Indicator 11: State Systemic Improvement Plan

Baseline Data

FFY	2008 - 2013
Of those families who responded to the NYS Family Survey from FFY 2008–FFY 2013, the percent who met the State standard of >=576.	65.09% (4,245/6522)

FFY 2014-2018 Targets

FFY	2014	2015	2016	2017	2018
Of those families who responded to the NYS Family Survey in each FFY, the percent who met the State standard of >=576.	65.09%	65.09%	66.50% (+.41%)	66.00% (+.50%)	66.50% (+.50)

Description of Measure

Percent = # of respondent families participating in Part C who meet the State's standard (person mean >= 576) on the New York Impact on Family Scale (NYIFS) divided by the number of respondent Part C families times 100. The State standard, described in further detail below, represents the minimum positive impact of Early Intervention Program services on family outcomes considered acceptable for accountability purposes.

State Standard: The State standard is defined as a measure >=576 on the NYIFS. The location of the standard is illustrated in Table 17 in the State-identified Measurable Result (SIMR) for Infants and Toddlers with Disabilities and their Families section of the State Systemic Improvement Plan (SSIP).

Families with measures that meet the standard have a very high likelihood of agreement with all the NYIFS items having a location on the scale that is lower than, or equal to, the location of the item, "*Early intervention services have helped my family use services to address my child's health needs.*"

Calculation of Baseline Data: Baseline data for the State-identified Measurable Result (SIMR) were calculated using data from all years of administration of the NYIFS to provide a baseline with the highest degree of accuracy and stability for the mean statewide measure. Use of all available years of data also ensures adequate representation of all fifty-eight local programs, which are over-sampled periodically in accordance with an OSEP-approved sampling methodology for collection of family outcome data.

Data Collection Methods: Data for the State-identified Measurable Result (SIMR) will be collected through annual administration of the NYIFS as part of the New York State Family Survey (see Appendix 1). The NYIFS us a modified version of the Impact (of Early Intervention Services) on the Family Scale (IFS) developed by the National Center for Special Education Accountability Monitoring (NCSEAM). The NCSEAM IFS was developed with funding from the U.S. Department of Education to measure the three Indicator 4 family outcomes reported annually to the Office of Special Education Programs. The NCSEAM IFS has established and rigorous psychometric properties that yield valid and reliable measures of the three OSEP-identified family outcomes (Fisher, Elbaum, & Coulter, 2012). The items in the NCSEAM Family Survey are written in a manner that makes them easily understandable to parents.

Built on the robust measurement framework of the NCSEAM IFS, the NYIFS includes items generated by stakeholders, including families, providers, local and state officials, and national experts, through two separate concept-mapping projects. The first of these projects was completed as part of the OSEP-funded General Supervision Enhancement Grant (GSEG) awarded to the Department in 2004. The second concept mapping project was completed as part of a recently-completed research grant awarded to the Department by the U.S. Department of Health and Human Services, Health Services and Resources Administration, Bureau of Maternal and Child Health, to evaluate the impact of Early Intervention Program participation on children with autism spectrum disorders and other disabilities and their families.

In accordance with the recommendation made by NCSEAM, data collected from families on the NYIFS were analyzed using the Rasch measurement framework (Bond & Fox, 2001; Wright & Masters, 1982; Wright & Mok, 2000). In the Rasch framework, a series of parametric models is used to estimate the properties of each survey or test item and each respondent in such a way as to locate individuals and items on a common metric (Bond & Fox, 2001; Fischer & Molenaar, 1995; Rasch, 1960; Wright & Masters, 1982). When the data meet the requirements for good measurement – adequate item fit, high reliability, and unidimensionality – then all the information available from an individual's responses to the items is meaningfully captured in a single numerical value representing the person's measure on the scale. The NYIFS was found to have excellent measurement properties for its intended use.

Targets: Description of Stakeholder Input

The Department has collaborated closely with stakeholders in the development and implementation of a child and family outcomes measurement system for more than a decade. Under the auspices of the aforementioned GSEG, a core advisory group, comprised of families, providers, and public officials, was established to assist the Department in project implementation (see Appendix 2). This collaborative process yielded an outcomes framework and strong foundation on which to construct an outcomes measurement system for the NYSEIP, including development of the New York State Family Survey.

During Phase I of this project, Department staff collaborated with families, NYSEIP providers, local and state government NYSEIP staff to identify child and family outcomes important to New York State stakeholders using concept mapping methodology. Concept mapping is a participatory, mixed-methods approach which integrates qualitative group processes with multivariate statistical analyses to help a group describe its ideas on any topic of interest and represent those ideas visually through a series of related maps (Kane & Trochim, 2007). Concept mapping was used to collaborate with stakeholders to: *brainstorm* child and family outcomes that result from early intervention services; *rate* identified outcomes on the

dimensions of importance and potential impact of early intervention services; and *categorize* outcomes into like ideas.
Two focus prompts were developed to which stakeholders were asked to respond: "*As a result of early intervention services, children will…"* and *"As a result of early intervention services, families will…"*

The CSGlobal project website was used with 245 stakeholders from across the state (municipalities, NYSEIP providers, and families/parents of children in the NYSEIP), who were recruited with the assistance of the core advisory group, to brainstorm child and family outcomes and later rate these outcomes on the dimensions of importance (i.e., how important the outcome is to achieve through the delivery of early intervention services) and impact (i.e., the likelihood that participating in early intervention services would help the child and family to achieve desired outcomes). Stakeholder participants generated 2091 child and family outcome statements in response to the focus prompts posted on the project website during the course of the brainstorming period. These statements were reduced to a final and manageable set of 119 specific and unique child (56 statements) and family outcome ideas (63 statements).

These 119 child and family outcome ideas were pilot-tested in two large New York State counties (Nassau and Suffolk counties on Long Island) to test the validity of new family outcomes items; to develop and test a new scale to measure the helpfulness of early intervention services in achieving child outcomes, based on family report; and to test the feasibility of incorporating the NCSEAM Family-Centered Services Scale (FCSS) into ongoing family outcome data collection efforts.

The pilot NYS Family Survey comprised three scales: the NYIFS, the New York State Impact on Child Scale (NYICS), and the FCSS. The survey included a total of 158 items. Response categories were the same for each item. Respondents were instructed to select one of the following responses: "very strongly disagree; strongly disagree; disagree; agree; strongly agree; very strongly agree". Respondents were told to "skip any item you feel does not apply to your child or family." Each survey was blind-coded to enable matching of responses to demographic variables contained in the NYS KIDS database.

- The NYICS items were drawn from the child outcomes generated in Phase I. The child outcomes from Phase I were reviewed and revised to ensure each statement contained just one idea, was clear, unambiguous, readable, simple and written with a syntax consistent with a family survey (in the first person). Each item began with the stem, "Over the past year, early intervention services have helped my child….."

- To construct the NYIFS, family outcomes generated through the Phase I concept mapping activities were matched to statements drawn from the NCSEAM IFS. Statements were reworded, as described above. Preference was given to NY-generated items, but a number of NCSEAM items were included to lay a measurement framework for validating new items.

- The FCSS items measure the extent to which quality family-centered services are provided to children and families. These items were taken from the NCSEAM FCSS. The focus of this project was on outcomes, not service provision. However, the Planning Group chose to include a family-centered services scale in the pilot because of the potential value it could add in connecting outcomes to services provided.

Of the 515 families invited to complete the survey, 230 families (45%) completed the survey in time to be included in the analysis. Measurement analyses revealed that each of the three scales met all of the requirements for robust measurement. Consequently, individuals' measures on these scales could be interpreted to represent, for the NYIFS, the extent to which the early intervention program helped the family achieve positive family outcomes; for the ICS, the extent to which the early intervention program helped the child achieve positive developmental outcomes; and, for the FCSS, the extent to which families perceived early intervention providers and processes to be family-centered.

Shorter versions of the NYIFS and NYICS were developed for future use by the Department. The 25-item version of the NYIFS demonstrated reliabilities of .91 and .95 for persons and items, respectively. The 25-item version of the NYICS demonstrated reliabilities of .92 and .94 for persons and items, respectively. These results indicate that shorter versions of the NYIFS and NYICS still yield highly reliable measures of the respective constructs and can provide useful information for both program evaluation and improvement planning.

Subsequent to the completion of the field study, a short form of the survey was developed for use at the State level. This abbreviated version of the NYS Family Survey included the NYIFS used to measure OSEP-required family outcomes, the NYICS, and the NCSEAM FCSS (see Appendix 1).

The NYS Family Survey in its current form has been in use since 2008 to collect and report family outcome data for Annual Performance Report Indicator 4A, B, and C. The combined data set gives New York State a powerful tool to examine the relationship between child and family outcomes; family-centered services and child and family outcomes; and, the impact of service delivery parameters (e.g., type of service, intensity of services, service provider) on family and child outcomes.

In 2010, the Department received a grant from the U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal Child Health Bureau, to evaluate the impact of early intervention services on children with autism spectrum disorders and their families, and a comparison group of children and families with other disabilities. As part of this research project, concept-mapping was again used with New York State and national stakeholders to identify child and family outcomes expected to result from early intervention services for children with ASD and their families. Child and family outcome items generated through this project were integrated into a family survey used to collect data from families participating in this research project. Results of survey responses provided by 262 families (n=167 families of a child with ASD and 95 families of a child with a developmental delay or disability other than ASD) demonstrated that ASD and non-ASD families responded similarly to the new items, providing further evidence for the validity of the scale for families participating in the NYSEIP, regardless of their child's developmental problem or diagnosed condition.

Under the auspices of this grant, the Department convened two webinars and an in-person meeting with key stakeholders (see Appendix 3 for a list of standard setting meeting participants) in July 2014, including families, early intervention program professionals in New York and other states, and members of New York's Early Intervention Coordinating Council (EICC) and Early Childhood Advisory Council (ECAC), to establish standards for the minimum level of positive family outcomes achieved by families as measured by the Impact on the Family scale.

Participants were presented with an expanded list of family outcome items (original items and items identified through the research project) listed in order according to the degree to which parents/families in the research study reported that EI services helped their family to achieve the content of each item. Participants were asked to identify the point on the measurement line, defined in terms of families' agreement with the items up to that point on the line that represents the minimum impact of early intervention services on family outcomes that were considered to be acceptable for accountability and program evaluation purposes.

For the standard setting task, items were grouped into strata, or bands, representing items with approximately equivalent difficulty parameters. Participants were invited to consider the items within each band as being of similar "agreeability." Participants were asked to reach consensus on the following question: "Starting at the lowest band and moving upward, at what point in the progression of bands do you think the content provides a satisfactory level of helpfulness to families in achieving outcomes expected to be achieved by participating in the Early Intervention Program?"

Through a consensus process, participants selected the point on the measurement line corresponding to a measure of 576. A similar process was used to establish standards for the Impact on Child and Family-Centered Services Scale.

On March 12, 2015, Department staff and Dr. Batya Elbaum, from the University of Miami, collaborated with members of the EICC to reach agreement on the State Identified Measurable Result (SIMR), and to discuss target setting for the SIMR. Members of the EICC unanimously recommended the use of the NYIFS and stakeholder-recommended State standard for measurement of the SIMR. In setting targets, EICC members urged the Department to set reasonable and achievable targets for the SIMR, recognizing the size, scope, and diversity of New York State's Early Intervention system.

Based on this advice, and consistent with the coherent improvement strategy and theory of action, which will phase in cohorts of local municipal programs (including one or more boroughs of New York City (NYC) each year), the following methodology was used to finalize targets for the SIMR:

Utilizing all available data (from all years of data collection), the baseline percent of families with measures of 576 or above on the NYIFS is 65.09%. Statewide Targets are:

2015-16	65.09 (no change – implementation has just started)
2016-17	65.50 (change of +.41%)
2017-18	66.00 (change of +.50%)
2018-19	66.50 (change of +.50%)

The first phase of implementation will begin immediately after approval of the SSIP. However, given that approval will be obtained at the end of FFY 2014-15, the first year of implementation will effectively be 2015-16. Beginning in that year, and every year thereafter for 3 years, counties will be phased in following the plan in Table 1 below:

Table 1. Plan to Phase-in of Local Programs for Implementation of SSIP

FFY	2014-15	2015-16	2016-17	2017-18	2018-19

Counties	Small Counties (n = 20) New York (n = 1)	Medium (n = 20) Kings (n = 1)	Large (n = 15) Queens (n = 1)	Long Island (n = 2) Bronx, Richmond (n = 2)
N of Counties	21	21	16	4

Considerations

The phase-in of counties

Overall, Nassau and Suffolk had the highest percentage of families meeting the NYIFS standard, followed by the large counties. Small counties, in the aggregate, had the lowest percentage of families meeting the standard. Thus, improvement activities will begin with the small counties.

Table 2. Performance of Local Programs on NYIFS, Aggregated by Size

	N	Minimum	Maximum	Mean	SD
1 – Small Counties NYIFS % that met the 576 standard	20	.27	1.00	.59	.15
2 – Medium Counties NYIFS % that met the 576 standard	20	.47	.77	.62	.08
3 – Large Counties NYIFS % that met the 576 standard	15	.56	.75	.67	.05
4 – Long Island Counties NYIFS % that met the 576 standard	2	.66	.71	.69	.04
5 – New York City Counties NYIFS % that met the 576 standard	5	.58	.66	.61	.03

The phase-in of NYC boroughs

For counties in NYC, the percent of families who met the NYIFS standard ranged from .58 (Kings and New York) to .66 (Richmond). Thus, the NYC counties were included in the Phase-in in an order reflecting their need for improvement, i.e., beginning with NY and Kings (Brooklyn), then Queens, then the Bronx and Richmond (Staten Island).

Table 3. Performance of NYC Boroughs on NYIFS

	County	FIPS	NYIFS n that met the 576 standard	NYIFS % that met the 576 standard
1	Bronx	5.00	189.00	.63

2	Kings	47.00	291.00	.58
3	New York	61.00	122.00	.58
4	Queens	81.00	253.00	.60
5	Richmond	85.00	60.00	.66
Total N	5	5	5	5

How much improvement is feasible, and how local improvements will affect the statewide percent of families meeting the standard

Table 4 below displays the percentage of families within each Phase-in cohort who met the SSIP NYIFS standard (see Appendix 4 for a list of counties included in each SSIP cohort).

