. Distribution of Survey Language in the Sample

Table 2 displays the distribution of the sample by survey language.

<b>Table 2. Survey Language Distribution</b>		
<b>Version</b>	<b>N</b>	<b>Percentage*</b>
Arabic	0	0%
Chinese	17	<1%
English	4,041	93%
Haitian Creole	20	<1%
Portuguese	43	1%
Spanish	205	5%
Vietnamese	5	<1%

\* Percentages have been rounded and may not sum to exactly 100%.

### 3.3. Distribution of Region in the Sample

Table 3 displays the distribution of the survey sample by region.

<b>Table 3. Region Distribution</b>		
<b>Region</b>	<b><i>N</i></b>	<b>Percentage*</b>
Boston	216	5%
Central	867	20%
Metro	355	8%
Northeast	1,091	25%
Southeast	1,020	24%
West	782	18%

\* Percentages have been rounded and may not sum to exactly 100%.



## SECTION 4

### Results Pertaining to Indicator #4

#### 4.1. Distribution of the IFS Measures

The properties of the distribution of IFS measures for the 4,331 families who responded to the IFS items are shown in Table 4. The sample mean is 723. The standard deviation of measures is 186, indicating that the average distance of measures from the mean measure is 186 units. The standard error of the sample mean, that is, the expected error of the sample mean in estimating the true population mean for Massachusetts, is 2.8. The 95% confidence interval for the true population mean for Massachusetts extends from 717.6 to 728.7, indicating that we are 95% confident that the true population mean for families of children served by the MDPH's Early Intervention Program lies somewhere in this range. The sample mean for the weighted data is 725 which is consistent with the unweighted mean (723).

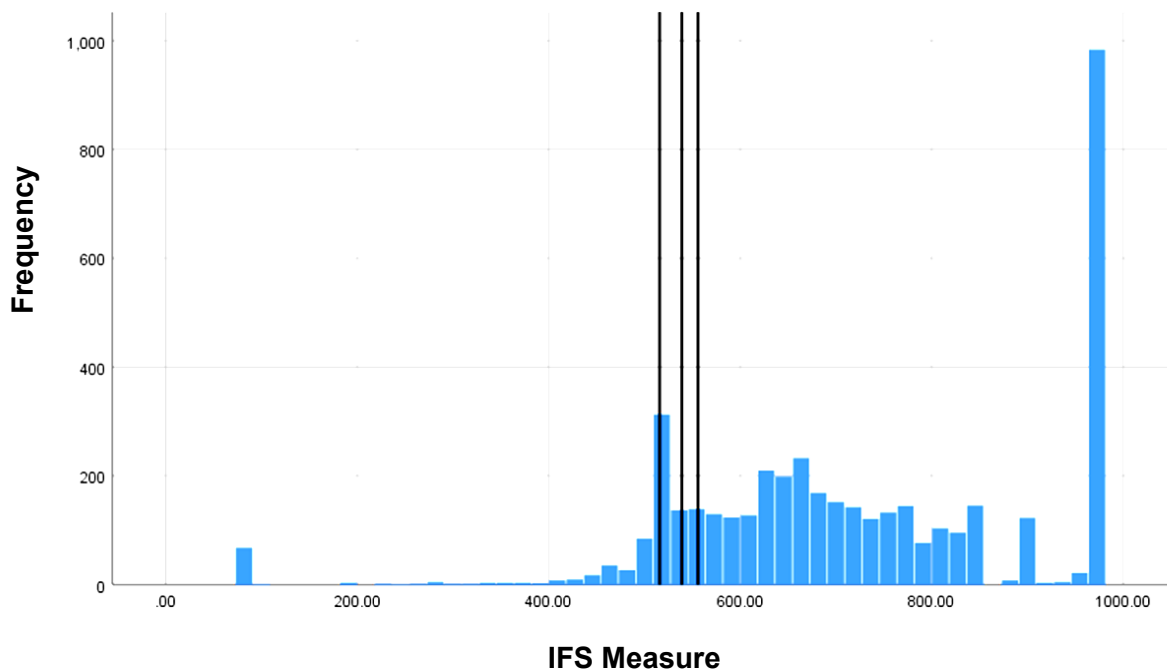
Table 4. Properties of IFS Measures				
Weighting	Sample Mean	Standard Deviation**	Standard Error of the Sample Mean	95% Confidence Interval for the Population Mean
Unweighted	723	186	2.8	717.6–728.7
Weighted by the population bivariate distribution of race/ethnicity and region	725	186	--	719.1–730.2

Please refer to Section 8 for a detailed description of weighted proportions and means in the SEPPS measures.

\*\* Because the standard deviation in the population is unknown, we have assumed the same standard deviation for the weighted values as that obtained from the unweighted values obtained from sample of 4,331 respondents for which an IFS measure was obtained.

Figure 1 displays the distribution of the 4,331 IFS measures. Each bar indicates the number of families with measures at the value indicated on the x-axis. The vertical black lines correspond to the three standards applied to Indicator 4a (539), 4b (556), and 4c (516).

**Figure 1. Distribution of IFS Measures**



The distribution of measures approximates a normal distribution with one exception. An extremely high number of respondents with measures at the positive end of the scale are represented by the high bar at the extreme right of the graph. These individuals responded in the “very strongly agree” category to each and every item. When individuals fail to make any distinction among items that are known to have different levels of agreeability, they are said to display a “response set,” that is, a uniform way of responding that makes it hard to judge whether the responses are authentic or are, in effect, a way of complying with the task that does not really provide useful information. This phenomenon should be taken into consideration when interpreting the findings.

## 4.2. Interpretation of the Mean IFS Measure

The state's performance on the IFS conveys information that goes beyond the three outcomes that are addressed in OSEP's Indicator #4. A mean measure of 723 on the IFS indicates that the MDPH is helping families to achieve many positive outcomes. These positive outcomes are evident from the response percentages displayed in Table 5. The table also displays each item's calibration value, to be discussed in Section 6.

Table 5. Percent of Families Expressing Agreement with IFS Items				
Item #	Item Calibration	Item <i>Over the past year, Early Intervention services have helped me and/or my family:</i>	% Agree in any category	% Strongly/Very strongly agree
20	498	– do things with and for my child that are good for my child's development.	97%	79%
22	498	– feel that my efforts are helping my child.	97%	78%
15	559	– feel that my child will be accepted and welcomed in the community.	97%	73%
23	508	– be more hopeful about my child's future.	97%	77%
16	562	– feel that my family will be accepted and welcomed in the community.	97%	71%
13	553	– understand how the Early Intervention system works.	97%	74%
3	559	– figure out solutions to problems as they come up.	97%	76%
21	516	– understand my child's special needs. [Indicator 4c]	97%	74%
19	539	– know about my child's and family's rights concerning Early Intervention services. [Indicator 4a]	97%	71%
18	546	– understand the roles of the people who work with my child and family.	96%	70%
14	534	– be able to evaluate how much progress my child is making.	96%	76%

Table 5. Percent of Families Expressing Agreement with IFS Items (continued)				
Item #	Item Calibration	Item <i>Over the past year, Early Intervention services have helped me and/or my family:</i>	% Agree in any category	% Strongly/ Very strongly agree
6	539	– get the services that my child and family need.	96%	76%
7	559	– feel more confident in my skills as a parent.	96%	74%
17	556	– communicate more effectively with people who work with my child and family. [Indicator 4b]	96%	72%
12	565	– feel that I can get the services and supports that my child and family need.	96%	72%
4	609	– know where to go for support to meet my child's needs.	96%	73%
11	540	– do activities that are good for my child even in times of stress.	96%	70%
10	584	– be more effective in managing my child's behavior.	95%	67%
5	640	– know where to go for support to meet my family's needs.	95%	67%
9	577	– make changes in family routines that will benefit my child with special needs.	94%	65%
2	656	– know about services in the community.	93%	61%
8	608	– help other children in my family (if there are other children) adjust to their brother's or sister's needs.	92%	59%
1	678	– participate in typical activities for children and families in my community.	92%	61%

As seen in the table, 97% of families agreed, with 73%–79% expressing strong or very strong agreement, that Early Intervention services helped them do things with and for their child that are good for their child's development, feel that their efforts are helping their child, and feel that their child will be accepted and welcomed in the community.

Approximately 96% of families agreed, with 70%–76% expressing strong or very strong agreement, that Early Intervention services helped parents understand the roles of the people who work with their child and family, evaluate how much progress their child is making, and get the services and supports that their child and family need.

Less agreement was found in other areas. Approximately 92%–93% of families agreed, with 59%–61% expressing strong or very strong agreement, that Early Intervention services helped them know about services in the community, help other children in the family (if there are other children) adjust to their brother's or sister's needs, and participate in typical activities for children and families in their community.