Table 4. Percentage of Families who met the State Standard of 576 or greater, Aggregated by Local Program cohort group

Phase-in Cohort	Number of Counties	Total Number of Respondents	% of families who met the standard of 576 on NYIFS
1	21	619	.59
2	21	1252	.62
3	16	3333	.67
4	4	1297	.67

We estimate that Phase-in Cohort #1, as a whole, can increase their percentage of families meeting the standard by two percentage points - from 59% to 61% - over the course of the SPP. They have the lowest overall percentage at baseline, but the longest period of time in which to make improvements.

For Cohort #2, we project an improvement of one percentage point, from 62% to 63%, by 2018-19.

For Cohort #3 and Cohort #4, we project an improvement of one percentage point, from 67% to 68%.

In the baseline period, family survey respondents from Phase-in Cohort #1 represented 9.5% of the aggregated responding NYSEIP population; Phase-in Cohort #2, 19.3%; Phase-in Cohort #3, 51.3%; and Phase-in Cohort #4, 20%. If each Phase-in Cohort meets its target, and continues to represent approximately the same percent of the NYSEIP population, then in the final year of the SSIP, the improvement of each Phase-in Cohort would contribute to the overall statewide percent on Indicator 11 as follows:

Phase-in Cohort #1:	9.5% x .61 =	.059
Phase-in Cohort #2:	19.3% x .63 =	.122
Phase-in Cohort #3:	51.3% x .68 =	.349
Phase-in Cohort #4:	20.0% x .68 =	.136
Projected % at end of SPP:		.666 = 66.6% of families >= the State standard

Data Analysis Section

OSEP Instructions: A description of how the State identified and analyzed key data, including data from SPP/APR indicators, 618 data collections, and other available data as applicable, to: (1) select the State-identified Measurable Result(s) for Infants and Toddlers with Disabilities and their Families, and (2) identify root causes contributing to low performance. The description must include information about how the data were disaggregated by multiple variables (e.g., EIS program and/or EIS provider, geographic region, race/ethnicity, socioeconomic status, gender, etc.) As part of its data analysis, the State should also consider compliance data and whether those data present potential barriers to improvement. In addition, if the State identifies any concerns about the quality of the data, the description must include how the State will address these concerns. Finally, if additional data are needed, the description should include the methods and timelines to collect and analyze the additional data.

The Department completed a thorough analysis of available state data related to child and family outcomes collected and reported in the Annual Performance Report (APR). The data sets used for analysis were as follows:

1. Children (n=7,624) served in the NYSEIP whose Child Outcomes Summary (COS) data were utilized for state APR reporting on Indicator 3 between 2009 and 2013.
2. Families (n=6522) who responded to the NYS Family Survey used for state APR reporting on Indicator 4 between 2008 and 2013
3. The subset of data sets (1) and (2) that included cases with both COS ratings and family survey measures, n = 258.

Additional data from the US Census, the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, the Kids' Well-being Indicators Clearinghouse, and the National Survey of Children with Special Healthcare Needs was compiled and reviewed. Data that were determined to be relevant to the data analysis, infrastructure analysis and selection of the SIMR are reported in the appropriate SSIP sections.

Brief Review: Child Outcomes Data Collection and Analysis

Data reviewed were for APR Child Outcome Indicators 3A, B, and C, which are defined as follows:

The percent of Infants and toddlers with IFSPs who demonstrate improved:
A. Positive social emotional skills (including social relationships)
B. Acquisition and use of knowledge and skills (including early language and communication)
C. Use of appropriate behaviors to meet their needs

The Child Outcomes Summary process, developed by the National Early Childhood Outcomes (ECO) Center, used for collecting child outcome data is completed twice by the Individualized Family Service Plan (IFSP) team: at the first IFSP and the IFSP closest to the child’s exit from the NYSEIP. IFSP teams at a minimum include the child’s parent(s), evaluator and/or providers who participated in the child’s evaluation and/or assessment; the local early intervention official; and, the service coordinator. Each child receives a score of one to seven in each child outcome area. A score of one indicates that the child does not yet show functioning expected of same-aged peers in any situation; a score of seven indicates the child shows functioning expected of same-aged peers in everyday situations that are a part of the child’s life. (See Appendices 5 and 6 for the COS entry and exit forms used for collection of child outcome data).

Child outcomes data were analyzed in accordance with summary statements used for APR purposes, as follows:

Summary Statement 1: Of those children who entered or exited the program below expectations in the outcome area, the percent who substantially increased their rate of growth by the time they turned 3 years of age or exited the program (progress categories c+d)/(progress categories a+b+c+d)

Summary Statement 2: The percent of infants and toddlers who were functioning within age expectations in the outcome area by the time they turned 3 years of age or exited the program (progress categories d+e)/(progress categories a+b+c+d+e).

Progress categories, as defined in the APR, are as follows:

a. Infants and toddlers who did not improve functioning.
b. Infants and toddlers who improved functioning but not sufficient to move nearer to functioning comparable to same-aged peers.
c. Infants and toddlers who improved functioning to a level nearer to same-aged peers but did not reach it.
d. Infants and toddlers who improved functioning comparable to same-aged peers.
e. Infants and toddlers who maintained functioning at a level comparable to same-aged peers.

Descriptive analyses were conducted to provide a better understanding of patterns of progress across time, across the three outcome areas, and across subgroups of children. Correlations and analyses of variance were used to investigate associations between children's progress and key child, family, service-delivery, and contextual (county-level) variables.

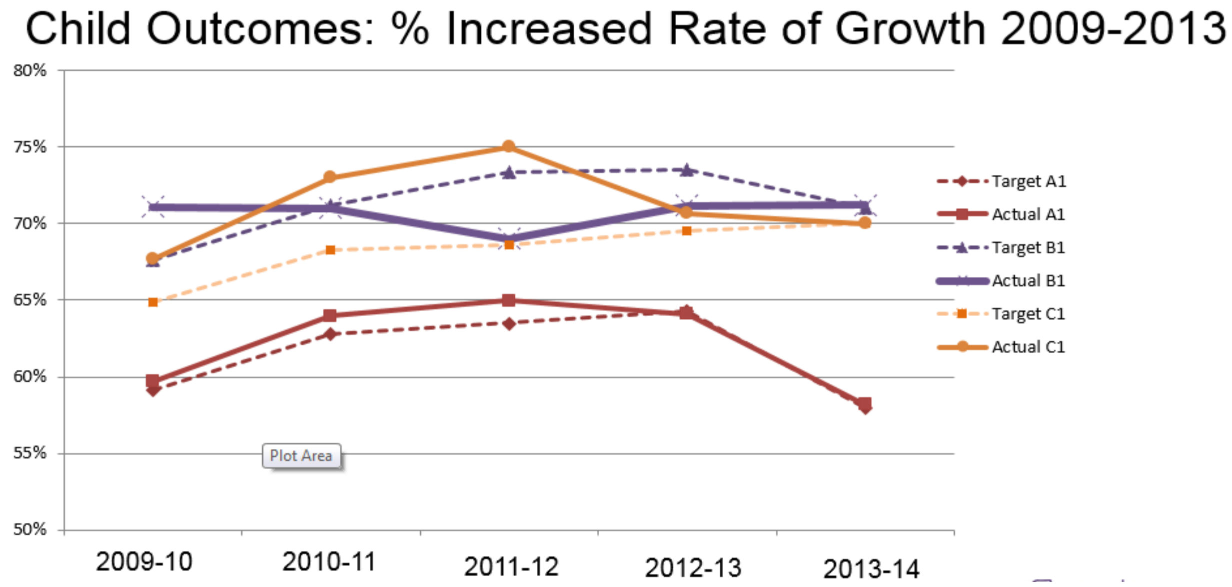
Data Analysis and Results: Child Outcomes

Trends in Child Outcomes

Summary Statement #1 – Percent of Children who Showed Increased Rate of Growth

Indicator 3 Summary Statement percentages across years were examined for trends. For Summary Statement #1, children's progress in outcome area A (social emotional development) was consistently below their progress in the other outcome areas. The longitudinal picture is one of variability over time without a definitive trend in either the upward or downward direction.

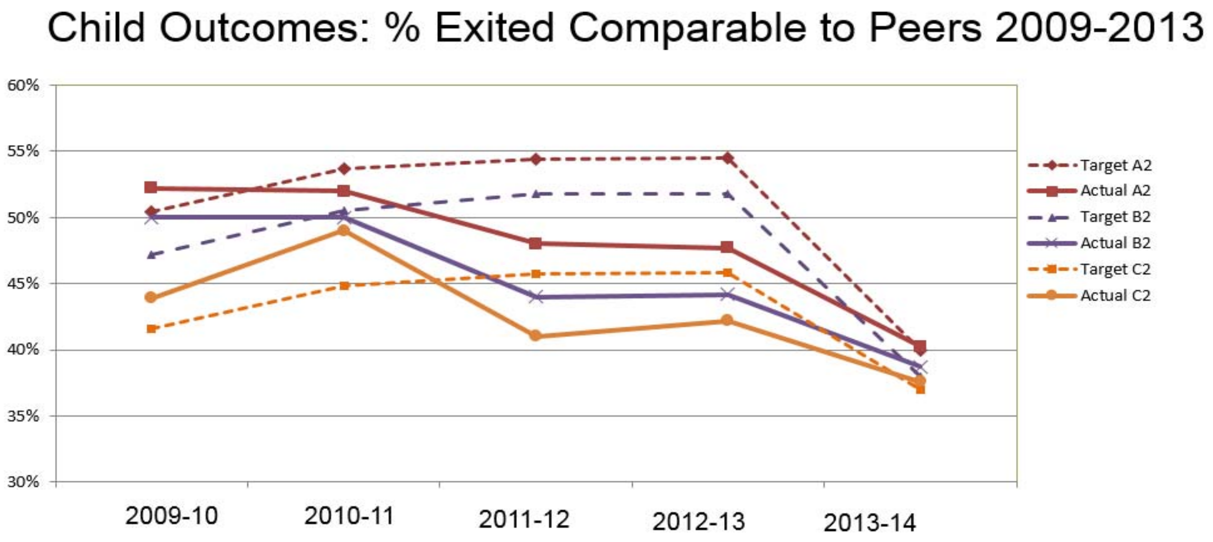
Figure 1. Trend over time in Child Outcomes Summary Statement 1



Summary Statement #2 – Percent of Children Who Exited Comparable to Peers

For Summary Statement #2, the data showed a downward trend for all three outcome areas, with results for outcome area A being the most positive, followed by outcome area B and outcome area C. It was hypothesized that a significant contributor to the downward trend in the percent of children exiting comparable to same-age peers is the state's adoption of more stringent eligibility criteria for children with delays in communication development beginning in July 2010. Children who entered under the new eligibility criteria, who on average had more significant delays than previous cohorts, would have accounted for an increasing percentage of exiting cohorts beginning in 2011-12.

Figure 2. Trend over time in Child Outcomes Summary Statement 2



Children’s progress by COS entry status

The primary outcome variables used to capture children’s progress were:

- DiffA, defined as the exit COS score (1 to 7) for Outcome A minus the entry COS score (1 to 7) for Outcome A.
- DiffB, defined as the exit COS score (1 to 7) for Outcome B minus the entry COS score (1 to 7) for Outcome B.
- DiffC, defined as the exit COS score (1 to 7) for Outcome A minus the entry COS score (1 to 7) for Outcome C.

Table 5 below shows the mean change score (exit minus entry) for children who entered below age expectations, or at age expectations, in each outcome area. These data show that mean values for children entering below age expectations in an outcome area are all positive, while the mean values for children entering at age expectations are all negative. This finding may be explained, in part or wholly, by the fact that the range of possible change scores is severely truncated, on one side, for children who enter at either the low or high end of the discrete COS scale. Consequently, aggregated progress measures based on the scale should be interpreted with caution.

Table 5. Children’s Progress by Child Outcome Summary Entry Status

A-Social-emotional		**B- Acquisition of knowledge/skills**		**C-Uses Appropriate Behaviors**	
Entered below age (n=5071)	Entered At age (n=2553)	Entered below age (n=6093)	Entered at Age (n=1531)	Entered below age (n=6411)	Entered at age (n= 1213)
1.28	**-0.46**	**1.48**	**-0.42**	**1.56**	**-0.41**

Pattern of children’s progress by entry group and outcome area

Children’s progress in each of the outcome areas was analyzed by children’s COS rating on entry, wherein the COS ratings were defined as Well Below Age (COS ratings of 1-2), Below Age (Cos ratings of 3-5) and At Age (COS ratings of 6-7). A seen in the charts below, the pattern of children’s progress by entry rating was very similar across outcome areas.