For reference, the frequency distribution of responses to all the items in the IFS is provided in Appendix C.

### 4.3. Performance of the MDPH: Percent of Families Meeting Each of the Standards for Indicator #4

Table 6 presents the percentage of families having an IFS measure that met or exceeded each of the three standards for Indicator #4, as well as a 95% confidence interval for the true population percentage. When weighted by race/ethnicity and region, the differences in percentage are insignificant compared to the unweighted results. Note that the confidence interval is asymmetric about the sample percentage, in that there is a greater distance in the confidence interval below the sample percentage than above the sample percentage. The asymmetric confidence interval represents a more accurate confidence interval for percentages than normal distribution-based symmetric confidence intervals (since percentages are bounded between 0 and 100). The asymmetric confidence interval reported here is the score interval proposed by Wilson (1927), and described in greater detail in Agresti (1996) and Penfield (2003).

<b>Table 6. Percent of Respondents Meeting or Exceeding Each of the Standards for Indicator #4</b>			
	<b><u>Indicator 4a</u></b> Percent of families who report that Early Intervention services helped them know their rights (Item 19)	<b><u>Indicator 4b</u></b> Percent of families who report that Early Intervention services helped them effectively communicate their children's needs (Item 17)	<b><u>Indicator 4c</u></b> Percent of families who report that Early Intervention services helped them help their children develop and learn (Item 21)
<b>State Target</b>	90.0%	85.0%	94.0%
<b>Unweighted Percentage</b>	84.4% (3,657 of 4,331 met standard) CI: 83.3%–85.4%	80.9% (3,502 of 4,331 met standard) CI: 79.7%–82.0%	92.4% (4,000 of 4,331 met standard) CI: 91.6%–93.2%
<b>Weighted Percentage</b>	84.6% CI: 83.5%–85.6%	81.1% CI: 79.9%–82.2%	92.4% CI: 91.6%–93.2%

#### 4.4. Percent of Families Meeting Each of the Standards by Race/Ethnicity

Table 7 presents the percentage of families with measures that met or exceeded each of the three standards, by racial/ethnic category. Please note that the sample was not designed to be representative of race/ethnicity. Therefore, Table 7 is included for illustrative purposes only, as are Tables 8, 9, and 10.

<b>Table 7. Percent of Respondents Meeting or Exceeding Each of the Standards for Indicator #4 by Race/Ethnicity</b>			
<b>Race/Ethnicity</b>	<b><u>Indicator 4a</u></b> Percent of families who report that Early Intervention services helped them know their rights (Item 19)	<b><u>Indicator 4b</u></b> Percent of families who report that Early Intervention services helped them effectively communicate their children's needs (Item 17)	<b><u>Indicator 4c</u></b> Percent of families who report that Early Intervention services helped them help their children develop and learn (Item 21)
American Indian or Alaskan Native ( <i>N</i> = 8)	75.0% (6 met standard) CI: 40.9%–92.9%	75.0% (6 met standard) CI: 40.9%–92.9%	87.5% (7 met standard) CI: 52.9%–97.8
Asian ( <i>N</i> = 228)	84.6% (193 met standard) CI: 79.5%–88.8%	78.5% (179 met standard) CI: 72.7%–83.3%	95.2% (217 met standard) CI: 91.6%–97.3%
Black or African American ( <i>N</i> = 317)	82.3% (261 met standard) CI: 77.7%–86.1	77.6% (246 met standard) CI: 72.7%–81.8%	90.2% (286 met standard) CI: 86.4%–93.0%
Hispanic or Latino ( <i>N</i> = 794)	84.8% (673 met standard) CI: 82.1%–87.1%	82.2% (653 met standard) CI: 79.4%–84.7%	92.6% (735 met standard) CI: 90.6%–94.2%

**Table 7. Percent of Respondents Meeting or Exceeding Each of the Standards for Indicator #4 by Race/Ethnicity (continued)**

<b>Race/Ethnicity</b>	<b><u>Indicator 4a</u></b> Percent of families who report that Early Intervention services helped them know their rights (Item 19)	<b><u>Indicator 4b</u></b> Percent of families who report that Early Intervention services helped them effectively communicate their children's needs (Item 17)	<b><u>Indicator 4c</u></b> Percent of families who report that Early Intervention services helped them help their children develop and learn (Item 21)
Native Hawaiian or Other Pacific Islander (N = 2)	-- <sup>±</sup> (-- met standard) CI: --	-- (-- met standard) CI: --	-- (-- met standard) CI: --
Two or more races (N = 596)	82.9% (494 met standard) CI: 79.7%–85.7%	79.0% (471 met standard) CI: 75.5%–82.1%	90.8% (541 met standard) CI: 88.2%–92.9%
White (N = 2,357)	85.2% (2,008 met standard) CI: 83.7%–86.6%	81.7% (1,926 met standard) CI: 80.1%–83.2%	92.9% (2,190 met standard) CI: 91.8%–93.9%
Missing (N = 29)	69.0% (20 met standard) CI: 50.8%–82.8%	65.5% (19 met standard) CI: 47.3%–80.0%	75.9% (22 met standard) CI: 57.9%–87.8%

<sup>±</sup> Data in the three sub-indicator columns have been suppressed as the number of respondents is less than six.

#### 4.5. Percent of Families Meeting Each of the Standards by Survey Language

Table 8 presents the percentage of families with measures that met or exceeded each of the three standards by survey language.

<b>Table 8. Percent of Respondents Meeting or Exceeding Each of the Standards for Indicator #4 by Survey Language <sup>±</sup></b>			
<b>Survey Language</b>	<b><u>Indicator 4a</u></b> Percent of families who report that Early Intervention services helped them know their rights (Item 19)	<b><u>Indicator 4b</u></b> Percent of families who report that Early Intervention services helped them effectively communicate their children's needs (Item 17)	<b><u>Indicator 4c</u></b> Percent of families who report that Early Intervention services helped them help their children develop and learn (Item 21)
Chinese (N = 17)	64.7% (11 met standard) CI: 41.3%–82.7%	58.8% (10 met standard) CI: 36.0%–78.4%	88.2% (15 met standard) CI: 65.6%–96.7%
English (N = 4041)	84.3% (3,408 met standard) CI: 83.1–85.4%	80.8% (3,264 met standard) CI: 79.6%–82.0%	92.2% (3,727 met standard) CI: 91.3%–93.0%
Haitian Creole (N = 20)	75.0% (15 met standard) CI: 53.1%–88.8%	60.0% (12 met standard) CI: 38.7%–78.1%	90% (18 met standard) CI: 69.9%–97.2%
Portuguese (N = 43)	79.1% (34 met standard) CI: 64.8%–88.6%	69.8% (30 met standard) CI: 54.9%–81.4%	95.3% (41 met standard) CI: 84.6%–98.7%
Spanish (N = 205)	91.2% (187 met standard) CI: 86.5%–94.4%	89.8% (184 met standard) CI: 84.9%–93.2%	95.1% (195 met standard) CI: 91.2%–97.3%
Vietnamese (N = 5)	-- <sup>±</sup> (-- met standard) CI: --	-- (-- met standard) CI: --	-- (-- met standard) CI: --

<sup>±</sup> Data in the three sub-indicator columns have been suppressed as the number of respondents is less than six.

#### 4.6 . Percent of Families Meeting Each of the Standards by Region

Table 9 presents the percentage of families with measures that met or exceeded each of the three standards by region.

<b>Table 9. Percent of Respondents Meeting or Exceeding Each of the Standards for Indicator #4 by Region</b>				
<b>Region</b>	<b><i>N</i></b>	<b><u>Indicator 4a</u></b> Percent of families who report that Early Intervention services helped them know their rights (Item 19)	<b><u>Indicator 4b</u></b> Percent of families who report that Early Intervention services helped them effectively communicate their children's needs (Item 17)	<b><u>Indicator 4c</u></b> Percent of families who report that Early Intervention services helped them help their children develop and learn (Item 21)
Boston	216	82.4%	80.1%	88.9%
Central	867	85.0%	81.2%	93.1%
Metro	355	83.7%	80.0%	90.1%
Northeast	1,091	83.1%	79.1%	91.1%
Southeast	1,020	85.6%	82.2%	94.1%
West	782	85.0%	81.8%	93.0%

#### 4.7. Percent of Families Meeting Each of the Standards by Program

Table 10 presents the percentage of families with measures that met or exceeded each of the three standards by program.

<b>Table 10. Percent of Respondents Meeting or Exceeding Each of the Standards for Indicator #4 by Program</b>				
<b>Program</b>	<b>N</b>	<b>Indicator 4a</b>	<b>Indicator 4b</b>	<b>Indicator 4c</b>
Arc of the South Shore/First Early Intervention Program	71	90%	89%	94%
Aspire Early Intervention Program	248	86%	83%	94%
Associates for Human Services Taunton Early Intervention Program	226	84%	82%	96%
BAMSI Early Intervention	77	79%	71%	94%
Bay Cove Early Intervention	71	85%	82%	96%
BEAM Early Intervention	16	94%	94%	100%
Behavioral Health Network EI (BHN Early Intervention)	48	81%	79%	94%
Boston Children's Hospital Early Intervention Program	21	95%	95%	100%
Cambridge/Somerville Early Intervention at Riverside	131	86%	84%	94%
Center for Human Development Early Intervention Program	70	87%	86%	96%
Community Healthlink Lipton Early Intervention Program	76	83%	82%	86%
Criterion Boston Early Intervention Program	23	78%	74%	83%
Criterion Heritage Early Intervention Program	164	81%	78%	93%
Criterion Medford Early Intervention Program	53	75%	72%	91%
Criterion Middlesex Early Intervention Program	96	89%	86%	96%
Criterion Riverway Early Intervention Program	10	80%	80%	80%
Criterion Stoneham Early Intervention Program	42	81%	71%	90%
Criterion Valley Early Intervention Program	161	84%	80%	94%
Criterion Wachusett Early Intervention Program	64	83%	80%	94%
Criterion Worcester Early Intervention Program	35	86%	80%	97%
Dimock Early Intervention Program	27	85%	85%	93%
Eliot Malden Early Intervention Program	16	88%	81%	94%
Empower Early Intervention	38	74%	66%	79%
Harbor Area Early Intervention/North Suffolk Community Services, Inc.	50	78%	76%	78%
Kennedy Donovan Center - Cape Cod & Islands Early Intervention Program	66	85%	74%	92%
Kennedy Donovan Center- Attleboro Early Intervention Program	88	88%	85%	94%
Kennedy Donovan Center- Greater Plymouth Early Intervention Program	177	88%	85%	93%

**Table 10. Percent of Respondents Meeting or Exceeding Each of the Standards for Indicator #4 by Program (continued)**

Program	N	Indicator 4a	Indicator 4b	Indicator 4c
Kennedy Donovan Center- South Central Early Intervention Program	123	81%	77%	89%
May Center for EI	14	79%	71%	86%
Meeting Street Early Intervention	121	85%	83%	96%
Mentor South Bay Community Services - Early Childhood, Brockton	49	86%	86%	90%
Mentor South Bay Community Services - Early Childhood, Fall River/Swansea	49	86%	84%	100%
Mentor South Bay Community Services - Early Childhood, Framingham	11	82%	73%	100%
Mentor South Bay Community Services - Early Childhood, Lawrence	33	76%	76%	79%
Mentor South Bay Community Services - Early Childhood, Lowell	33	79%	79%	94%
Mentor South Bay Community Services - Early Childhood, Worcester	21	90%	81%	100%
Minute Man Arc Early Intervention Program	74	92%	91%	97%
Northeast Arc EI- Northshore	27	81%	78%	89%
Northeast Arc EI-Cape Ann	77	86%	81%	91%
Northern Berkshire Early Intervention Program	36	72%	67%	81%
Partners in Child Development Early Intervention	155	90%	87%	94%
Pediatric Development Center Early Intervention Program	36	83%	81%	92%
Pediatric Development Center South Early Intervention Program	14	100%	100%	100%
People Incorporated Early Intervention	129	85%	81%	95%
Pernet Early Intervention Program	16	94%	81%	100%
Riverside Early Intervention - Needham	87	86%	80%	91%
Step One Early Intervention Program	111	84%	76%	89%
The Reach Program of ServiceNet	69	88%	86%	94%
Thom Anne Sullivan Center	107	78%	77%	86%
Thom Boston Metro Early Intervention Program	24	75%	71%	83%
Thom Charles River Early Intervention Program	62	89%	87%	94%
Thom Marlboro Area Early Intervention Program	50	76%	72%	82%
Thom Mystic Valley Early Intervention Program	191	86%	81%	93%
Thom Neponset Valley Early Intervention Program	21	57%	57%	67%
Thom Pentucket Area Early Intervention Program	137	82%	78%	91%
Thom Springfield Infant Toddler Services	117	86%	83%	94%
Thom Westfield Infant Toddler Services	63	87%	83%	95%
Thom Worcester Area Early Intervention Program	27	96%	89%	100%

## SECTION 5

### Measurement Framework

The measurement approach used by NCSEAM, known as the Rasch framework, applies a series of parametric models to estimate the properties of each survey item and each respondent in a way that places individuals and items on a common metric (Bond & Fox, 2001; Fischer & Molenaar, 1995; Rasch, 1960; Wright & Masters, 1982). The Rasch approach offers many advantages over typical approaches to survey development. First, it is possible to test whether the items administered belong together, that is, whether they are all related to the construct that the scale is supposed to measure. Ongoing confirmation of the fit of the items helps to maintain the quality of the measurement system. It is also possible to test whether the response categories are operating in the expected fashion. Often, the way in which respondents use the response categories does not correspond to the equidistant way in which they are laid out on paper. Extreme categories (e.g., “very strongly disagree”) are sometimes used so infrequently that it makes sense to combine them with an adjacent, less extreme, category (“very strongly disagree/strongly disagree”).

Second, it is possible to determine where each item is located on the measurement ruler. The item’s location is referred to as the item’s “calibration.” Typically, items in a test or survey are not all equal with respect to the amount of the attribute or quality that the items are measuring. It has been empirically demonstrated, in fact, that items in the IFS are not all of equal agreeability. Items range from those that are most likely to draw “agree” responses to those that are least likely to draw “agree” responses. Highly agreeable items have low calibrations; less agreeable items have higher calibrations. Table 11 displays the IFS items in calibration order.

Table 11. IFS Items in Calibration Order

Item #	Item Calibration	Item <i>Over the past year, Early Intervention services have helped me and/or my family:</i>
1	678	– participate in typical activities for children and families in my community.
2	656	– know about services in the community.
5	640	– know where to go for support to meet my family's needs.
4	609	– know where to go for support to meet my child's needs.
8	608	– help other children in my family (if there are other children) adjust to their brother's or sister's needs.
10	584	– be more effective in managing my child's behavior.
9	577	– make changes in family routines that will benefit my child with special needs.
12	565	– feel that I can get the services and supports that my child and family need.
16	562	– feel that my family will be accepted and welcomed in the community.
7	559	– feel more confident in my skills as a parent.
3	559	– figure out solutions to problems as they come up.
15	559	– feel that my child will be accepted and welcomed in the community.
17	556	– communicate more effectively with people who work with my child and family. [Indicator 4b]
13	553	– understand how the Early Intervention system works.
18	546	– understand the roles of the people who work with my child and family.
11	540	– do activities that are good for my child even in times of stress.
6	539	– get the services that my child and family need.
19	539	– know about my child's and family's rights concerning Early Intervention services. [Indicator 4a]
14	534	– be able to evaluate how much progress my child is making.
21	516	– understand my child's special needs. [Indicator 4c]
23	508	– be more hopeful about my child's future.
22	498	– feel that my efforts are helping my child.
20	498	– do things with and for my child that are good for my child's development.

The fact that items have highly stable calibrations (agreeability levels) regardless of the population that is asked to respond to the items is a very important attribute of well-constructed measurement scales. This stability means that items with similar calibrations are, for all intents and purposes, interchangeable. As an example, this is why the SAT is the “same” test each time it is administered, even though it contains different items each time. The score achieved on any particular version of the SAT is comparable to the score achieved on any other version. Thus, a state can change some of the items on the survey from year to year, and still have validly comparable IFS measures across successive years.

Third, a Rasch analysis condenses information from a person’s responses to all the items in a scale into a single number. That number is the person’s measure on the scale. Since the Rasch framework puts measures on the same metric as item calibrations, a person’s measure on a scale can be meaningfully interpreted in terms of the items on the scale. A person with a higher measure is expressing more agreement with items, overall, than a person with a lower measure. When IFS measures from a representative sample of parents are aggregated, the average value represents a reliable and highly interpretable measure of the extent to which Early Intervention services have helped the family know their rights, effectively communicate their children’s needs, and help their children develop and learn.

Fourth, a Rasch analysis yields an estimate of the reliability of both the calibration values (related to the items) and the measures (related to people’s responses). Scientific approaches to measurement require that the amount of “error,” or imprecision, in the system be estimated, so that interpretations based on the measures can take this into consideration.

For a more detailed explanation of these concepts, please refer to Bond and Fox (2001) and Wright and Masters (1982).