Figure 3. Children's progress in social emotional development by the child outcome summary rating at entry

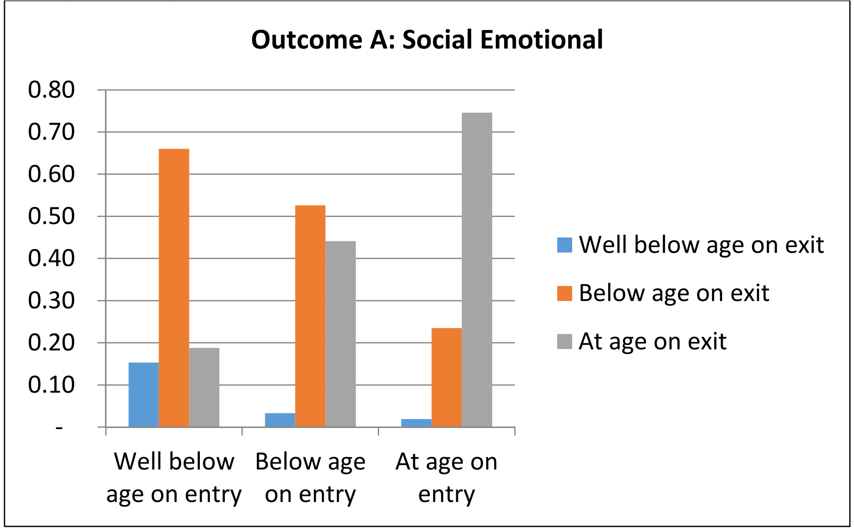


Figure 4. Children's progress in acquisition and use of knowledge and skills by the child outcome summary rating at entry

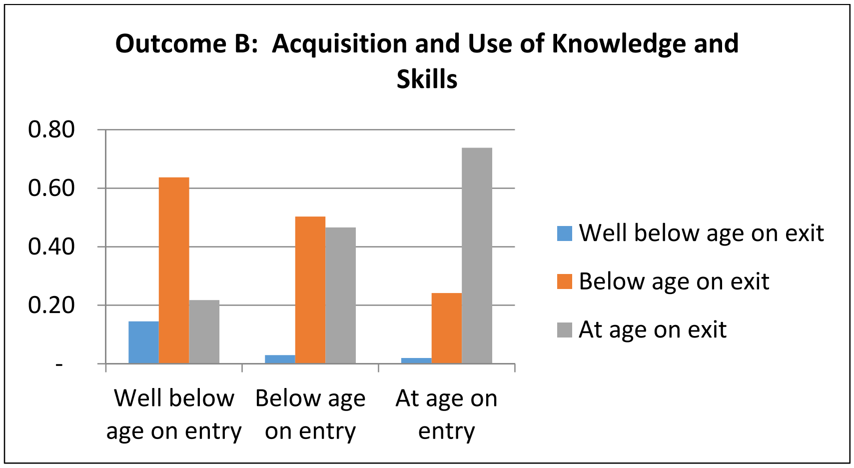
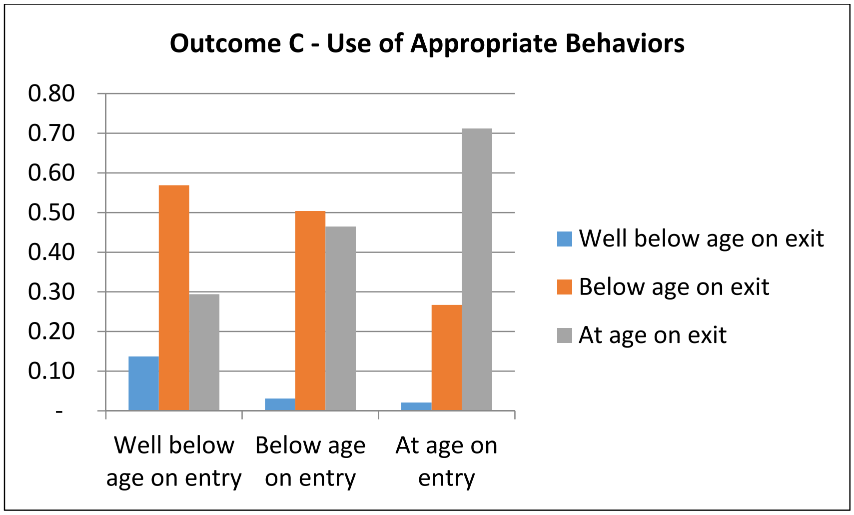


Figure 5. Children's progress in use of appropriate behaviors by the child outcome summary rating at entry



Differences in children' progress by diagnosis

The progress of children who entered NYSEIP below age expectations with specific diagnoses was compared to the progress of all other children who entered NYSEIP below age expectations. Table 6 shows the results for each outcome area. For example, within the group of all children who entered below age expectations in the social emotional outcome (outcome A), there was no statistically significant difference in the amount of progress made by children with a diagnosis of ASD compared to children without ASD. The signs ">" and "<" are used to denote the direction of statistically significant effects.

Table 6. Progress of children who entered below age expectations with specific diagnoses compared to all other children who entered below age expectations

Diagnosis	Outcome A – Social Emotional	Outcome B – Acquisition/knowledge	Outcome C – Uses appropriate behaviors
ASD	=	<	<
Apraxia	=	=	>
Hearing	=	=	=
Cleft	=	=	=
Down	=	<	<
Prematurity	>	>	=

Associations between the severity of the child's delay, total hours of direct services received in NYSEIP, and progress in the three outcome areas

Severity of delay was calculated across developmental domains, based on children's initial multidisciplinary evaluation on entry to the NYSEIP, with a score of zero assigned if there is no delay, a score of 0.5 is assigned if there is a delay between one and two standard deviations below the mean, and a score of one is assigned if there is a delay of two or more standard deviations below the mean for each domain. Thus, the severity score could range from zero to five.

DiffA_Below_Age, DiffB_Below_Age, and DiffC_Below_Age refer to mean COS difference scores (exit minus entry) for children entering below age expectations in a given outcome area (DiffA=Social emotional development, DiffB=Acquisition of knowledge and skills, DiffC=Uses appropriate behaviors to meet needs). The variables DiffA_At_Age, etc. refer to mean COS difference scores for children entering at age expectations.

Using Pearson Correlation, the severity of delay was positively correlated with total number of hours of direct services received (0.418, p<0.0005).

Severity was inversely related to children' progress in outcome areas for social emotional development (outcome A), acquisition of knowledge and skills (outcome B), and use of appropriate behaviors (outcome C) (-0.042, -0.076, -0.134, respectively, with p<0.0005).Total hours of direct service was also inversely related to children' progress, but total hours of service was correlated with the severity of delay.

Table 7. Correlations among child progress areas and level of delay and total number of service visits

		Level of Delay	Total Service Visits	DiffA_Below_Age	DiffB_Below_Age	DiffC_Below_Age	DiffA_At_Age	DiffB_At_Age	DiffC_At_Age
Level of Delay	Pearson Correlation	1	.418**	-.042**	-.076**	-.134**	-.292**	-.235**	-.210**
	Sig. (2-tailed)		.000	.003	.000	.000	.000	.000	.000
	N	7602	7602	5057	6078	6399	2545	1524	1203
Total Service Visits	Pearson Correlation	.418**	1	-.020	-.048**	-.072**	-.281**	-.315**	-.274**
	Sig. (2-tailed)	.000		.160	.000	.000	.000	.000	.000
	N	7602	7624	5071	6093	6411	2553	1531	1213
DiffA_Below_Age	Pearson Correlation	-.042**	-.020	1	.626**	.569**	.[b]	.497**	.503**
	Sig. (2-tailed)	.003	.160		.000	.000	.	.000	.000
	N	5057	5071	5071	4563	4577	0	508	494
DiffB_Below_Age	Pearson Correlation	-.076**	-.048**	.626**	1	.609**	.514**	.[b]	.497**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.	.000
	N	6078	6093	4563	6093	5406	1530	0	687
DiffC_Below_Age	Pearson Correlation	-.134**	-.072**	.569**	.609**	1	.466**	.455**	.[b]
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.
	N	6399	6411	4577	5406	6411	1834	1005	0
DiffA_At_Age	Pearson Correlation	-.292**	-.281**	.[b]	.514**	.466**	1	.709**	.691**
	Sig. (2-tailed)	.000	.000	.	.000	.000		.000	.000
	N	2545	2553	0	1530	1834	2553	1023	719
DiffB_At_Age	Pearson Correlation	-.235**	-.315**	.497**	.[b]	.455**	.709**	1	.770**
	Sig. (2-tailed)	.000	.000	.000	.	.000	.000		.000
	N	1524	1531	508	0	1005	1023	1531	526
DiffC_At_Age	Pearson Correlation	-.210**	-.274**	.503**	.497**	.[b]	.691**	.770**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.	.000	.000	
	N	1203	1213	494	687	0	719	526	1213

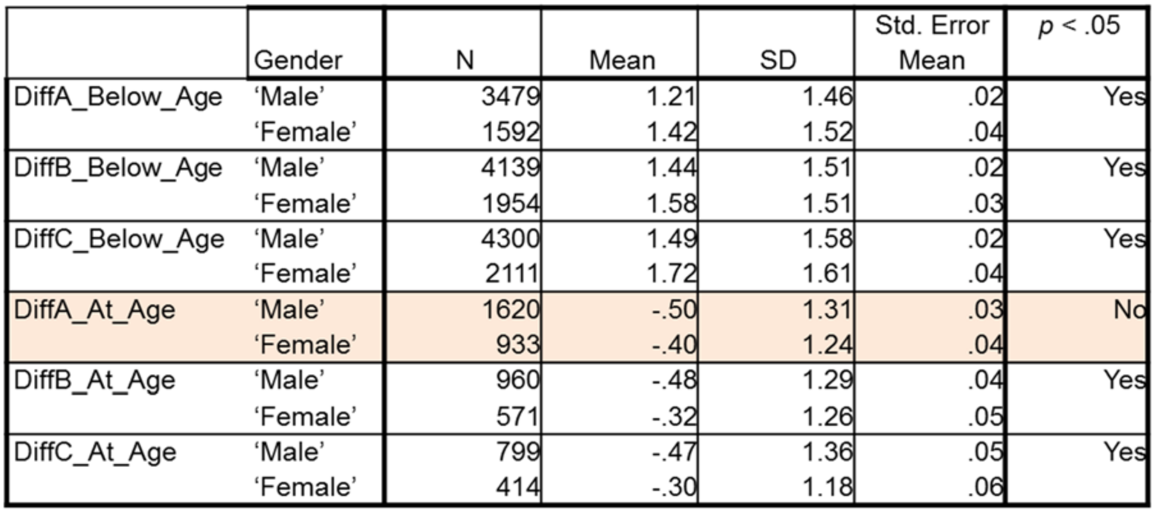
**. Correlation is significant at the 0.01 level (2-tailed).

b. Cannot be computed because at least one of the variables is constant.

Children’s progress by gender, Medicaid eligibility, and race/ethnicity

Progress was greater for females than males in five out of six comparisons (which is comprised by the three child outcome areas (social emotional, knowledge and skills, and appropriate behaviors) by two groups for those infants and toddlers entering below age expectations and those entering at age expectations). There was no difference in progress for the social emotional child outcome for females who entered at age expectation compared to males who entered at age expectation. In the other outcomes areas females who entered at or below age expectation made more progress.

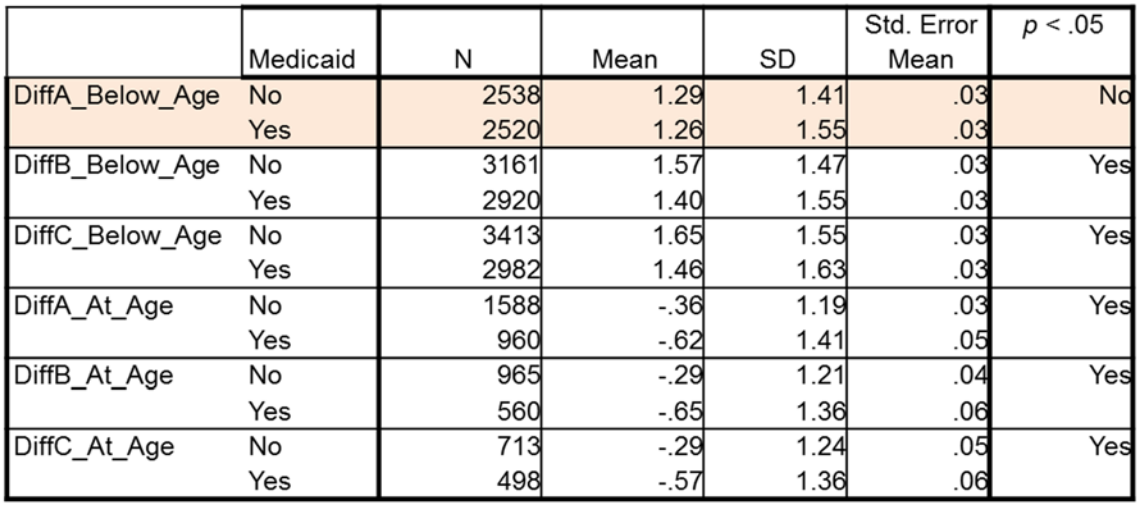
Table 8. Child outcomes for females compared to males



	Gender	N	Mean	SD	Std. Error Mean	*p* < .05
DiffA_Below_Age	‘Male’	3479	1.21	1.46	.02	Yes
	‘Female’	1592	1.42	1.52	.04	
DiffB_Below_Age	‘Male’	4139	1.44	1.51	.02	Yes
	‘Female’	1954	1.58	1.51	.03	
DiffC_Below_Age	‘Male’	4300	1.49	1.58	.02	Yes
	‘Female’	2111	1.72	1.61	.04	
DiffA_At_Age	‘Male’	1620	-.50	1.31	.03	No
	‘Female’	933	-.40	1.24	.04	
DiffB_At_Age	‘Male’	960	-.48	1.29	.04	Yes
	‘Female’	571	-.32	1.26	.05	
DiffC_At_Age	‘Male’	799	-.47	1.36	.05	Yes
	‘Female’	414	-.30	1.18	.06	

Progress was greater for infants and toddlers who did not have Medicaid that for those who did have Medicaid in five out of six comparisons. There was no difference in progress for the social emotional child outcome for infants and toddlers with Medicaid who entered below age expectation compared to those without Medicaid who entered below age expectation. In the other outcomes areas infants and toddlers with Medicaid who entered at or below age expectation made less progress.

Table 9. Child outcomes for infants and toddlers with Medicaid compared to infants and toddlers who do not have Medicaid



	Medicaid	N	Mean	SD	Std. Error Mean	*p* < .05
DiffA_Below_Age	No	2538	1.29	1.41	.03	No
	Yes	2520	1.26	1.55	.03	
DiffB_Below_Age	No	3161	1.57	1.47	.03	Yes
	Yes	2920	1.40	1.55	.03	
DiffC_Below_Age	No	3413	1.65	1.55	.03	Yes
	Yes	2982	1.46	1.63	.03	
DiffA_At_Age	No	1588	-.36	1.19	.03	Yes
	Yes	960	-.62	1.41	.05	
DiffB_At_Age	No	965	-.29	1.21	.04	Yes
	Yes	560	-.65	1.36	.06	
DiffC_At_Age	No	713	-.29	1.24	.05	Yes
	Yes	498	-.57	1.36	.06	

Progress for infants and toddlers entering NYSEIP below or at age expectations was not statistically significantly different across racial/ethnic groups.

Child Outcomes Analyzed at the County Level

Appendix 7 displays child outcomes data by county. County-level summary statement percentages, aggregated over all the years of COS data collection, ranged as follows for the three child outcome indicators:

- Indicator 3A (social emotional development): 30% to 100% for Summary Statement #1 and 13% to 79% for Summary Statement #2
- Indicator 3B (Acquisition of knowledge and skills): 30% to 100% for Summary Statement#1 and 10% to 70% for Summary Statement#2
- Indicator 3C (Use of appropriate behaviors to meet needs): 30% to 100% for Summary Statement#1 and 13% to 82% for Summary Statement#2.

Potential influences of demographic variables on child outcomes at the county level were also examined. The tables below display correlations between key county-level variables and mean progress (exit minus entry scores) for children who entered below age expectations in each outcome area. Only statistically significant correlations are displayed. The variables used are as follows:

- Percentage of children with a severe delay – this is the percent of children served by NYSEIP with a score of three or more on the severity scale defined earlier (NYSEIP data)
- Percentage of low birth weight births, percentage of teen births (publicly available county health data)
- Percentage Hispanic ages birth to four, Percentage Non-White ages birth to four, Percentage Poverty ages birth to four (2010 US Census data)
- Average number of general services per child – the mean number of service visits of general services that children received (NYSEIP data)

As seen in Table 10, for children entering below age expectations in a given outcome area, children's progress was significantly associated negatively with the percentage of teen births and percentage of children ages birth to four living in poverty.

Table 10. Correlations among child outcome areas and variables for children entering below age expectation

	Average Progress in Outcome A – Social Emotional	Average Progress in Outcome B – Knowledge and Skills	Average Progress in Outcome C – Use of Appropriate Behaviors
% Children w/ Severe Delay			
% Low Birth Weight Births			
% Teen Births		**-.374****	**-.402****
% Hispanic Age 0-4			
% Non-White Age 0-4			
% Poverty Age 0-4			**-.295***
Avg General Serv Per Child			

As seen in Table 11, for children entering at age expectations in a given outcome area, children's progress was significantly associated negatively with three of the six health/demographic variables as well as with the amount of services received.

Table 11. Correlations among variables for children entering at age expectations

	Average Progress in Outcome A – Social Emotional	Average Progress in Outcome B - Knowledge and Skills	Average Progress in Outcome C – Use of Appropriate Behaviors
% Children w/Severe Delay			
% Low Birth Weight Births	**-.293***	**-.258***	**-.260***
% Teen Births			
% Hispanic Age 0-4	**-.453****	**-.383****	**-.577****
% Non-White Age 0-4	**-.427****	**-.366****	**-.533****
% Poverty Age 0-4			
Avg General Serv Per Child	**-.335****	**-0.21**	**-.422****

Summary and conclusions: Child Outcomes Data

When examining child-level data, the following results were found:

- No definitive upward or downward trend in child progress across all three outcome areas, when examining the five most recent years of child outcome data. There was a downward trend in the percent of children exiting the program at expected developmental levels across all three outcome areas. This may be explained by changes to the NYSEIP eligibility criteria in 2010, which implemented more stringent eligibility criteria for children with communication (speech language) delays.
- Analyses comparing children's developmental status in each of the three outcome areas on entry to the program with status on exit demonstrated that children who enter below age level make progress, while approximately 25% of children who enter at age level in an outcome area regress compared to typically developing peers. These results are difficult to interpret. The apparent regression in an outcome area may be related to emerging developmental concerns or and may be attributable to a "ceiling affect" of the Child Outcomes Summary measurement (ratings are from a low of one to a high of seven, and may not be reflective of children whose developmental progress exceeds those ratings).
- For all three child outcome areas, the pattern related to progress and attainment of age-typical development was the same across years and across children who entered below or at age level.
- When examining level of progress achieved by children with specific diagnoses (e.g. autism), some differences were found but these differences were not highly significant or compelling.
- Severity of delay on entry to the NYSEIP was positively correlated with total number of hours (the more severe the child's delay on entry, the more hours of service provided). Both severity of delay and total hours of service were *inversely* related to children's progress.
- Progress was greater for females than for males.
- Children enrolled in the Medicaid Program made less program when compared to all other children in the program with outcomes data.
- No statistically significant differences were found in children's progress when examining the mean change in COS scores for the seven categories of race/ethnicity.

When examining county-level data (child and family outcomes data aggregated up to the county level and compared with demographic data for the county), the following results were found:

- For children entering the program below age level in outcome areas B (acquisition of knowledge and skills/language) and C (use of appropriate behaviors to meet needs), child progress was *inversely* related to the percentage of teen births in the county.
- For children entering the program below age level in outcome C (use of appropriate behaviors to meet needs), child progress was *inversely* related to the percentage of children residing in the municipality ages 0-4 and living in poverty.
- For children entering the program at age expectations in an outcome area, child progress in all three outcome areas was *inversely* related to the percent of low weight births, percent of Hispanic children ages 0-4, and percent of non-white children ages 0-4 in the county.

- For children entering the program at age expectations in an outcome area, child progress in all three outcome areas was *inversely* related to the percent of low weight births in the county.

The following conclusions were drawn from these analyses:

- The analyses of child outcomes data did not yield a clear direction, or provide a compelling basis for the theory of action.
- The pattern of progress across all three child outcome areas was similar and progress across the three outcome areas are highly correlated.
- Data analyses did not yield a specific sub-population on which to focus to improve child outcomes.
- Data analyses did not yield evidence to support any specific strategies for improving child outcomes.
- It is important to note that children in the Medicaid Program make less progress when compared to all other children participating in the NYSEIP. This may be because family needs and circumstances for this population are more complex and are not sufficiently addressed by access to early intervention services alone.

Brief Overview: Family Outcomes Data Collection and Analysis

Data reviewed were for APR Family Outcome Indicators 4A, B, and C, which are defined as follows:

Family Outcomes APR Indicator 4: Percent of families participating in Part C who report early intervention services have helped the family:
A. Know their rights
B. Effectively communicate their children's needs
C. Help their children develop and learn

As described in the baseline and target section above, the NYS Family Survey, which includes the NYIFS, is used to collect and report family outcome data for APR Indicator 4A, B, and C. In accordance with the recommendation made by NCSEAM, data collected from families on the NYIFS are analyzed using the Rasch measurement framework (Bond & Fox, 2001; Wright & Masters, 1982; Wright & Mok, 2000). The percent of families reported in the APR as achieving these three family outcome indicators is the percent of families with measures at or above the national standard established by NCSEAM, working with a broad representation of families, state and local agencies, advocates, and other key stakeholders of the Part C Early Intervention Program. The NCSEAM-recommended standards for the three family outcomes sub-indicators are as follows:

- Know their rights: the percent of families with a person measure of at or above 539 (95% likelihood of a response across the three categories of agree, strongly agree, and very strongly agree to the item "*Know about my child's and family's rights concerning Early Intervention Services*")
- Effectively communicate their children's need: the percent of families with a person measure of 556 (95% likelihood of a response across the three categories of agree, strongly agree, and very strongly agree to the item "*Communicate more effectively with the people who work with my child and family*")

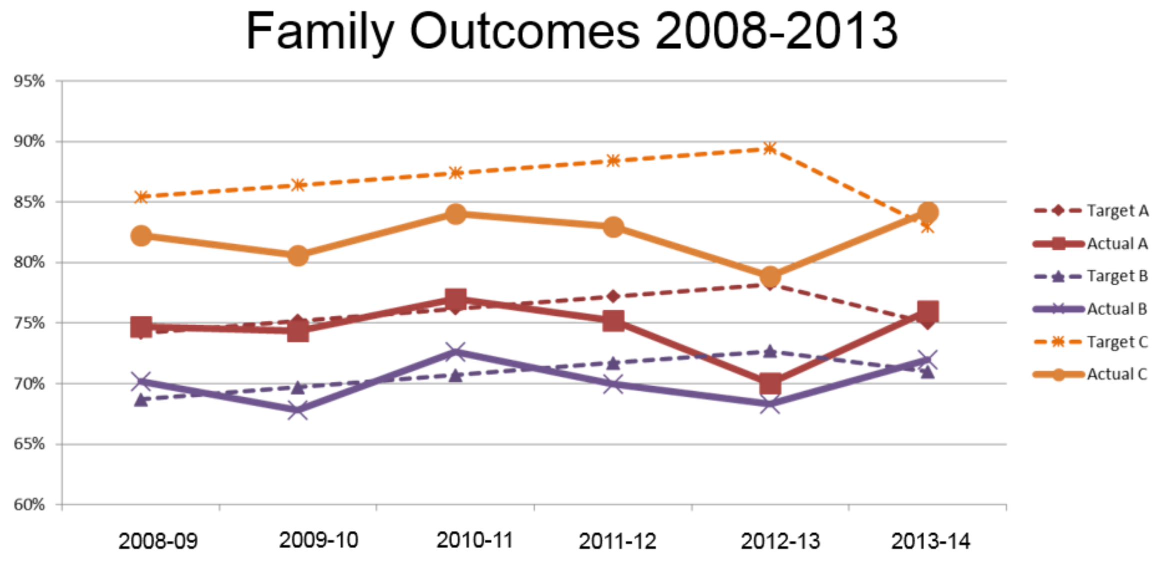
- Help their children develop and learn**:** the percent of families with a person measure of 516 (95% likelihood of a response across the three categories of agree, strongly agree, and very strongly agree to the item "*Understand my child's special needs"*")

In addition to the NYIFS, the New York State Family Survey includes two other scales: the national Family-Centered Services Scale (FCSS) developed by NCSEAM, which measures the family's experience and quality of early intervention services provided; and, the New York Impact on Child Scale (NYICS), which measures the helpfulness of early intervention services in the child's attainment of positive child outcomes.

Family Outcomes over Time

As indicated in Figure 6, the Indicator 4 percentages varied somewhat over time but did not show a clear trend, either upwards or downwards.

Figure 6. Trends in family outcome indicators over time



Association of children's progress and family measures (Impact on Family Scale (NYIFS) Family-Centered Services Scale (FCSS), and Impact on Child Scale (NYICS))

Table 12 displays the correlations among the NYICS, NYIFS, FCSS and the child progress variables (all children, children entering below age expectations only, children entering at age expectations only). As seen in the table, the NYICS, NYIFS and FCSS were highly correlated (.805, 0.841, and 0.750, respectively, with $p<0.0005$).

For children entering NYSEIP below age expectations, family measures were not statistically significantly correlated with children's progress.

For children entering at age expectations, correlations with family measures were highly significant across all outcome areas for the NYICS, indicating congruence between families' perceived helpfulness of NYSEIP to the child and children's progress (0.339, 0.308, and 0.427, with $p<0.005$).

Also for children entering at age expectations, the perceived helpfulness of NYSEIP to the family (as measured by the NYIFS) and the extent to which families perceived NYSEIP services to be family-centered (as measured by the FCSS) were significantly associated with children's progress in outcome area C (0.373 and 0.401, respectively, with p <0.05).

Table 12. Correlations among the NYICS, NYIFS, FCSS and the child progress variables

		NYICS measure	**NYIFS measure**	**FCSS measure**
DiffA	Pearson Correlation	.074	-.002	.016
	Sig. (2-tailed)	.236	.979	.802
	N	258	259	258
DiffB	Pearson Correlation	.106	.081	.051
	Sig. (2-tailed)	.091	.196	.418
	N	258	259	258
DiffC	Pearson Correlation	.134*	.081	.093
	Sig. (2-tailed)	.032	.193	.136
	N	258	259	258
DiffA_Below_Age	Pearson Correlation	.090	.028	.019
	Sig. (2-tailed)	.236	.713	.800
	N	177	178	177
DiffB_Below_Age	Pearson Correlation	.129	.073	.075
	Sig. (2-tailed)	.058	.283	.275
	N	216	217	216
jDiffC_Below_Age	Pearson Correlation	.087	.009	.064
	Sig. (2-tailed)	.207	.892	.352
	N	213	214	213
DiffA_At_Age	Pearson Correlation	.339**	.141	.205
	Sig. (2-tailed)	.002	.208	.067
	N	81	81	81
DiffB_At_Age	Pearson Correlation	.308*	.155	.108
	Sig. (2-tailed)	.047	.327	.497
	N	42	42	42
DiffC_At_Age	Pearson Correlation	.427**	.373*	.401**
	Sig. (2-tailed)	.003	.012	.006
	N	45	45	45

Analysis of family outcomes data by key demographic variables

A series of analyses were conducted using NYIFS measures for families who responded to the NY Family Survey between 2008 and 2013 (n=6501). The purpose of these analyses was to better understand factors associated with families' perceptions of the helpfulness of NYSEIP to the family.

Results of these analyses indicated no statistically significant differences in mean NYIFS measures for children with vs. children without a specific diagnosis. Similarly, the correlation between the child's severity of delay (on a scale from 0-5) and the family's NYIFS measure was not statistically significant, $r = -.006$, $p = .634$.

Conversely, statistically significant associations were found for the following variables: Medicaid eligibility, race, home language, and county. The results for these variables are presented below.

Medicaid

The mean NYIFS measure for families with Medicaid was higher than that for families who did not have Medicaid, M = 649.26 vs. M = 637.02.

Table 13. Mean NYIFS Measure by Medicaid Status

Mean NYIFS Measure by Medicaid Status					
Medicaid Status	**n**	**Mean NYIFS Measure**	**Std Error**	**95 % Confidence Interval**	
				Lower Bound	Upper Bound
No	3862	637.02	2.42	632.27	641.76
Yes	2639	649.26	3.12	643.15	655.38

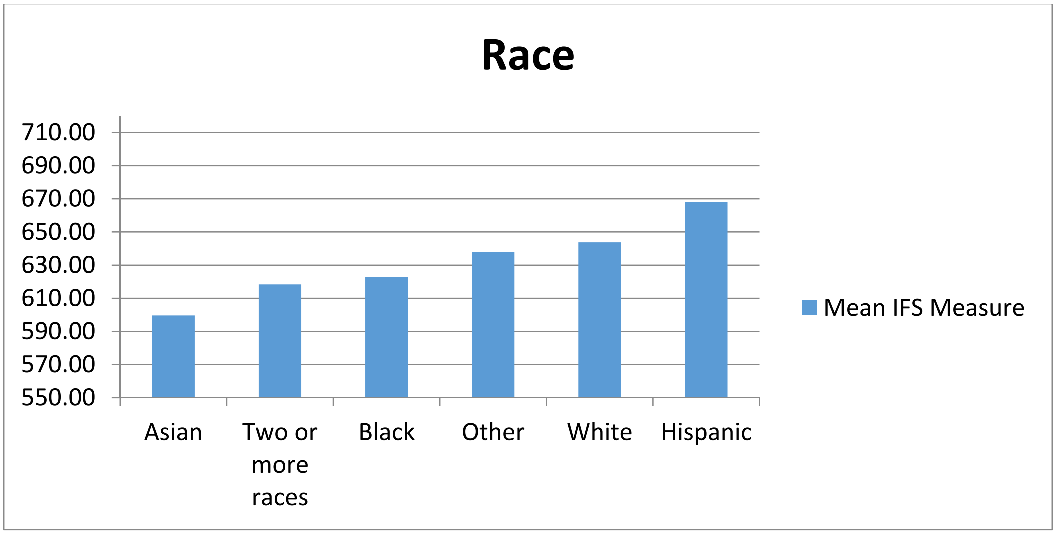
Race

Mean NYIFS measures by racial group ranged from 599.62 (Asian) to 668.13 (Hispanic). The mean NYIFS measure for families identified as Asian was *lower* than the mean NYIFS measure for families identified as Hispanic, White, or other. The mean NYIFS measure for families identified as Hispanic was *higher* than the mean NYIFS measure for families identified as African American, White, or other.