## SECTION 6

### Results Pertaining to the Psychometric Properties of the Impact On Families Scale (IFS)

#### 6.1. Psychometric Properties of the IFS Measures

In assessing the quality of the person-level measures derived from the IFS, it is germane to consider the issues of reliability and validity. The reliability of the obtained IFS measures pertains to the extent to which a particular individual is expected to attain the same IFS measure if the IFS were to be administered to the individual multiple times. That is, reliability concerns the stability of the IFS measure<sup>1</sup> (Crocker & Algina, 1986; Lord, 1980; Traub, 1994); low reliability coincides with a low level of stability, and high reliability coincides with a high level of stability. Reliability can range from 0 (lack of any stability) to 1 (perfect stability). In contrast to reliability, the validity of the IFS measures concerns the extent to which they are actually representative of the intended trait (i.e., level of impact on family).<sup>2</sup> The validity of the IFS measures can be assessed using numerous approaches, several of which are described below.

Statistics used to express measurement reliability range from 0 (indicating lack of any stability) to 1 (indicating perfect stability). The reliability of the IFS measures for the Massachusetts sample was measured in the Rasch framework to be .90. An alternative approach to estimating the reliability of the IFS measures is to employ Cronbach's alpha, which makes no assumptions about the fit of the responses to any particular model (Cronbach's alpha is based on the simpler true score model, and is commonly used in the behavioral sciences as a model-free index of reliability). The value of Cronbach's alpha was .99, which is consistent with the value of .90 obtained from the Rasch analysis. These results suggest that the measures obtained from the IFS serve as stable measures of the underlying trait.

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<sup>1</sup> A definition of reliability that is more theoretically accurate describes reliability as the extent to which a given respondent's measure is determined by random error versus his or her true level of the trait being measured; low reliability coincides with a high level of measurement error, and high reliability coincides with a high low level of measurement error (Crocker & Algina, 1986; Lord, 1980; Traub, 1994).

<sup>2</sup> This definition of validity is a simplification of the definition now endorsed by the technical measurement community. The contemporary definition of validity describes it as the extent to which evidence and theory support the interpretations of the scale measures entailed by the proposed use of the scale (AERA/APA/NCME, 1999; Osterlind, 2006). That is, the validity of the IFS measures is based on how much evidence we have that the measures support the intended purposes of the use of the measures (i.e., are the measures behaving as they are supposed to behave, and leading to the correct decisions about individuals).

Support for the validity of the measures obtained by the IFS comes from several lines of evidence. First, items for the IFS were developed in consultation with multiple groups of individuals, including parents of children with disabilities, state directors of special education, state early intervention coordinators, district and program personnel, advocates, attorneys, and community representatives, with direct and extensive experience related to early intervention programs' facilitation of positive family outcomes. A subsequent review of the items by expert panels, researchers, and NCSEAM's Parent/Family Involvement Workgroup confirmed that the item content maps onto the intended content domain of the IFS. Second, dimensionality analysis (i.e., principal components analysis and factor analysis) indicates that the items of the IFS are all measuring one primary construct, which is likely the intended one (i.e., positive family outcomes achieved as a result of Early Intervention services). A third line of evidence is related to a characteristic of items known as discrimination, discussed in Section 6.2. The high discrimination indices of the IFS items (see Table 12) indicate that the items provide useful information concerning the construct that is intended to be measured. All of these types of evidence support the claim that the measures obtained using the IFS are valid.

## 6.2. Psychometric Properties of the IFS Items

Table 12 gives the calibration of each item along with indices of the item's fit to the Rasch model. The column labeled "Item Calibration" provides the value of the location parameter of the item. The higher the value of the item calibration, the greater the overall positive impact of Early Intervention services on family outcomes. The "Infit" and "Outfit" columns provide two measures of how well the Rasch model fits the responses provided to each item. In general, values of 1.0 indicate a very good fit. Values approaching 2, or less than 0.5, suggest a poorer fit (Bond & Fox, 2001).

The rightmost column of the table presents an index of discrimination for each item, calculated as the corrected item-total correlation coefficient. The values in this column are all quite high ( $\geq 0.79$ ), indicating that each item discriminates well between respondents who had more positive versus more negative perceptions of early intervention programs' facilitation of positive family outcomes.

**Table 12. Calibration, Fit, and Discrimination of the IFS Items**

Item #	Item Calibration	Infit	Outfit	Discrimination
Q1	677.5	2.01	2.33	0.79
Q2	656.0	1.54	1.67	0.82
Q3	559.2	0.88	0.87	0.83
Q4	608.8	1.09	1.03	0.84
Q5	639.8	1.21	1.17	0.85
Q6	539.0	0.83	0.90	0.83
Q7	559.3	0.78	0.85	0.84
Q8	608.2	1.37	1.64	0.83
Q9	576.8	0.98	1.10	0.86
Q10	583.5	0.79	0.82	0.87
Q11	540.4	0.95	1.04	0.87
Q12	564.5	0.60	0.60	0.87
Q13	552.9	0.70	0.69	0.85
Q14	534.4	0.73	0.79	0.85
Q15	559.1	0.71	0.72	0.85
Q16	562.2	0.68	0.65	0.86
Q17	555.9	0.62	0.62	0.87
Q18	545.5	0.72	0.76	0.87
Q19	538.9	0.84	1.00	0.86
Q20	497.8	0.75	0.68	0.83
Q21	516.1	0.99	1.22	0.85
Q22	498.1	0.90	1.08	0.83
Q23	507.5	0.88	0.91	0.84

While items Q1 and Q2 (“Over the past year, Early Intervention services have helped me and/or my family participate in typical activities for children and families in my community.” and “Over the past year, Early Intervention services have helped me and/or my family know about services in the community.”) display less than ideal levels of fit, they nevertheless have relatively strong discrimination indices, which provide evidence that they are useful items. Therefore, these items appear to be measuring the intended construct relatively well, but are not a very good fit for the Rasch framework, which employs specific assumptions concerning the properties of the items. The poor fit of items #1 and #2 make them possible candidates for revision and/or replacement in future administrations of the SEPPS.



## SECTION 7

### Calibration Methodology for the IFS

The Rasch calibrations of the IFS were conducted using the Winsteps software program. All items were fit using the Rating Scale Model (Wright & Masters, 1982). The metric of the calibration was set by equating the items in relation to the calibrated values obtained by Dr. William Fisher, consultant to NCSEAM, for a large dataset of five states. The mean and logit scale of the current calibration were also set equal to those generated in the larger analysis on five states conducted by Dr. Fisher. These equating procedures were conducted so that the scale measures obtained in the current calibration have equivalent meanings to those of other states' data.

Based on the analysis of the current data and the results of Dr. Fisher's combined multi-state analysis, it was decided to combine the response categories "very strongly disagree" and "strongly disagree" into a single category. The rationale for combining the two categories was based on two factors: (a) low response rates (i.e., < 5%) in these two categories making their corresponding threshold parameter estimates relatively unstable, and (b) the two category threshold estimates were not far enough apart to indicate that the two categories served to meaningfully distinguish between individuals having substantially different levels of the trait being measured. As a result, the final analysis was based on a five-category response structure for each item. The control file used in the current analysis is given in Appendix D. Selected output related to the Rasch analysis of the IFS is given in Appendix E.



## SECTION 8

### Description of Weighted Proportions and Means

The obtained sample mean value of IFS may become a biased estimate of the true population mean if the sample used to compute the mean is not representative of the population as a whole with respect to key demographic variables. For example, if the distribution of race/ethnicity in the sample is not representative of that in the population as a whole, the resulting sample mean may not be representative of the overall population mean. As a result of this effect, it is often of interest to obtain a sample mean that weights the contribution of each relevant demographic group (e.g., racial/ethnic group, region) according to the weight attributed to that group in the population. Such a mean is called a weighted mean. To obtain a mean value of IFS measures that is weighted with respect to the race/ethnicity and primary exceptionality of the population, the following procedures are followed. First, the mean IFS measure for each combination of race/ethnicity category (i.e., White, Black/African-American, etc.) and region category (e.g., Boston, Central, etc.) is obtained for the sample. Then, the sample mean for each combination of race/ethnicity and region is multiplied by the proportion of the population classified as the particular combination of race/ethnicity and region categories (these proportions are referred to hereafter as the category-specific population proportions). Next, the category-level products (sample mean for the category multiplied by the corresponding category-specific population proportion) are summed. Finally, this sum is divided by the sum of the category-level population proportions for which data exists in the sample to yield the final weighted mean.

A similar procedure would be used to obtain a weighted percentage meeting the criteria associated with the standards for Indicator #4 (A, B, and C), with the exception that the sample mean for each race/ethnicity category would be replaced by the sample percentage meeting each of the three standards for each combination of race/ethnicity category and region category.

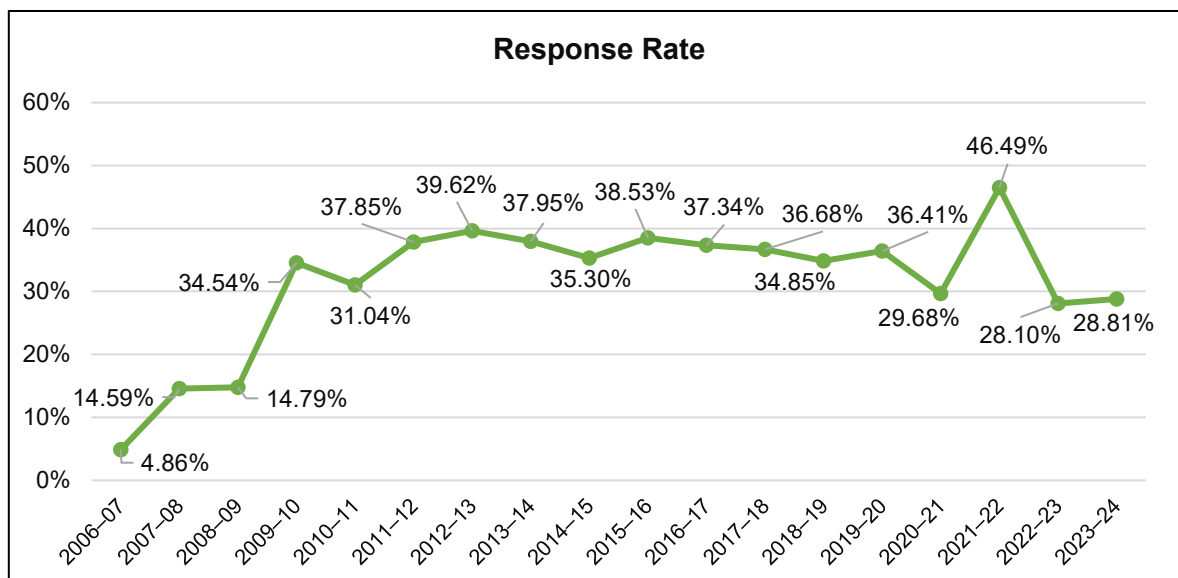
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## APPENDIX A: LONGITUDINAL FIGURES

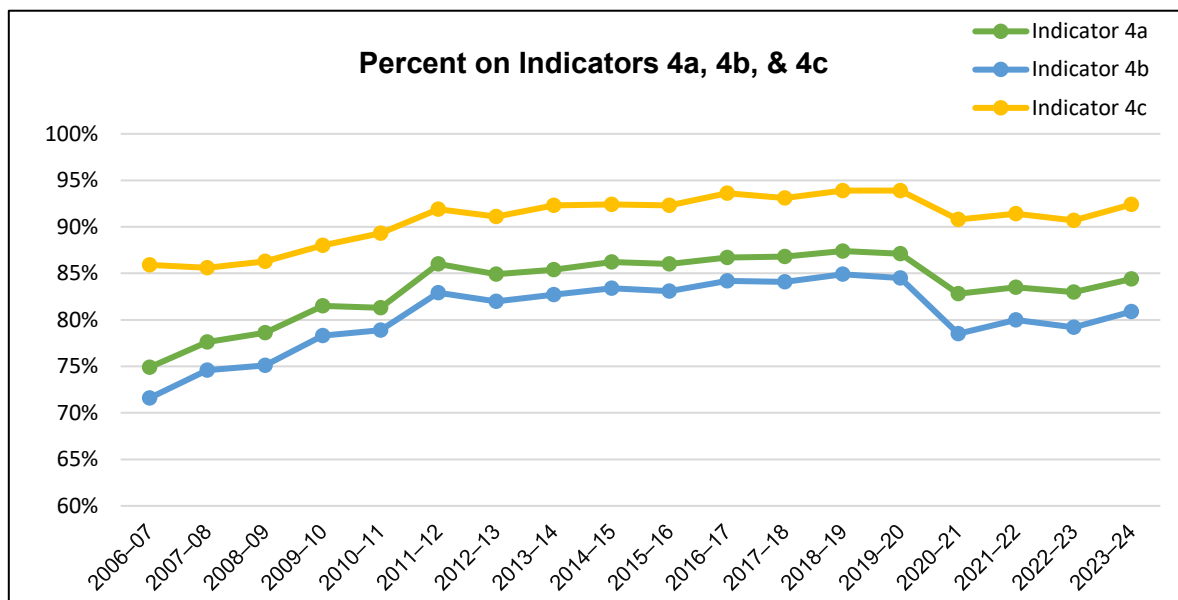
## Response Rates 2006–2024

Fiscal Year	Surveys Distributed	Surveys Completed	Response Rate
2006–07	13,675	665	4.86%
2007–08	15,350	2,239	14.59%
2008–09	15,350	2,270	14.79%
2009–10	11,057	3,819	34.54%
2010–11	8,943	2,776	31.04%
2011–12	9,114	3,450	37.85%
2012–13	9,664	3,829	39.62%
2013–14	10,514	3,990	37.95%
2014–15	11,133	3,930	35.30%
2015–16	12,328	4,750	38.53%
2016–17	12,180	4,548	37.34%
2017–18	12,161	4,461	36.68%
2018–19	13,542	4,719	34.85%
2019–20	3,337	1,215	36.41%
2020–21	8,283	2,458	29.68%
2021–22	6,074	2,804	46.49%
2022–23	13,872	3,898	28.10%
2023–24	15,031	4,331	28.81%



## Indicator 4 Percentages 2006–2024

Fiscal Year	Indicator 4a	Indicator 4b	Indicator 4c
2006–07	74.9%	71.6%	85.9%
2007–08	77.6%	74.6%	85.6%
2008–09	78.6%	75.1%	86.3%
2009–10	81.5%	78.3%	88.0%
2010–11	81.3%	78.9%	89.3%
2011–12	86.0%	82.9%	91.9%
2012–13	84.9%	82.0%	91.1%
2013–14	85.4%	82.7%	92.3%
2014–15	86.2%	83.4%	92.4%
2015–16	86.0%	83.1%	92.3%
2016–17	86.7%	84.2%	93.6%
2017–18	86.8%	84.1%	93.1%
2018–19	87.4%	84.9%	93.9%
2019–20	87.1%	84.5%	93.9%
2020–21	82.8%	78.5%	90.8%
2021–22	83.5%	80.0%	91.4%
2022–23	83.0%	79.2%	90.7%
2023–24	84.4%	80.9%	92.4%



## APPENDIX B: SAMPLE FAMILY SURVEY



### Family Survey - Early Intervention

This is a survey for families receiving Early Intervention services. Your responses will help guide efforts to improve services and outcomes for children and families. For each statement below, please select one of the following response choices: very strongly disagree, strongly disagree, disagree, agree, strongly agree, very strongly agree. In responding to each statement, think about your experience and your family's experience with Early Intervention services over the past year. You may skip any item that you feel does not apply to your family.

Use pencil only.



Fill in circle completely:  
Incorrect:



#### Impact of Early Intervention Services on Your Family

Over the past year, Early Intervention services have helped me and/or my family:

	Very Strongly Disagree	Strongly Disagree	Disagree	Agree	Strongly Agree	Very Strongly Agree
1. - participate in typical activities for children and families in my community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. - know about services in the community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. - figure out solutions to problems as they come up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. - know where to go for support to meet my child's needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. - know where to go for support to meet my family's needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. - get the services that my child and family need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. - feel more confident in my skills as a parent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. - help other children in my family (if there are other children) adjust to their brother's or sister's needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. - make changes in family routines that will benefit my child with special needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. - be more effective in managing my child's behavior.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. - do activities that are good for my child even in times of stress.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. - feel that I can get the services and supports that my child and family need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. - understand how the Early Intervention system works.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. - be able to evaluate how much progress my child is making.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. - feel that my child will be accepted and welcomed in the community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. - feel that my family will be accepted and welcomed in the community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. - communicate more effectively with the people who work with my child and family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. - understand the roles of the people who work with my child and family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. - know about my child's and family's rights concerning Early Intervention services.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. - do things with and for my child that are good for my child's development.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Page 1 of 2

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National Center for Special Education  
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23011



34

## APPENDIX C: RESPONSE FREQUENCIES BY ITEM

**Q1 - Over the past year, Early Intervention services have helped me and/or my family participate in typical activities for children and families in my community.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	93	2.1	2.2	2.2
	Strongly Disagree	44	1.0	1.0	3.2
	Disagree	208	4.8	4.9	8.1
	Agree	1333	30.8	31.3	39.5
	Strongly Agree	865	20.0	20.3	59.8
	Very Strongly Agree	1709	39.5	40.2	100.0
	Total	4252	98.2	100.0	
Missing	System	79	1.8		
Total		4331	100.0		