Table 14. Mean NYIFS Measure by Race

Mean NYIFS Measure by Race					
Race	**n**	**Mean NYIFS Measure**	**Std Error**	**95 % Confidence Interval**	
				Lower Bound	**Upper Bound**
Asian	191	599.62	8.39	583.06	616.17
Two or more races	69	618.40	21.08	576.33	660.46
Black	336	622.81	8.73	605.64	639.97
Other	1934	638.01	3.49	631.17	644.85
White	3277	643.73	2.70	638.44	649.01
Hispanic	694	668.13	6.05	656.25	680.01

Figure 7. Mean NYIFS Measure by Race/Ethnicity



Language

The mean NYIFS measure for families identified as Spanish speaking, M = 678.48, was higher than the mean NYIFS measure for families identified as English speaking, M = 639.85, or for speakers of other languages, M = 638.95.

Table 15. Mean NYIFS Measure by Language Spoken

Mean NYIFS Measure by Language					
Language	**n**	**Mean NYIFS Measure**	**Std Error**	**95 % Confidence Interval**	
				Lower Bound	Upper Bound
English	3509	639.85	2.65	634.65	645.05
Spanish	419	678.48	7.25	664.24	692.72
Other	2573	638.95	2.98	633.10	644.80

Analysis of Family Outcome Data at the County Level

Appendix 8 displays family outcomes data by county. Mean NYIFS measures varied substantially and ranged from a low of 551.18 to a high of 711.63. (Data for one county are not included due to very small cell size). The overall test for the presence of statistically significant variation was positive, indicating differences between at least some counties and others. The statistical significance of any given comparison depends not only on the magnitude of the mean difference but also on the n's being compared. However, the broad picture of variability can be captured by the chart below, in which the counties are arrayed in ascending order of their mean NYIFS.

Figure 8. Mean NYIFS Measure by County

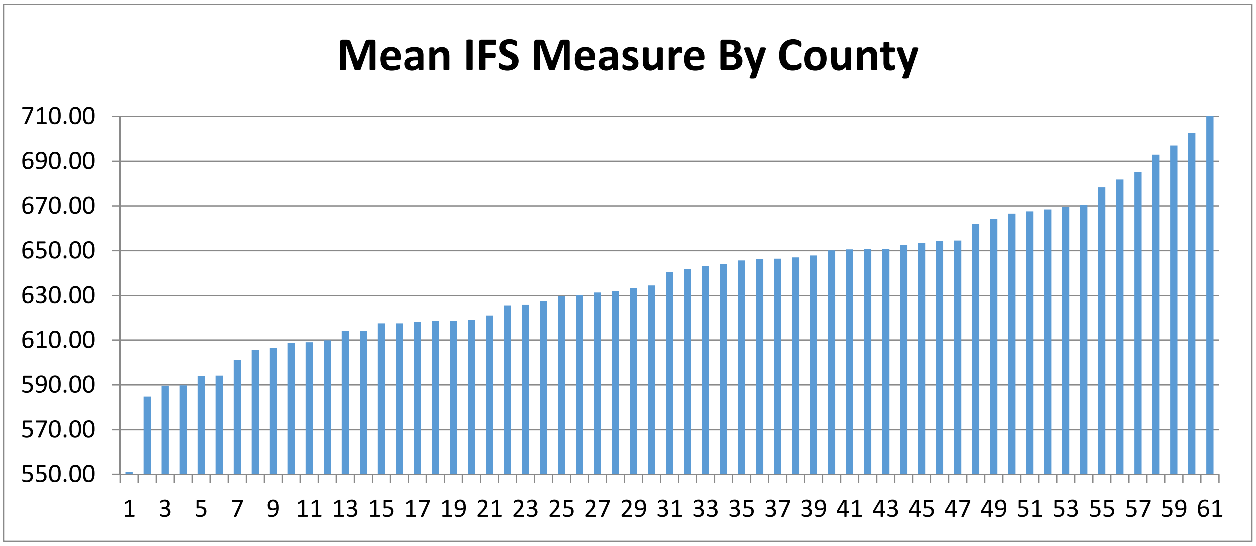


Figure 9 displays the family outcomes data by the percent of families in each county who meet the State standard for the minimum positive impact of Early Intervention Program services on family outcomes considered acceptable for accountability purposes. The percent of families meeting the State standard also ranged considerably, from a low of 27% to a high of 78% of family respondents to the NYIFS.

Figure 9. Percentage of Families Meeting the NYIFS State Standard

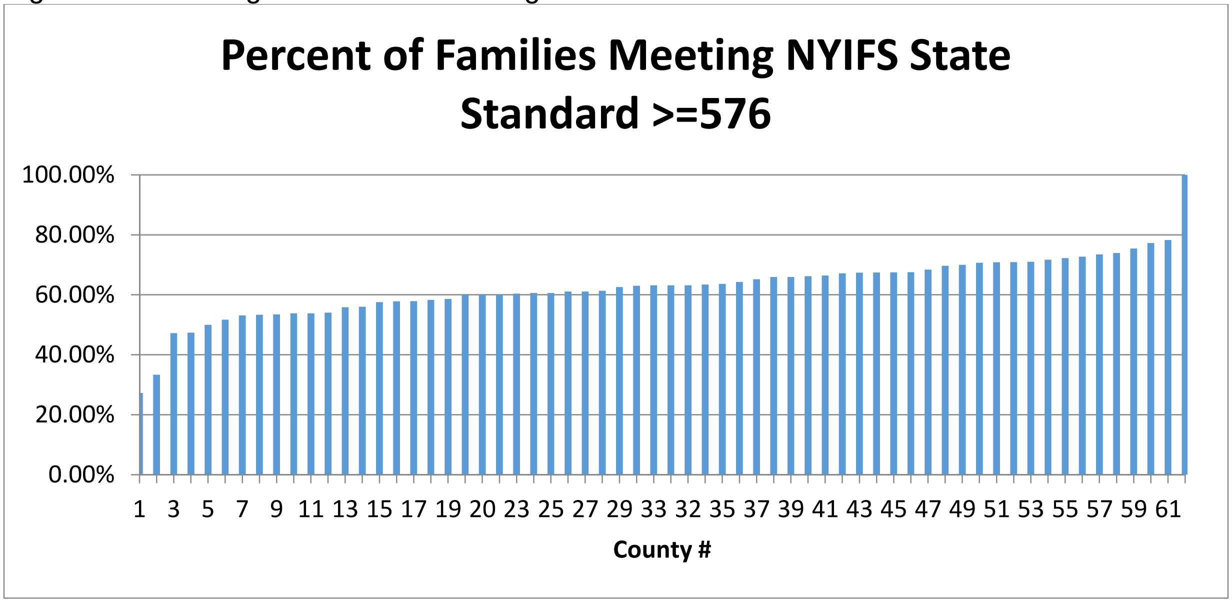
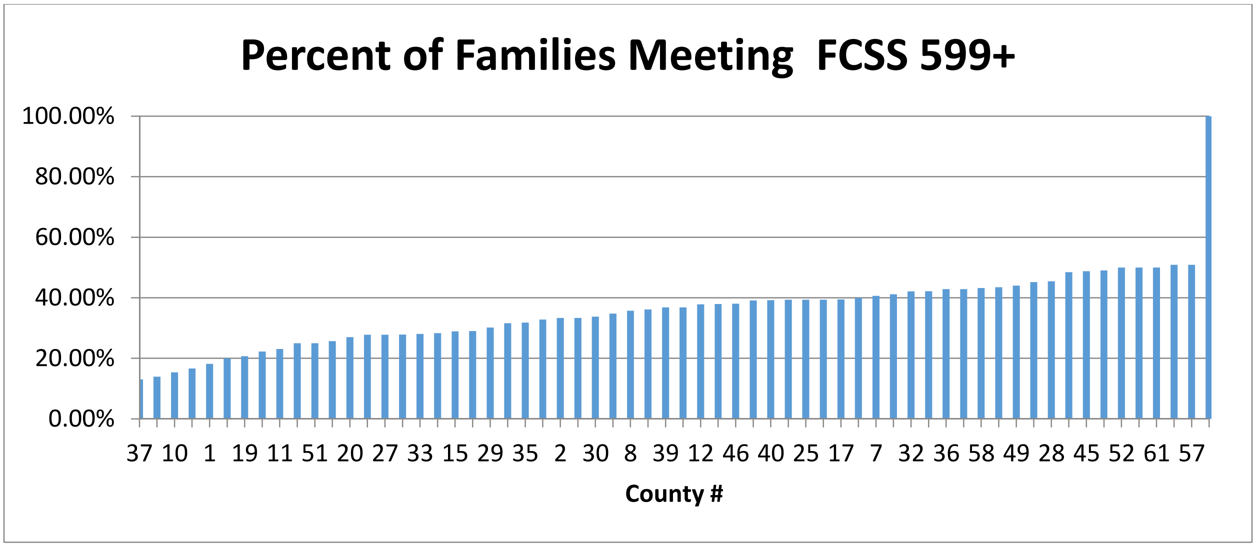


Figure 10 displays the percent of families in each county who meet the State standard for receiving the minimum level of quality family-centered services, as measured by the national FCSS, for families who responded to the NYS Family Survey. The percent of families who reported receiving the minimum level of quality family centered services varied substantially, ranging from a low of 13% to a high of 51%.

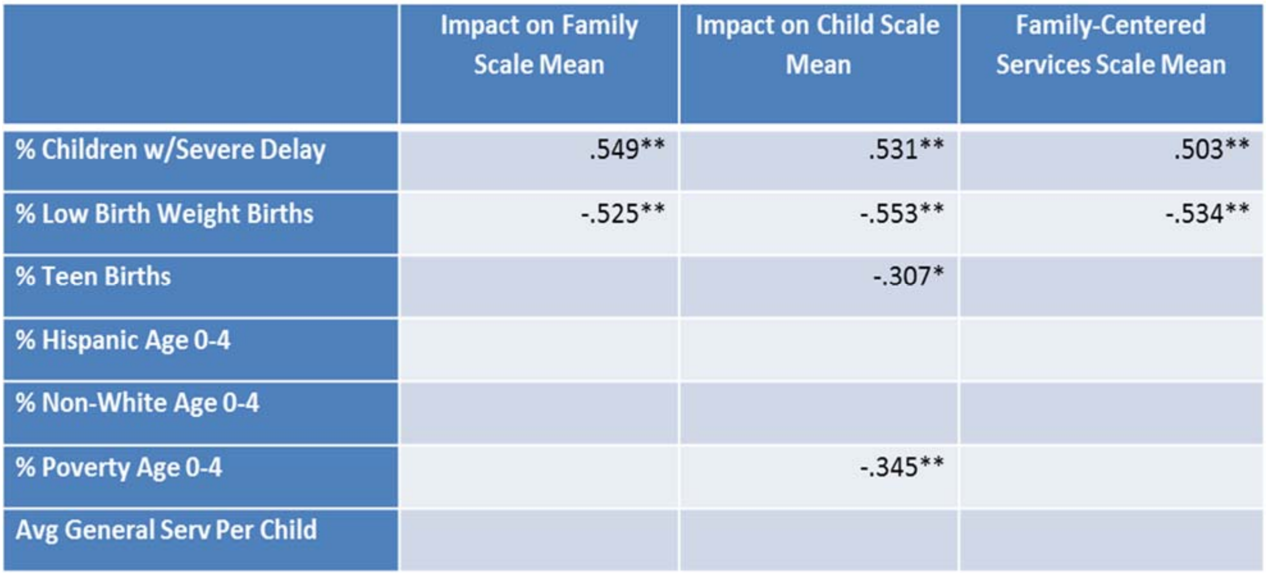
Figure 10. Percentage of Families Meeting the FCSS State Standard



Correlations between mean county-level family measures and county-level health, demographic, and service variables

As seen in Table 16, measures on the three family scales showed a number of highly significant associations with county-level variables. The higher the percentage of children with severe delays, the greater the perceived family-centered quality of services provided and the greater the positive impact of NYSEIP that families reported both for their family and their child. The greater the percentage of low birth weight births, the lower were county's average measures on the family scales.

Table 16. Correlations among NYS Family Survey Scales (NYIFS, NYICS, and FCSS) and County Demographic and Early Intervention Variables



	Impact on Family Scale Mean	Impact on Child Scale Mean	Family-Centered Services Scale Mean
% Children w/Severe Delay	.549**	.531**	.503**
% Low Birth Weight Births	-.525**	-.553**	-.534**
% Teen Births		-.307*	
% Hispanic Age 0-4			
% Non-White Age 0-4			
% Poverty Age 0-4		-.345**	
Avg General Serv Per Child			

Analysis of Variance to Test for Interactions

A two-way analysis of variance was conducted to test for interaction effects between county and race, and county and Medicaid status. No significant interactions were found.

Summary and conclusions: Family Outcomes Data

The following summarizes results found when analyzing family outcomes data at the individual level:

- The trends in all three Indicator 4 family outcomes have been relatively stable over time.
- Neither the developmental status of children (level of severity of delay) on entry to the program nor the presence of a reported diagnosed condition with a high probability of developmental delay appeared to have an impact on attainment of family outcomes.
- The mean score on the NYIFS varied widely across counties, as did the percent of families who met the State standard for minimum positive impact of Early Intervention Program services on family outcomes considered acceptable for accountability purposes.
- The percentage of families who reported receiving the minimum level of quality family-centered services varied widely across counties.
- Quality of early intervention services, as measured by the national FCSS is very highly and positively correlated with improved family outcomes as measured by the NYIFS.
- The FCSS and NYIFS are highly correlated with improvements for children who enter age expectations in an outcome area across all three outcome areas. As mentioned earlier, these results must be interpreted with caution, owing to the possible ceiling effects of the COS. It is possible, however that the data indicate that early intervention services are helping parents maintain children's development on a positive trajectory or preventing children's development from regressing.
- Family Outcomes as measured by the family-reported NYIFS, and child outcomes as measured by the NYICS scale were positively correlated with severity of developmental delay on entry to the program (the more severe a child's delays, the greater the positive impact on family outcomes and the higher the perceived level of helpfulness in attaining child outcomes).
- Families in the Medicaid program reported a higher level of helpfulness of early intervention services in attaining family outcomes.
- There were some differences in family outcomes by racial and ethnic groups. Hispanic families reported greater positive impact on family outcomes. Asian families had the lowest scores on the NYIFS, followed by African-American families.

The following summarizes results for county-level analyses of family outcomes data:

- There is high variability in the level of positive family outcomes and family centered services reported by families across counties.
- Analyses to determine whether there were interactions between family outcomes and family-centered services, race, and Medicaid status were not significant (i.e., Medicaid status and race do not affect these measures differently across counties).

The following summarizes the conclusions from analyses of family outcome data.

- The extent to which families are achieving Indicator 4 family outcomes has remained static over the five most recent years of available data.
- There is evidence to support the relationship between family outcomes, family-reported helpfulness of early intervention services in the attainment of child outcomes, and progress in some child outcome areas as measured by the COS.
- There is significant variability across counties in attainment of family outcomes.
- There is significant variability across counties in the extent to which families report they received a minimum level of quality family-centered services.
- Interaction analyses examining Medicaid status and race at the county level indicate that these demographic variables do not impact family outcomes differently in different counties – the direction of the effect is constant.

Analysis of State Infrastructure to Support Improvement and Build Capacity Section

OSEP Instructions:
A description of how the State analyzed the capacity of its current infrastructure to support improvement and build capacity in EIS programs and/or EIS providers to implement, scale up, and sustain the use of evidence-based practices to improve results for infants and toddlers with disabilities and their families. State systems that make up its infrastructure include, at a minimum: governance, fiscal, quality standards, professional development, data, technical assistance, and accountability/monitoring. The description must include current strengths of the systems, the extent the systems are coordinated, and areas for improvement of functioning within and across the systems. The State must also identify current State-level improvement plans and other early learning initiatives, such as Race to the Top-Early Learning Challenge and the Home Visiting program and describe the extent that these new initiatives are aligned, and how they are, or could be, integrated with, the SSIP. Finally, the State should identify representatives (e.g., offices, agencies, positions, individuals, and other stakeholders) that were involved in developing Phase I of the SSIP and that will be involved in developing and implementing Phase II of the SSIP.

Goal:

The goal of the analysis of the current infrastructure of the New York State Early Intervention Program (NYSEIP) is to support the implementation of the coherent improvement strategies for the State Systemic Improvement Plan (SSIP). Using the information obtained from the analysis, the NYSEIP will leverage and build upon the existing capacity of the local early intervention programs (municipalities) and providers to implement, scale up, and sustain the use of evidence-based practices to improve results for infants and toddlers with disabilities and their families, as measured by the State-identified Measureable Result (SIMR).

Data Sources for the Infrastructure Analysis:

The following data sources were reviewed for the infrastructure analysis:

1. Early Intervention program and administrative data from the current information system called the New York State Early Intervention System (NYEIS) and the legacy information system called the Kids Integrated Data system (KIDS)
   - Comprehensive administrative and program data about the population of infants and toddlers served
   - Beginning in September 2010 through December 2013, local programs began entering newly referred infants and toddlers into the online information system (NYEIS)
   - Infants and toddlers with records already entered in the legacy information system (KIDS) remained in that data system until they exited the program
2. State Fiscal Agent (SFA) claims data
   - Comprehensive provider claiming information for services rendered from July 1, 2013 to June 30, 2014
3. Billing and Rendering Provider data
   - Information about providers with agreements to bill for services and to render services, including the providers qualifications and the unique National Provider Identification (NPI) number that was linked to SFA claims data
4. Child and Family Outcomes data
   - Data on child and family outcomes required to be reported as part of the State Performance Plan (SPP) Annual Performance Report (APR) are collected through a Memorandum of Understanding with the University at Buffalo and are described in the APR in indicators 3 and 4.

  - Analyses to identify the SIMR relied upon these data. These data were included in the identification of local programs to implement the coherent strategies so the existing infrastructure for the collection of the outcome data could be leveraged for the SSIP.
5. Monitoring data
   - Extensive data about monitoring and findings are maintained in an Access database linked to the administrative, claim and provider data through a unique provider identifier
   - These data were reviewed but were not reported in the infrastructure analysis
6. Provider Professional Development Survey data
   - Survey data assessing statewide training needs

Early Intervention Administrative, Claim, and Provider Data:
The Department analyzed NYEIS, KIDS, SFA, and billing and rendering provider data to describe and evaluate the NYSEIP system in New York State. The time period for the analysis was July 1, 2013 to June 30, 2014.

The NYSEIP is a vast and comprehensive service delivery system that serves a large, diverse population of eligible infants and toddlers and their families.

Based on provider claiming data for NYSEIP services, there 92,923 infants and toddlers who received at least one service during that time. Among these infants and toddlers, 68,038 were found eligible and had an initial IFSP. The mean age at the time of the referral, eligibility determination, initial Individualized Family Service Plan (IFSP) and first general service was 18.3, 18.3, 18.6, and 19.5 months.

Among the children served, 63.9% were male and 36.1% were female. The diversity of New York was reflected in the NYSEIP population. Slightly more than half of the infants and toddlers were White (52.1%), while 27.4% were Hispanic, 11.3% were Black or African American, 5.5% were Asian, 3.5% were More than one Race, and 0.3% were another Race, such as Native American. Over half of the children had Medicaid (52.5%).

The vast majority of infants and toddlers were found eligible due to a developmental delay (84.4%) as compared to an established condition (15.6%). The most common established conditions among those children with diagnosed conditions were Apraxia (45.4%); Autism (34.3%); Extreme Prematurity (21.1%); Chromosomal Anomaly, such as Down syndrome (9.4%), Hearing Loss (7.6%); Cleft Palate (3.4%); and the rest of the established conditions (13.4%). A child could have more than one established condition (e.g., Down syndrome and extreme prematurity); each condition was counted so the total is greater than 100%. For the infants and toddlers found eligible in the five domains (adaptive, cognitive, social emotional, communication, and physical), a severity score was used to assign a numeric value for the severity of delay in each domain. If one domain had a severe enough delay to alone establish eligibility, a score of one was assigned. If there was a delay in a domain but the delay was not severe enough to establish eligibility without a delay in another domain, a score of 0.5 was assigned. If there was no delay in the domain, then a score of zero was assigned. The five domains were summed for each infant and toddler. The mean severity score was 1.6, so on average infants and toddlers were delayed in multiple domains.

From July 1, 2013 to June 30, 2014, there were 7,389,063 early intervention services provided. Of these services. 20% were service coordination, 1.5% were evaluations, and 78.5% were general services. Special instruction, speech language pathology, physical therapy and occupational therapy comprised almost 97% of the general services that were provided. The other services provided include family support groups, family training, nutrition, assistive technology support, and social work.

In order to serve eligible infants and toddlers, the NYSEIP has an extensive work force. There were 1,063 entities that oversaw the delivery of services and claimed for reimbursement of those services. There were 380 agencies, 628 individual practitioners, and 55 municipal providers of services.

The agencies employ a mean of 55 individual rendering providers, but the median is 20 individual rendering providers. Agencies subcontract on average with 55 individual rendering providers, with a median of two subcontractors. There are agencies in New York City with over 1,000 employees and/or subcontractors. The agencies provided services to 437.1 infants and toddlers on average, but the median was 155.5 infants and toddlers. The largest agency in New York City served over 9,000 infants and toddlers and provided over 400,000 services during the year. The agencies served almost three counties each, but the range is between one and 15 counties in their service areas.

The individual practitioners, who are more commonly in the more rural areas of the state, on average served 14 infants and toddlers and provided 391 services during the year. Individual practitioners served just over one county on average but the range was from one to five counties served. There were 55 municipal providers which most commonly provide initial service coordination; some municipal providers able to complete evaluations as well.

The SFA claim data captures the National Provider Identifier (NPI). In the federal program year 2013-2014, 16,804 rendering providers delivered services to infants and toddlers. The majority of providers delivered general services, with the most delivering special instruction (5,822) and speech language pathology (4,596), followed by occupational therapy (2,114) and physical therapy (1,829). A small subset of rendering therapists are qualified to provide more than one type of service, so the total does equal 100%.

To assess capacity, a ratio of infants and toddlers to rendering providers was calculated. Statewide, the overall ratio is 5.5 to 1; however, the ratio differs by type of service. For service coordination, the ratio was 51.0 to 1 and for evaluation 16.5 to 1. For general services the ratio was 4.2 to 1. Among general service providers, there was a range with speech language pathologists having a ratio of 10.0 to 1, occupational therapists were 9.7 to 1, special instructors were 5.2 to 1, and physical therapists were 13.4 to 1.

Since many rendering providers serve young children through the Part B 619/New York State Education Department's preschool special education programs and services, as well as in private practice settings, the productivity of the rendering providers was assessed. Based on an assumption that providers would be available to provide services 200 days out of the year, the rendering provider was categorized as high volume (four or more services per day), medium volume (two to less than four services per day), or occasional (less than two services per day). The majority of rendering providers deliver less than two services per day (66.9%). Occupational therapists are the highest at 74.7% delivering less than two services per day while physical therapists are the lowest at 61% delivering two or less service per day. Overall, only 15.4% of rendering providers are delivering four or more services per day.

There is a wide range in the intensity levels of services delivered to infants and toddlers and their families participating in the program. On average over the year, eligible infants and toddlers received 96.5 services, which equates to 2.4 services per week. The upper range (top 1%) was 860 services which equates to 21.5 services per week. The median number of services received was 46.0 services or 1.15 services per week. Using the assumption that infants and toddlers would be available to receive services 200 days out of the year, they were categorized into very high intensity (10 or more services per week), high intensity (three to less than 10 services per week), medium intensity (one to less than three services per week), or low intensity (less than one service per week). Based on these categories, 4.4% of eligible infants and toddlers were categorized as very high intensity, while 17.2% were high intensity, 33.3% were medium intensity, and 45.2% were low intensity.

The productivity of the rendering provider and the intensity of the infants' and toddlers' needs were taken into account to calculate a weighted ratio infants and toddlers to rendering providers. The weighting changed the ratios in different directions depending on the service type. The overall ratio for general services changed from 4.2 to 1 to 6.3 to 1. For special instruction, the ratio changed from 5.2 to 1 to 6.5 to 1. For speech language pathologists, the ratio changed from 10.0 to 1 to 8.5 to 1. For occupational therapists, the ratio changed from 9.7 to 1 to 8.8 to 1, and for physical therapists, the ratio changed from 13.4 to 1 to 9.6 to 1.

The APR indicator for timely service (indicator 1) was disaggregated by service type. Overall, 95.0% of the special instruction services were delivered within 30 days of authorization, followed by speech language pathology services (93.5%), while occupational therapy (82.4%) and physical therapy (89.5%) were often delivered within 30 days of authorization. Special instruction and speech language pathology services are the more commonly delivered services. There was not a clear correlation with the capacity though.

All of these analyses were disaggregated by municipality (local programs). Since there are 57 counties and the five counties of New York City, the data are too extensive to include in the narrative.

Individual county-level data from the infrastructure analysis are attached (see Appendix 9). Also included in the table, is a summary score for each municipality's local determination for the past five years. Each year, the Department assesses the local program's performance and issues a formal determination of Meets Requirements, Needs Assistance, or Needs Intervention. The Department makes this determination based on the performance of the local program (municipality) on the federal Annual Performance Report indicators. These determinations were used as a way of aggregating the APR indicators and creating a summary of overall performance over time. For each determination of Needs Intervention, a score of two was assigned. For each determination of Needs Assistance, a score of one was assigned. For Meets Requirements, a score of zero was assigned. A higher score for a county means that county had more determinations of Needs Intervention or Needs Assistance. The municipality scores ranged from zero to seven.

For the analysis disaggregated by county, there was no clear association between capacity and timeliness of services or local determination scores. The analysis can inform the SSIP as counties and providers within counties are identified to implement the coherent strategies and to measure the impact of those strategies.

Child and Family Outcome Data:

In accordance with the sampling procedures approved by the US Department of Education Office of Special Education Programs (OSEP), the Department is using a sampling methodology to measure and report on OSEP-required child outcome data for Indicator 3 and family outcome data for Indicator 4 in its Annual Performance Reports (APR).

As described earlier, the Department uses the NYIFS, administered as part of the NYS Family Survey, to collect data on the three federally-required family outcomes. The survey sampling methodology is stratified by municipality to ensure that the families invited to participate in the NYS Family Survey are geographically representative of the families participating in the NYSEIP. The sample of invited families, who are sent the NYS family survey, is selected so that the infants and toddlers of those invited families are representative of the gender, race/ethnicity, language, and age at referral of the NYSEIP population.

To implement the SSIP, the approved sampling plan will be leveraged to select the counties already planned to be oversampled in the federal program years 2014-2015 and 2015-2016, which are the small counties and the New York City borough of New York (Manhattan) in the first two years. All families in these counties will be invited to complete the NYS Family Survey. In subsequent years, the rest of the counties will be included following the approved plan to collect and report family outcome data as part of the APR.

Monitoring Data:

The Department, through a contract with the Island Peer Review Organization (IPRO), Inc., conducts monitoring of early intervention providers and municipalities to determine compliance with federal and state law and regulations. The contractor maintains all data related to monitoring determinations through an electronic data collection system. All data collected during statewide, onsite monitoring encounters are entered into the data system to compile and produce electronic monitoring reports for each provider or municipality monitored, and to provide ad hoc and routine data reports to the Department on a monthly or more frequent basis.