**Q2 - Over the past year, Early Intervention services have helped me and/or my family know about services in the community.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	87	2.0	2.0	2.0
	Strongly Disagree	48	1.1	1.1	3.2
	Disagree	181	4.2	4.2	7.4
	Agree	1334	30.8	31.2	38.6
	Strongly Agree	912	21.1	21.3	59.9
	Very Strongly Agree	1716	39.6	40.1	100.0
	Total	4278	98.8	100.0	
Missing	System	53	1.2		
Total		4331	100.0		

**Q3 - Over the past year, Early Intervention services have helped me and/or my family figure out solutions to problems as they come up.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	75	1.7	1.7	1.7
	Strongly Disagree	18	.4	.4	2.2
	Disagree	51	1.2	1.2	3.3
	Agree	886	20.5	20.6	23.9
	Strongly Agree	1051	24.3	24.4	48.3
	Very Strongly Agree	2226	51.4	51.7	100.0
	Total	4307	99.4	100.0	
Missing	System	24	.6		
Total		4331	100.0		

**Q4 - Over the past year, Early Intervention services have helped me and/or my family know where to go for support to meet my child's needs.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	81	1.9	1.9	1.9
	Strongly Disagree	23	.5	.5	2.4
	Disagree	72	1.7	1.7	4.1
	Agree	976	22.5	22.7	26.8
	Strongly Agree	969	22.4	22.6	49.4
	Very Strongly Agree	2173	50.2	50.6	100.0
	Total	4294	99.1	100.0	
Missing	System	37	.9		
Total		4331	100.0		

**Q5 - Over the past year, Early Intervention services have helped me and/or my family know where to go for support to meet my family's needs.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	83	1.9	2.0	2.0
	Strongly Disagree	23	.5	.5	2.5
	Disagree	117	2.7	2.7	5.2
	Agree	1166	26.9	27.4	32.6
	Strongly Agree	894	20.6	21.0	53.7
	Very Strongly Agree	1972	45.5	46.3	100.0
	Total	4255	98.2	100.0	
Missing	System	76	1.8		
Total		4331	100.0		

**Q6 - Over the past year, Early Intervention services have helped me and/or my family get the services that my child and family need.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	82	1.9	1.9	1.9
	Strongly Disagree	26	.6	.6	2.5
	Disagree	49	1.1	1.1	3.7
	Agree	863	19.9	20.1	23.7
	Strongly Agree	962	22.2	22.4	46.1
	Very Strongly Agree	2319	53.5	53.9	100.0
	Total	4301	99.3	100.0	
Missing	System	30	.7		
Total		4331	100.0		

**Q7 - Over the past year, Early Intervention services have helped me and/or my family feel more confident in my skills as a parent.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	82	1.9	1.9	1.9
	Strongly Disagree	22	.5	.5	2.4
	Disagree	54	1.2	1.3	3.7
	Agree	937	21.6	21.8	25.5
	Strongly Agree	1024	23.6	23.8	49.3
	Very Strongly Agree	2175	50.2	50.7	100.0
	Total	4294	99.1	100.0	
Missing	System	37	.9		
Total		4331	100.0		

**Q8 - Over the past year, Early Intervention services have helped me and/or my family help other children in my family (if there are other children) adjust to their brother's or sister's needs.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	79	1.8	2.1	2.1
	Strongly Disagree	22	.5	.6	2.6
	Disagree	190	4.4	5.0	7.6
	Agree	1274	29.4	33.2	40.8
	Strongly Agree	694	16.0	18.1	58.9
	Very Strongly Agree	1575	36.4	41.1	100.0
	Total	3834	88.5	100.0	
Missing	System	497	11.5		
Total		4331	100.0		

**Q9 - Over the past year, Early Intervention services have helped me and/or my family make changes in family routines that will benefit my child with special needs.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	74	1.7	1.8	1.8
	Strongly Disagree	21	.5	.5	2.3
	Disagree	131	3.0	3.2	5.5
	Agree	1196	27.6	29.1	34.6
	Strongly Agree	894	20.6	21.8	56.4
	Very Strongly Agree	1791	41.4	43.6	100.0
	Total	4107	94.8	100.0	
Missing	System	224	5.2		
Total		4331	100.0		

**Q10 - Over the past year, Early Intervention services have helped me and/or my family be more effective in managing my child's behavior.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	71	1.6	1.7	1.7
	Strongly Disagree	23	.5	.5	2.2
	Disagree	98	2.3	2.3	4.5
	Agree	1197	27.6	28.4	32.9
	Strongly Agree	971	22.4	23.0	55.9
	Very Strongly Agree	1860	42.9	44.1	100.0
	Total	4220	97.4	100.0	
Missing	System	111	2.6		
Total		4331	100.0		

**Q11 - Over the past year, Early Intervention services have helped me and/or my family do activities that are good for my child even in times of stress.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	76	1.8	1.8	1.8
	Strongly Disagree	28	.6	.7	2.5
	Disagree	74	1.7	1.7	4.2
	Agree	1112	25.7	26.2	30.4
	Strongly Agree	948	21.9	22.4	52.8
	Very Strongly Agree	2002	46.2	47.2	100.0
	Total	4240	97.9	100.0	
Missing	System	91	2.1		
Total		4331	100.0		

**Q12 - Over the past year, Early Intervention services have helped me and/or my family feel that I can get the services and supports that my child and family need.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	81	1.9	1.9	1.9
	Strongly Disagree	21	.5	.5	2.4
	Disagree	68	1.6	1.6	3.9
	Agree	1025	23.7	23.8	27.7
	Strongly Agree	974	22.5	22.6	50.4
	Very Strongly Agree	2138	49.4	49.6	100.0
	Total	4307	99.4	100.0	
Missing	System	24	.6		
Total		4331	100.0		

**Q13 - Over the past year, Early Intervention services have helped me and/or my family understand how the Early Intervention system works.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	77	1.8	1.8	1.8
	Strongly Disagree	14	.3	.3	2.1
	Disagree	49	1.1	1.1	3.2
	Agree	994	23.0	23.1	26.3
	Strongly Agree	976	22.5	22.7	49.0
	Very Strongly Agree	2198	50.8	51.0	100.0
	Total	4308	99.5	100.0	
Missing	System	23	.5		
Total		4331	100.0		

**Q14 - Over the past year, Early Intervention services have helped me and/or my family be able to evaluate how much progress my child is making.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	76	1.8	1.8	1.8
	Strongly Disagree	23	.5	.5	2.3
	Disagree	56	1.3	1.3	3.6
	Agree	897	20.7	20.8	24.4
	Strongly Agree	1007	23.3	23.4	47.8
	Very Strongly Agree	2251	52.0	52.2	100.0
	Total	4310	99.5	100.0	
Missing	System	21	.5		
Total		4331	100.0		

**Q15 - Over the past year, Early Intervention services have helped me and/or my family feel that my child will be accepted and welcomed in the community.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	73	1.7	1.7	1.7
	Strongly Disagree	17	.4	.4	2.1
	Disagree	36	.8	.8	3.0
	Agree	1013	23.4	23.9	26.8
	Strongly Agree	888	20.5	20.9	47.7
	Very Strongly Agree	2219	51.2	52.3	100.0
	Total	4246	98.0	100.0	
Missing	System	85	2.0		
Total		4331	100.0		

**Q16 - Over the past year, Early Intervention services have helped me and/or my family feel that my family will be accepted and welcomed in the community.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	74	1.7	1.7	1.7
	Strongly Disagree	14	.3	.3	2.1
	Disagree	45	1.0	1.1	3.1
	Agree	1073	24.8	25.4	28.5
	Strongly Agree	884	20.4	20.9	49.4
	Very Strongly Agree	2141	49.4	50.6	100.0
	Total	4231	97.7	100.0	
Missing	System	100	2.3		
Total		4331	100.0		

**Q17 - Over the past year, Early Intervention services have helped me and/or my family communicate more effectively with people who work with my child and family.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	80	1.8	1.9	1.9
	Strongly Disagree	22	.5	.5	2.4
	Disagree	64	1.5	1.5	3.9
	Agree	1034	23.9	24.4	28.3
	Strongly Agree	926	21.4	21.8	50.1
	Very Strongly Agree	2117	48.9	49.9	100.0
	Total	4243	98.0	100.0	
Missing	System	88	2.0		
Total		4331	100.0		

**Q18 - Over the past year, Early Intervention services have helped me and/or my family understand the roles of the people who work with my child and family.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	78	1.8	1.8	1.8
	Strongly Disagree	24	.6	.6	2.4
	Disagree	49	1.1	1.1	3.5
	Agree	1112	25.7	26.0	29.5
	Strongly Agree	973	22.5	22.8	52.3
	Very Strongly Agree	2040	47.1	47.7	100.0
	Total	4276	98.7	100.0	
Missing	System	55	1.3		
Total		4331	100.0		