Monitoring data reports are provided that consist of monthly monitoring activities, findings related to each provider or municipality monitored, focus on specific areas of determinations, and other aggregated reports, as needed. Monitoring tools utilized to measure compliance with federal and state law and regulation include the areas of service coordination services, evaluation services, general early intervention services, confidentiality procedures, health and safety, and provider qualifications. Monitoring of NYSEIP providers is routinely accomplished by on-site observation of facilities, review of child records, review of NYSEIP data system information, review of personnel records, review of written policies and procedures, and interviews with providers who render early intervention services and parents of children who receive early intervention services. The monitoring tool utilizes multiple methods to establish compliance or non-compliance with federal and state law and regulations.

The monitoring data can be incorporated into the SSIP to identify and track the performance of provider agencies.

Provider Professional Development Data:

The Department recently conducted a survey to assess provider training needs. The survey was emailed to 3,354 NYSEIP stakeholders (consisting of providers, local programs, parents and other interested parties) on May 21, 2014, inviting them to participate in a Survey Monkey.

The goal of this survey was to obtain input for new training and suggestions for adapting established training to meet the current needs of EI stakeholders. The survey consisted of 14 questions, two of which requested demographic information from respondents; the remaining twelve asked about attendance at training sponsored by the Department, helpfulness, ideas for new training topics, methods and logistics for future training and other information that a respondent may believe is important for the Department's consideration to include in a future training procurements.

The survey was available to stakeholders until June 19, 2014. The responses were as follows: 493 responses were received; most responders were providers from early intervention agencies (44%), individual providers (28%), and local municipal staff (19%). There were only a few responses from parents (2%) and "other" stakeholders (7%). Respondents were regionally representative of New York State. Three of the key trainings identified as needed and of interest were those related to group developmental intervention standards, health and safety standards, and foster care or surrogacy protocols. The providers are interested in increasing the quality of care and the identification and integration of best practices into their services.

The survey results will be used to inform coherent improvement strategies to be implemented as part of the SSIP and support the professional training needs identified by providers and local program officials.

Key Infrastructure Components:

The following are the key infrastructure components of the New York State Early Intervention Program, with detailed descriptions of each component:

1. Governance
2. Fiscal
3. Quality Standards and Professional Development
4. Technical Assistance
5. Monitoring

Governance:

The New York State Early Intervention Program (NYSEIP) is the statewide system of early intervention services for infants and toddlers with disabilities and their families under Part C of the Individuals with Disabilities Education Act (IDEA). This comprehensive service system supports the delivery of NYSEIP services to approximately 65,000 eligible children and their families annually, and as such, is one of the largest early intervention systems in the United States.

The New York State Department of Health (Department) was designated by the Governor as lead agency for the NYSEIP in 1987, and was statutorily designated with the enactment of State Public Health Law (PHL), establishing a statewide early intervention system consistent with Federal Part C IDEA requirements. As lead agency for the NYSEIP, the Department is responsible under Section 2550 of PHL for overall administration and supervision of the state's early intervention system, including monitoring of agencies, institutions, and organizations providing early intervention services; enforcing any obligations under PHL and Part C of IDEA; providing training and technical assistance to municipalities, providers, and parents; correcting deficiencies that are identified through monitoring; and maintaining a comprehensive system of personnel development to promote the availability of qualified personnel to deliver early intervention services to eligible children and their families.

The Department is responsible for ensuring parents and children receive the rights and entitlements afforded to them under state and federal law; establishing reimbursement rates for early intervention services, with the approval of the Division of Budget; fiscal management and payment of early intervention claims through a State Fiscal Agent under contract with the Department; auditing and oversight of fiscal operations related to the NYSEIP, including claiming of commercial insurance and Medicaid; and reimbursement of state aid to municipalities for the state share of early intervention services delivered to eligible children and their families.

The 57 counties and New York City in New York State (referred to as “municipalities”) are responsible for local administration of the NYSEIP. Municipalities have significant authority and responsibility in PHL for the NYSEIP, including child find and public awareness, development and oversight of individualized family service plans (IFSPs) for eligible children and their families; monitoring and auditing of NYSEIP providers; due process procedures for families; and funding of NYSEIP services delivered to eligible children and families residing within their localities.

The Bureau of Early Intervention (BEI) manages state NYSEIP operations, under the auspices of the Division of Family Health within the Center for Community Health, Office of Public Health. BEI works collaboratively with many partners across the Department on NYSEIP operations, including the Office of Public Health, Informatics, and Project Management (NYEIS development and operations), Office of Health Insurance Programs (Medicaid, Child Health Plus, and commercial insurance reimbursement); Fiscal Management Audit Unit (auditing of municipalities and providers) and Division of Legal Affairs (legal advice and support on issues related to the NYSEIP).

The Early Intervention Coordinating Council (EICC) is a 27-member Governor-appointed Council is comprised of parents, NYSEIP provider representatives, Early Intervention Officials (EIO) representing municipalities, and the state agency partners described above. The EICC meets quarterly, and convenes task forces on an as-needed basis to assist the Department in addressing specific and pressing policy issues. The EICC is actively involved in providing advice and assistance to the Department on ongoing and emerging issues related to the NYSEIP. The task forces of the EICC have assisted the Department in issuance of policy and procedural guidance on transition, evaluation, eligibility, health and safety requirements, marketing guidelines, and group developmental intervention services.

Fiscal:

The Department oversees the administration, including fiscal policy, planning, provider reimbursement, and claiming to third party payers, such as Medicaid and private insurance. The Department has a contract with the Public Consulting Group (PCG) to serve as the State Fiscal Agent (SFA). The SFA maintains an information system with extensive data and reporting functionality.

The infrastructure analysis included data from the SFA. These data are routinely monitored by the Department to assess billing and claiming timeliness, capacity, and insurance reimbursement. These data will continue to be monitored to evaluate whether any changes implemented have an impact on the service delivery system operations.

Quality Standards and Professional Development

New York State maintains a comprehensive system of professional development (CSPD) for NYSEIP providers, who are qualified and credentialed through the New York State Education System, for municipal staff who administer local early intervention programs, and for other key early intervention stakeholders.

New York State's CSPD includes implementation of training contracts which provide in-person statewide training opportunities for current early intervention personnel to gain knowledge and develop skills to deliver early intervention services that are of high quality and conform with federal and state requirements, including the delivery of services in natural environments, as appropriate.

Training contracts also provide training opportunities for other stakeholders including parents, municipal staff, primary referral sources, primary health care providers, day care providers, local social services district staff, early childhood direction center staff, local school district staff and other public health facility staff.

Current training is evaluated based on development of an objective process to measure the degree to which current early intervention curricula contain information and strategies describing and promoting best practices to deliver early intervention services. Each training curriculum has an evaluation process completed at the end of the training session. The training evaluations are compiled and analyzed to determine if the curriculum meets the needs of the providers and other stakeholders in the field. Additionally, when a new training curriculum is developed, Department staff attend the first session to evaluate the content and the reception of the new training. Based on the in-person evaluation and written evaluation feedback, revisions are made to the content and delivery method, as appropriate.

Training curricula are updated or new curricula are developed, based on formal needs assessments surveys, which are carried out periodically to gain input from the field and early intervention stakeholders. Based on the results of the needs assessment, new curricula topics are researched and developed or current curriculum content is revised.

Additionally, training curricula are developed or revised, based on specific needs, where current gaps of knowledge are identified through the statewide monitoring system determinations and through analysis of technical assistance responses on specific topics.

Technical Assistance:

New York State maintains a comprehensive approach to technical assistance for municipalities, providers, families and other stakeholders engaged in the NYSEIP.

Department staff is responsible for fielding telephone calls on a daily basis and responding to emails, letters and other forms of communication from municipalities, providers, parents, the public and all other stakeholders. Communication may be on a variety of issues, complaints, concerns and questions related to all aspects of the NYSEIP.

The Department develops and provides periodic written policy and procedural guidance (Guidance Documents) on state and federal requirements for the NYSEIP on a regular basis. For this reporting period, a formal Guidance Document on Group Developmental Intervention Services for the NYSEIP was issued. Additionally, the Department revised guidance on Billing for Service Coordination Activities and produced several documents for Service Coordinators that were compiled into a Service Coordinator Tool Kit.

The Department also provides technical assistance regarding best practices in identification, evaluation and service delivery in the form of evidence-based clinical practice guidelines in the areas of Communication Disorders, Autism/Pervasive Developmental Disorders (PDD), Motor Disabilities, Down syndrome, Hearing Loss, and Visual Impairment. Department staff provide technical assistance and responds to inquiries regarding the use and content of the policy Guidance Documents and the Clinical Practice Guidelines.

Monitoring:

The Department contracts with a review organization, called IPRO, to conduct on-site monitoring activities of municipalities who locally administer the New York State Early Intervention Program and approved providers who directly render early intervention services. On-site comprehensive monitoring is conducted by the Department’s contractor, whose staff uses tools that include multiple methods of evaluation of an early intervention program to ensure compliance with Federal requirements of IDEA. Monitoring protocols include the following:

- Review of a sample of child records at a provider’s or municipality's onsite location where early intervention services are provided, or at a location determined by the contractor, if only home-based and community-based services are provided;
- Review of written policies and procedures regarding all early intervention processes, including confidentiality of child records, program administration, personnel records, billing records, and evaluation reports;
- Immediate processes for correction of noncompliance should a health and safety violation be determined;
- For each finding of noncompliance that is a violation of IDEA requirements or New York State (NYS) requirements, a written report is issued and the provider/municipality must submit a Corrective Action Plan (CAP) within 45 days of receipt of their report;
- The CAP must include identification of the root cause of the noncompliance, strategies for implementation to correct the noncompliance; revision of pertinent policies and procedures, organizational changes that will be implemented to achieve correction, plan to provide training, supervision and oversight to assure staff carry out new policies and procedures, and quality assurance measures that will be implemented to ensure corrections are being implemented;
- CAPs are reviewed by Department staff no later than 60 days of receipt from the provider. Letters of approval or needs correction are sent to providers/municipalities. If the CAP needs correction, written technical assistance is included to assist the provider/municipality to revise their CAP. If revision is required, the CAP must be submitted within 10 days for Department staff review;
- Verification of correction of noncompliance reviews are conducted subsequent to CAP approval to ensure that correction is achieved at the individual child level and the systemic level. This may be conducted by multiple methods, including on-site review of child records, interviews with providers/municipal staff, review of revised policies and procedures and submission of a subset of child records to the Department for review;
- A provider/municipal staff may be required, as a part of their CAP, to attend Department-sponsored statewide training, if numerous or repeat findings of noncompliance are determined;

- A provider/municipal staff may also be required as part of their CAP, to participate in targeted technical assistance calls with the Department staff to brainstorm about root cause of noncompliance and to discuss strategies to correct noncompliance.

If continued noncompliance occurs with providers or municipalities, additional enforcement actions are taken, which include withdrawal of Department approval, fiscal audits and reporting to Office of Professions, Office of Teaching and/or Office of the Medicaid Inspector General.

These monitoring activities will continue and be integrated into the SSIP.

For the infrastructure components detailed above, the SSIP will be successful if it builds upon their strengths, if these components are coordinated, and if they are strengthened through the SSIP process.

The most important overall strengths include that the Department collects extensive, comprehensive data across all of the key components in a systematic manner to facilitate review, analysis, and evaluation. These existing data sources can be leveraged for the quality improvement efforts for the SSIP, which will rely upon the frequent and ongoing measurement of the impact of implementing coherent improvement strategies.

A second strength is that these key components are coordinated within the existing infrastructure. The SSIP can leverage this coordinated effort and goal to provide high quality services to improve outcomes for families which can in turn facilitate improved outcomes for infants and toddlers with developmental disabilities and delays.

While there are many strengths, there is always room for improvement. The Department will work to better integrate data collected for administration, monitoring, provider approval, due process. These data are collected for their purpose but are not always consistently integrated to create a complete profile of the local programs and providers. In addition, the Department will work to better visualize the data to be reviewed by internal leadership as well as stakeholders. The Department will work to share data extensively to increase awareness and promote positive changes to improve outcomes for infants and toddlers and their families.

Other State-level Improvement Plans and Early Learning Initiatives

The Bureau of Early Intervention (BEI), which administers the NYSEIP for the Department, is situated organizationally within the Division of Family Health (DFH). DFH is also leads the Department's administration of New York State's Title V Maternal Child Health Services Block Grant (MCHSBG) and the Maternal, Infant and Early Childhood Home Visiting (MIECHV) funding under the auspices of U.S. Department of Health and Human Services (DHHS).

As required by DHHS, the Division is currently developing New York's full Title V MCHSBG application, including a comprehensive Needs Assessment that will assist NY to select maternal child health priorities and develop a five-year State Action Plan by six population health domains, one of which is children with special health care needs. Division leadership believes the NYIFS and the SSIP focus on positive family outcomes and family-centered services will directly inform the Division's work with all children with special health care needs and their families. Strategies to incorporate the focus on the SSIP into New York's focus on children with special health care needs are being explored. BEI staff have been actively engaged in the MCHSBG application development process, including participating in community needs assessments with professionals and families.

The Division's MIECHV funding supports evidence-based home visiting programs with demonstrated positive outcomes in maternal, child health, and child maltreatment, including five Nurse-Family Partnership and five Healthy Families NY home visiting programs home visiting program encompasses 16 home visiting programs located in eight counties in New York State (see Appendix 10 for a list of home visiting programs). The Department was recently awarded an expansion grant of $7.7 million which will fund an additional seven home visiting projects. Home visiting projects are community resources for supporting families with infants and young children in promoting healthy development. Division staff collaborate to ensure that home visiting programs are informed about the importance of developmental screening and how to refer infants and toddlers with suspected delays in development to the NYSEIP.

Division staff, including BEI staff, have been actively engaged with the Department's Office of Health Insurance Programs (OHIP) to implement Health Homes for children in the Medicaid Program. Health homes are an important mechanism for supporting families and their children with special health care needs, including infants and toddlers with developmental delays and disabilities. Division and OHIP staff have been collaborating to develop policies and procedures related to how to coordinate the provision of health home care management and NYSEIP service coordination services, recognizing that a subset of Medicaid children in the NYSEIP will be eligible for health home. The Children's Health Home initiative provides an important opportunity to ensure that infants and toddlers with disabilities in the Medicaid Program and their families have access to comprehensive care management to coordinate their complex health and developmental needs.