**Q19 - Over the past year, Early Intervention services have helped me and/or my family know about my child's and family's rights concerning Early Intervention services.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	80	1.8	1.9	1.9
	Strongly Disagree	14	.3	.3	2.2
	Disagree	53	1.2	1.2	3.4
	Agree	1091	25.2	25.4	28.8
	Strongly Agree	926	21.4	21.5	50.4
	Very Strongly Agree	2133	49.2	49.6	100.0
	Total	4297	99.2	100.0	
Missing	System	34	.8		
Total		4331	100.0		

**Q20 - Over the past year, Early Intervention services have helped me and/or my family do things with and for my child that are good for my child's development.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	73	1.7	1.7	1.7
	Strongly Disagree	16	.4	.4	2.1
	Disagree	24	.6	.6	2.6
	Agree	779	18.0	18.1	20.7
	Strongly Agree	918	21.2	21.3	42.0
	Very Strongly Agree	2504	57.8	58.0	100.0
	Total	4314	99.6	100.0	
Missing	System	17	.4		
Total		4331	100.0		

**Q21 - Over the past year, Early Intervention services have helped me and/or my family understand my child's special needs.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	75	1.7	1.8	1.8
	Strongly Disagree	16	.4	.4	2.2
	Disagree	52	1.2	1.2	3.4
	Agree	965	22.3	22.9	26.3
	Strongly Agree	904	20.9	21.5	47.8
	Very Strongly Agree	2197	50.7	52.2	100.0
	Total	4209	97.2	100.0	
Missing	System	122	2.8		
Total		4331	100.0		

**Q22 - Over the past year, Early Intervention services have helped me and/or my family feel that my efforts are helping my child.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	75	1.7	1.7	1.7
	Strongly Disagree	15	.3	.3	2.1
	Disagree	24	.6	.6	2.6
	Agree	833	19.2	19.4	22.0
	Strongly Agree	976	22.5	22.7	44.7
	Very Strongly Agree	2380	55.0	55.3	100.0
	Total	4303	99.4	100.0	
Missing	System	28	.6		
Total		4331	100.0		

**Q23 - Over the past year, Early Intervention services have helped me and/or my family be more hopeful about my child's future.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	76	1.8	1.8	1.8
	Strongly Disagree	11	.3	.3	2.0
	Disagree	45	1.0	1.1	3.1
	Agree	867	20.0	20.3	23.4
	Strongly Agree	916	21.1	21.5	44.8
	Very Strongly Agree	2355	54.4	55.2	100.0
	Total	4270	98.6	100.0	
Missing	System	61	1.4		
Total		4331	100.0		

**Q24 - Child's Age at Time of Survey Completion**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Birth to 1 Yr.	404	9.3	9.4	9.4
	1-2 Yrs.	1396	32.2	32.3	41.7
	2-3 Yrs.	2431	56.1	56.3	98.0
	Over 3 Yrs.	86	2.0	2.0	100.0
	Unknown	14	0.3	--	--
	Total	4331	100.0	100.0	

**Q25 - Child's Age When First Referred to Early Intervention**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Birth to 1 Yr.	2192	50.6	51.0	51.0
	1-2 Yrs.	1863	43.0	43.4	94.4
	2-3 Yrs.	240	5.5	5.6	100.0
	Unknown	36	0.8	--	--
	Total	4331	100.0	100.0	

**Q28 - Do you think your race, skin color, ethnicity or language you speak affect the Early Intervention services you and your child receive?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	86	2.0	2.0	2.0
	No	4219	97.4	98.0	100.0
	Unknown	26	.6	--	--
	Total	4331	100.0	100.0	

## APPENDIX D: WINSTEPS CONTROL FILE

```

&INST ; THIS FILE MUST BE SAVED AS ASCII DOS TEXT BEFORE USE WITH WINSTEPS
Title="MA Impact on Families Scale: June 2024, parameters fixed to 2010 values"
ITEM1=2
DELIMITER=TAB ; specifies a tab as a delimiter
;FITI=7
;FITP=7
ITLEN=15 ;max length of item label
LCONV=0.0001
RCONV=0.001
RESCOR=2
NEWSCR="112345"
DATA=C:\Massachusetts\2024C\MA_C_2024_Data.txt; Name of data file
NI=23
XWIDE = 1
CODES = "123456"
IAFILE=*
1 677.5
2 656.0
3 559.2 ;fixed to 2010 value
4 608.8
5 639.8
6 539.0
7 559.3
8 608.2 ;fixed to 2010 value
9 576.8
10 583.5
11 540.4
12 564.5
13 552.9
14 534.4
15 559.1
16 562.2
17 555.9
18 545.5
19 538.9
20 497.8
21 516.1
22 498.1
23 507.5 ;fixed to 2010 value
*
SAFILE=*
2 = -220.93
3 = -147.88
4 = 55.95
5 = 128.99
*
NAME1 = 1; Column containing person name
NAMLEN = 15; Length of person name
PRCOMP=S
UDECIM=2
UMEAN=568.3
USCALE=58.91
CSV=S
HLINES=N
IFILE=ItemStats.sav ;Name of file containing item-level statistics
PFILE=PersonStats.sav ;Name of file containing person-level statistics
REALSE=Y
TABLES=1110000001001100000000100011
&END
Q1
Q2
Q3

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Q19  
Q20  
Q21  
Q22  
Q23  
END NAMES

APPENDIX E: SELECTED WINSTEPS OUTPUT

TABLE 1.2 MA Impact on Families Scale: June 2024 ZOU761WS.TXTf June 11 2024 9:21s  
INPUT: 4331 PERSON 23 ITEM REPORTED: 4331 PERSON 23 ITEM 5 CATS WINSTEPS 4.4.7

MEASURE	PERSON	MAP	ITEM
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	.#	M	Q12 Q15 Q16 Q3 Q7
	.#		Q13 Q17 Q18
	.#	S	Q11 Q14 Q19 Q6
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EACH "#" IS 87: EACH "." IS 1 TO 86			

TABLE 3.1 MA Impact on Families Scale: June 2024 ZOU761WS.TXTf June 11 2024 9:21s  
 INPUT: 4331 PERSON 23 ITEM REPORTED: 4331 PERSON 23 ITEM 5 CATS WINSTEPS 4.4.7

SUMMARY OF 3246 MEASURED (NON-EXTREME) PERSON								
	TOTAL SCORE	COUNT	MEASURE	REAL S.E.	INFIT		OUTFIT	
					MNSQ	ZSTD	MNSQ	ZSTD
MEAN	88.5	22.5	660.21	26.28	.99	-.35	.99	-.35
SEM	.3	.0	2.09	.20	.01	.04	.01	.03
P.SD	18.2	1.7	118.95	11.51	.67	2.02	.82	1.94
S.SD	18.2	1.7	118.97	11.51	.67	2.02	.82	1.94
MAX.	114.0	23.0	897.30	87.11	7.38	9.79	9.90	9.91
MIN.	6.0	2.0	188.03	17.70	.00	-5.99	.00	-5.54
REAL RMSE	28.69	TRUE SD	115.44	SEPARATION	4.02	PERSON RELIABILITY	.94	
MODEL RMSE	25.86	TRUE SD	116.11	SEPARATION	4.49	PERSON RELIABILITY	.95	
S.E. OF PERSON MEAN = 2.09								

MAXIMUM EXTREME SCORE: 1015 PERSON 23.4%  
 MINIMUM EXTREME SCORE: 70 PERSON 1.6%

SUMMARY OF 4331 MEASURED (EXTREME AND NON-EXTREME) PERSON								
	TOTAL SCORE	COUNT	MEASURE	REAL S.E.	INFIT		OUTFIT	
					MNSQ	ZSTD	MNSQ	ZSTD
MEAN	93.4	22.6	723.18	46.80				
SEM	.3	.0	2.82	.56				
P.SD	21.3	1.6	185.74	36.86				
S.SD	21.3	1.6	185.76	36.87				
MAX.	115.0	23.0	969.87	115.46				
MIN.	1.0	1.0	73.62	17.70				
REAL RMSE	59.58	TRUE SD	175.92	SEPARATION	2.95	PERSON RELIABILITY	.90	
MODEL RMSE	58.60	TRUE SD	176.25	SEPARATION	3.01	PERSON RELIABILITY	.90	
S.E. OF PERSON MEAN = 2.82								

PERSON RAW SCORE-TO-MEASURE CORRELATION = .93  
 CRONBACH ALPHA (KR-20) PERSON RAW SCORE "TEST" RELIABILITY = .99 SEM = 1.82

SUMMARY OF 23 MEASURED (NON-EXTREME) ITEM								
	TOTAL SCORE	COUNT	MEASURE	REAL S.E.	INFIT		OUTFIT	
					MNSQ	ZSTD	MNSQ	ZSTD
MEAN	17587.8	4247.7	564.41	1.85	.94	-3.68	1.01	-1.55
SEM	169.6	21.2	9.85	.03	.07	1.49	.08	1.33
P.SD	795.6	99.4	46.20	.13	.32	7.01	.40	6.25
S.SD	813.5	101.7	47.24	.14	.33	7.16	.40	6.39
MAX.	18666.0	4314.0	677.50	2.32	2.01	9.90	2.33	9.90
MIN.	14954.0	3834.0	497.80	1.75	.60	-9.90	.60	-9.90
REAL RMSE	1.86	TRUE SD	46.16	SEPARATION	24.85	ITEM RELIABILITY	1.00	
MODEL RMSE	1.78	TRUE SD	46.17	SEPARATION	25.89	ITEM RELIABILITY	1.00	
S.E. OF ITEM MEAN = 9.85								

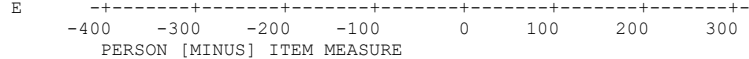
ITEM RAW SCORE-TO-MEASURE CORRELATION = -.66  
 Global statistics: please see Table 44.  
 UMEAN=568.3000 USCALE=58.9100

CATEGORY		OBSERVED	OBSVD	SAMPLE	INFIT	OUTFIT	ANDRICH	CATEGORY	
LABEL	SCORE	COUNT	%	AVRGE	EXPECT	MNSQ	MNSQ	THRESHOLD	MEASURE
1	1	2306	21	199.8	-243	1.37	1.44	NONE	(-295.89)
2	2	1790	21	88.98	-160	1.08	1.14	-220.93A	-185.38
3	3	23957	25	-3.23	2.50	.99	1.21	-147.88A	-45.97
4	4	21452	22	96.24	84.21	.89	.80	55.95A	93.44
5	5	48191	49	215.83	227.0	1.00	1.08	128.99A	(203.95)
MISSING		1917	2	62.65					

CATEGORY	STRUCTURE		SCORE-TO-MEASURE			50% CUM.			COHERENCE		ESTIM	OBSERVED-EXPECTED	
LABEL	MEASURE	S.E.	AT CAT.	----ZONE----	PROBABLY	M->C	C->M	RMSR	DISCR	RESIDUAL	DIFFERENCE		
1	NONE		-295.89	-INF	-247.18								
2	-220.93A	2.60	-185.38	-247.18	-127.29	-233.39	27%	29%	.9447	.92	-15.4%	-115.4	
3	-147.88A	1.14	-45.97	-127.29	35.36	-137.31	75%	69%	.5858	1.21	7.0%	1666.4	
4	55.95A	.65	93.44	35.36	155.24	45.39	55%	64%	.5127	.94	10.6%	2277.3	
5	128.99A	.65	(203.95)	155.24	+INF	141.46	81%	76%	.5397	.99	-8.4%	-2112.2	

C->M = Does Category imply Measure?

Category Matrix : Confusion Matrix : Matching Matrix						
Predicted Score-Category Frequency						
Obs Cat Freq	1	2	3	4	5	Total
1	1875.54	195.74	179.47	38.46	16.80	2306.00
2	176.41	450.07	922.93	187.80	52.79	1790.00
3	328.81	2374.37	13450.33	5768.67	2034.81	23957.00
4	31.97	403.17	6028.02	8002.23	6986.61	21452.00
5	8.72	82.78	1709.82	5177.50	41212.17	48191.00
Total	2421.45	3506.13	22290.57	19174.66	50303.19	97696.00



# 2023–24 Family Survey Part C Indicator #4 Results

TABLE 10.1 MA Impact on Families Scale: June 2024 ZOU761WS.TXT June 11 2024 9:21es  
 INPUT: 4331 PERSON 23 ITEM REPORTED: 4331 PERSON 23 ITEM 5 CATS WINSTEPS 4.4.7

PERSON: REAL SEP.: 2.95 REL.: .90 ... ITEM: REAL SEP.: 24.85 REL.: 1.00

ITEM STATISTICS: MISFIT ORDER

ENTRY	TOTAL	TOTAL	REAL	INFIT	OUTFIT	PTMEASUR-AL	EXACT	MATCH							
NUMBER	SCORE	COUNT	MEASURE	S.E.	MNSQ	ZSTD	MNSQ	ZSTD	CORR.	EXP.	OBS%	EXP%	DISPLACE	ITEM	
1	16557	4252	677.50A	2.32	2.01	9.90	2.33	9.90	A .79	.88	38.4	57.6	-57.73	Q1	
2	16727	4278	656.00A	2.05	1.54	9.90	1.67	9.90	B .82	.87	44.3	57.9	-40.66	Q2	
8	14954	3834	608.20A	2.13	1.37	9.90	1.64	9.90	C .83	.86	61.3	61.0	14.25	Q8	
21	17691	4209	516.10A	1.87	.99	-4.41	1.22	4.09	D .85	.79	71.4	65.8	36.57	Q21	
5	17274	4255	639.80A	1.84	1.21	7.51	1.17	5.40	E .85	.87	56.7	59.4	-57.28	Q5	
9	16476	4107	576.80A	1.79	.98	-7.77	1.10	2.71	F .86	.84	68.4	62.8	20.26	Q9	
4	17917	4294	608.80A	1.78	1.09	3.46	1.03	.83	G .84	.86	62.3	60.9	-53.49	Q4	
22	18441	4303	498.10A	1.90	.90	-3.55	1.08	1.44	H .83	.77	69.3	66.9	34.26	Q22	
11	17390	4240	540.40A	1.81	.95	-1.82	1.04	1.00	I .87	.81	70.8	64.7	35.75	Q11	
19	17842	4297	538.90A	1.80	.84	-6.14	1.00	.02	J .86	.81	73.2	64.8	24.70	Q19	
23	18217	4270	507.50A	1.88	.88	-4.69	.91	-1.70	K .84	.78	73.2	66.3	29.77	Q23	
6	18238	4301	539.00A	1.80	.83	-6.58	.90	-2.40	L .83	.81	72.4	64.7	3.48	Q6	
3	18187	4307	559.20A	1.76	.88	-4.63	.87	-3.39	k .83	.82	68.0	63.9	-13.41	Q3	
7	17994	4294	559.30A	1.77	.78	-8.87	.85	-4.06	j .84	.82	71.2	63.8	-5.44	Q7	
10	17065	4220	583.50A	1.75	.79	-8.58	.82	-5.43	i .87	.84	71.2	62.5	4.85	Q10	
14	18185	4310	534.40A	1.81	.73	-9.90	.79	-5.09	h .85	.80	75.6	65.0	13.10	Q14	
18	17628	4276	545.50A	1.79	.72	-9.90	.76	-6.27	g .87	.81	75.8	64.5	24.47	Q18	
20	18666	4314	497.80A	1.89	.75	-9.90	.68	-6.17	f .83	.77	72.8	66.8	24.36	Q20	
15	17848	4246	559.10A	1.78	.71	-9.90	.72	-8.08	e .85	.82	75.3	63.9	-7.20	Q15	
13	18065	4308	552.90A	1.77	.70	-9.90	.69	-8.59	d .85	.82	75.2	64.2	.10	Q13	
16	17638	4231	562.20A	1.78	.68	-9.90	.65	-9.90	c .86	.83	76.1	63.5	-1.41	Q16	
17	17621	4243	555.90A	1.79	.62	-9.90	.62	-9.90	b .87	.82	77.9	63.9	7.43	Q17	
12	17899	4307	564.50A	1.76	.60	-9.90	.60	-9.90	a .87	.83	76.7	63.5	-3.16	Q12	
MEAN	17587.8	4247.7	564.41	1.85	.94	-3.7	1.01	-1.6			68.6	63.4	1.46		
P.SD	795.6	99.4	46.20	.13	.32	7.0	.40	6.2			9.9	2.5	28.52		

**APPENDIX F: FFY 2023 SPP/APR DATA**

<b>FFY 2023 SPP/APR Data</b>	<b>Number</b>
The number of families to whom surveys were distributed	15,031
Number of respondent families participating in Part C	4,331
A1. Number of respondent families participating in Part C who report that early intervention services have helped the family know their rights	3,657
A2. Number of responses to the question of whether early intervention services have helped the family know their rights	4,331
B1. Number of respondent families participating in Part C who report that early intervention services have helped the family effectively communicate their children's needs	3,502
B2. Number of responses to the question of whether early intervention services have helped the family effectively communicate their children's needs	4,331
C1. Number of respondent families participating in Part C who report that early intervention services have helped the family help their children develop and learn	4,000
C2. Number of responses to the question of whether early intervention services have helped the family help their children develop and learn	4,331

Data analysis conducted by Randall D. Penfield, Ph.D.  
Report generated by Piedra Data Services.

For questions regarding this report, please contact Piedra Data Services at  
305-254-9986.