New York State's Early Childhood Advisory Council (ECAC), under the auspices of the New York State Council on Children and Families (CCF), http://ccf.ny.gov/council-initiatives/ecac/, was formed in 2009 to provide advice on issues related to young children and their families. The vision of the ECAC is to ensure all young children are healthy, learning, and thriving in families that are supported by a full complement of services and resources essential for successful development.

The ECAC is comprised of experts in education, health care, child welfare and mental health. Members represent state agencies, advocacy groups, foundations, higher education, unions and other key organizations concerned with the well-being of young children and their families, as appointed by the Governor.

The ECAC is working to create a comprehensive early childhood system in New York State that provides every child with the support and services necessary to succeed in school and in life. In turn, this success will ensure stronger families, a more competitive workforce and a brighter future for New York's economy.

The Department has two representatives (the Director of the Division of Family Health and the co-Director of BEI) on the ECAC. In addition, two members of the EICC are also members of the ECAC. Recently, a joint task force with representatives from the EICC and ECAC has been established on social emotional development. The charge for this joint task force is to develop guidance for early childhood professionals, including NYSEIP providers and early care and education providers to assist them, in partnership with families, in promoting and supporting positive social emotional development in young children (ages birth to three years).

The ECAC has six work groups, one of which is the Strong Families Work Group. The purpose of this work group is to support a more coordinated and responsive early childhood delivery system to support families. Work group activities include providing guidance to the New York Parenting Education Program (NYSPEP), a statewide network of parenting education professionals; embedding family engagement standards in New York State's quality rating and improvement system, QualityStarsNY, promoting a sustainable infrastructure for family engagement; and supporting staff at all levels to develop and enhance skills that maximize family engagement and partnership across a range of provider organizations and settings targeting young children.

The co-chairs of the ECAC, one of whom is a member of the EICC, have expressed their commitment to collaborating with the Department in implementation of the SSIP. In addition, the ECAC Strong Families Work Group is interested in exploring ways to use the NYIFS and FCSS scales in other early childhood settings.

Beyond the ECAC, Department staff work closely with CCF staff on a variety of early childhood initiatives, including the Head Start Collaboration Project, the Early Childhood Comprehensive Services Grant, QualityStarsNY, and Project Launch.

The Department collaborates closely with the New York State Education Department to coordinate the NYSEIP and Part B 619 preschool special education programs and services, particularly in the areas of transition and data exchange.

New York State was not the recipient of an Early Learning Challenge Grant. Two applications for this grant opportunity were submitted but were not funded. State agency partners involved in development of these applications, including the Department, State Education Department, and CCF continue to collaborate to improve the quality and coordination of early childhood services for all young children and their families, including infants and toddlers with disabilities and their families.

Stakeholder Involvement

Department staff from the BEI led the effort on phase I of the SSIP. Representatives from BEI included Dr. Donna Noyes and Brenda Knudson-Chouffi, who are co-Part C coordinators co-directors for the Bureau of Early Intervention and the Part C Co-Coordinators for New York State. Additional support was provided by the managers for the functional units within the Bureau and include, Mary-Lou Clifford, Margaret Adeigbo, Ken Moehringer, and Kirsten Siegenthaler, who is also the Part C Data Manager for New York State. Analysis support was provided by Yan Wu, Daniel Kellis, and David Wikoff. All of these BEI representatives as well as additional staff from each of the Bureaus' units will participate in future phases of the SSIP.

The Department established and has maintained a memorandum of understanding with the University at Buffalo to provide a research team and infrastructure for data collection necessary to measure child outcomes, including technical assistance and training for providers and municipalities. The University at Buffalo, Population Public Health Observatory, School of Public Health and Health Professions (UB-SPH), has partnered with the University at Binghamton, Institute for Child Development (UBN-ICD), to provide the range of resources needed to implement both the child and family outcomes data collection effort. Staff of UB-SPH are responsible for data entry, cleaning, and quality control; data management and security; and data analyses necessary to fulfill OSEP reporting requirements. Staff of UBN-ICD have been responsible for development of training and technical assistance materials and provision of ongoing support for municipalities, NYSEIP providers, and families related to the local collection of child outcomes data for children enrolled in sample cohorts.

Dr. Batya Elbaum, University of Miami, has also been an important collaborator in the Department's child and family outcomes data collection system and has worked closely with the Department and UBN-ICD staff on these efforts since 2005. Dr. Elbaum holds a Ph.D. in Developmental Psychology from the University of Utah and is a Professor at the University of Miami, School of Education and Human Development. Her primary goal as an education researcher is to understand and improve outcomes for children with disabilities and their families through rigorous, empirical research, advocacy, and involvement in state and federal accountability programs related to early intervention and special education services.

The Department, in collaboration with UB-SPH, ICD-UBN, and Dr. Batya Elbaum successfully competed for an R-40 Research Grant, funded by the HRSA Maternal Child Health Bureau, to evaluate the impact of early intervention services on children with autism spectrum disorders and their families. The overarching goal of the research project is to model an approach to evaluating the impact of participation in early intervention programs that can be used for program evaluation and quality improvement. The project was initiated in September, 2010 and work on this project was recently completed. Data analyses and preliminary results of this research effort have informed the Department's work on Phase I SSIP, particularly with respect to analyses and interpretation of child and family outcomes.

Department staff worked closely with UB-SPH staff and Dr. Elbaum on the analysis of child and family outcomes as well as the collection of additional county level data available through the US Census, the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, the Kids' Well-being Indicators Clearinghouse, and the National Survey of Children with Special Healthcare Needs. Both of these partners will continue to be involved in Phase II of the SSIP.

The New York State Early Intervention Coordinating Council (EICC) is the Governor-appointed advisory council responsible for advising and assisting the Department of Health, as lead agency for the State's Early Intervention Program, in all aspects of the Early Intervention Program (NYSEIP). The EICC membership includes representation from parents of children with disabilities, providers of early intervention services, public officials responsible for administration of local administration of the NYSEIP, the State legislature, and State agencies involved in administration of early childhood service delivery systems. Two members of the EICC are also members of New York's Early Childhood Advisory Council (ECAC). (See Appendix 11 for a list of EICC members and their affiliations).

On March 12, 2015, the EICC was convened for a special afternoon session of their quarterly meeting to review data analyses completed by Department staff and collaborators documented in the SSIP Data Analysis Plan and provide a recommendation to the Department on selection of the New York SIMR. (See Appendices 12, 13 and 14 for the presentation used to facilitate the EICC discussion). Dr. Batya Elbaum, consultant to the Department on child and family outcomes and the SSIP, facilitated the meeting. Child and family outcome data, as well as infrastructure data, were reviewed and discussed with EICC members. A full discussion of EICC stakeholder involvement is presented in the next section, on the State Identified Measurable Results.

EICC members will continue to participate as key stakeholders in phase II of the SSIP.

State-identified Measurable Result(s) for Infants and Toddlers with Disabilities and Their Families Section

OSEP Instructions: A statement of the result(s) the State intends to achieve through the implementation of the SSIP. The State-identified Measurable Result(s) for Infants and Toddlers with Disabilities and their Families must be aligned to an SPP/APR indicator or a component of an SPP/APR indicator. The State-identified Measurable Result(s) for Infants and Toddlers with Disabilities and their Families must be clearly based on the Data and State Infrastructure Analyses and must be a child- or family-level outcome in contrast to a process outcome. The State may select a single result (e.g., increase the rate of growth in infants and toddlers demonstrating positive social-emotional skills) or a cluster of related results (e.g., increase the percentage reported under child outcome B under Indicator 3 of the SPP/APR (knowledge and skills) and increase the percentage trend reported for families under Indicator 4 (helping their child develop and learn)).

***Statement*:**

Increase the percentage of families exiting the New York State Early Intervention Program (NYSEIP) who report that NYSEIP helped them achieve the level of positive family outcomes defined in conjunction with stakeholders as representing the State standard.

***Description*:**

The State standard is the percent of families who have a measure >=576 on the New York Impact on Family Scale. Families with a measures at or above the standard have a very high likelihood of agreement with all the NYIFS items having a location on the scale that is lower than, or equal to, the location of the item, "*Early intervention services have helped my family use services to address my child's health needs*".

The State standard encompasses all three Indicator 4 family outcomes (percent of families participating in Part C who report that early intervention services have helped the family know their rights; percent of families participating in Part C who report early intervention services have helped the family effectively communicate their children's needs; and, percent of families participating in Part C who report that early intervention services have helped their child develop and learn). Therefore, families who meet the State standard will have achieved all three Indicator 4 family outcomes.

Table 17 provides items on the New York Impact on Family Scale, ordered from most difficult to endorse to least difficult to endorse, and depicts the State standard for minimum positive family outcomes.

Table 17. NYIFS Items ordered from most difficult to least difficult to endorse

Item Parameter	Impact on Family Scale Family Outcome Item
	Early Intervention services helped me and/or my family….
	connect with parents of children with similar needs.
	take part in typical activities for children and families in my community.
	cope with stressful situations.
	support the needs of other children in the family.
	feel welcome in the community.
	involve my child's doctor in early intervention services.
	cope with the emotional impact of having a child with a disability.
State Standard >=576 (baseline =65%)	find resources in the community to meet my child's needs.
	find information I need.
	make changes in family routines, like mealtime or bedtime, that will be good for my child with special needs.
	know where to go for support to meet my family's needs.
National standard for Indicator 4B: effectively communicate my child's needs	use services to address my child's health needs.
	feel less isolated.
	know how to keep my child healthy.
	be better at managing my child's behavior.
	improve my family's quality of life.
	learn how to work on my child's special needs during daily activities like getting dressed.
	feel more confident in my skills as a parent.
	communicate better with the people who work with my child and family.
National standard for Indicator 4A: know my family's rights	have confidence in my ability to care for my child with a disability.
	feel that I can get the services and supports that my child and family need.
	understand what services my child will get when he/she goes into the preschool special education program.
	understand how to change what I'm doing to help my child as he/she grows.
	understand the roles of the people who work with my child and family.
	help my child to be more independent.
539	know about my child's and family's rights concerning early intervention services.
	be an equal partner in planning my child's services.
	feel that my efforts are helping my child.
	advocate for my child.
	be able to tell how much progress my child is making.

		get the services that my child and family need.
National standard for Indicator 4C: Help my child develop and learn	516	understand my child's special needs.
		learn how to communicate with my child.
		understand how the early intervention program works.
		do things with and for my child that are good for my child's development.
		help my child learn.
		Overall, I am satisfied with the impact early intervention services have had on my family.

Stakeholder Involvement in Selection of SIMR

The EICC has been actively engaged in deliberations associated with the SSIP and SIMR with Department staff since inception of this new requirement. Department staff have briefed members of the EICC on SSIP and SIMR requirements and have shared child and family outcome data as part of Annual Performance Report discussions. In addition, representatives of the EICC have been involved in all stakeholder discussions related to child and family outcomes, including the Department’s 2004-2007 General Supervision Enhancement Grant (GSEG) activities, both concept mapping projects, and the standard setting process for the Impact on the Family and Family-Centered Services Scales.

As mentioned previously, on March 12, 2015, the EICC was convened for a special afternoon session of their quarterly meeting to review data analyses completed by Department staff and collaborators documented in the SSIP Data Analysis Plan and provide a recommendation to the Department on selection of the New York SIMR. (See Appendix 13 for the presentation used to facilitate the EICC discussion). Dr. Batya Elbaum, consultant to the Department on child and family outcomes and the SSIP, facilitated the meeting.

All data on child and family outcomes described in the Data Analysis Plan were reviewed with the EICC and ample opportunity was provided for discussion and interpretation of the data. At the conclusion of the data presentation, factors for consideration in choosing a SIMR were discussed (adapted from the Early Childhood Technical Assistance Center webinar on March 6, 2014), including:

- The SIMR should have the potential for broad impact in improving outcomes for children and their families participating in New York’s Early Intervention Program.
- A known improvement strategy or strategies should be available and scalable in a state as large and diverse as New York.
- The improvement strategy or strategies must be able to be implemented within available resources.
- A psychometrically sound metric should be available for measuring improvement.

In addition, considerations for choosing a family outcome or a child outcome were reviewed and discussed with the EICC. Factors for consideration in selecting a family outcome included:

- The availability of known improvement strategies, including preliminary data from the Department’s HRSA-funded research project which indicate that improving the quality of family-centered service delivery results in improved family outcomes.

- The availability of a reliable outcome metric (NYIFS), developed with involvement of stakeholders.
- Relatively low cost of data collection for measurement of the SIMR (NYS Family Survey).
- Availability of a potential measure of implementation (Family-Centered Services Scale).
- Empirical evidence that supports the relationship between increased family outcomes (knowledge, skills, self-efficacy, access to supports, etc.) and improved child outcomes, including preliminary data from the Department's HRSA-funded research project which indicate that the probability of improvement in child outcomes increased as family outcomes improve.

Factors for consideration in selecting a child outcome included:

- Data show that the three child outcome indicators are strongly correlated and trends in outcome data are similar across these three indicators.
- Known improvement strategies may need to differ by outcome area and sub-population. For example, evidence-based strategies may be condition specific (i.e., the strategies effective for children with autism spectrum disorder may differ from those effective for children with hearing loss, etc.); data show that outcome status declines when children enter at age-typical level.
- The child outcomes summary (COS) is the available measurement; data collection are more expensive, some known limitations exist in use of the COS and although work is underway to establish the validity and reliability of the COS, data are not yet available.
- A potential measure of implementation would need to be identified – the NY Impact on Child Scale, which measures family-reported helpfulness of early intervention services in achieving child outcomes could be considered.

After thoughtful consideration of the evidence, EICC members contributed the following observations regarding the selection of a SIMR:

- Consideration should be given to Indictor 4c – the extent to which families report that the NYSEIP helped them help their child develop and learn – recognizing the central role families play in their children's development.
- The Early Intervention Program has a responsibility to children and their families and it is important to recognize the family's role in nurturing, supporting, and improving children's development.
- Selection of a family outcome(s) offers an important opportunity to state clearly that families need to be involved in all aspects of early intervention services delivered to their child and family.
- Family outcomes is strongly supported. The NYSEIP has more control and more capacity to have an impact with families – this is a lifetime path for families and the NYSEIP has a powerful opportunity to be a positive influence on families and their young children with disabilities.
- In addition to family outcomes, support for social emotional development is voiced, and efforts to improve and enhance children's social emotional development – including through families.
- Selection of global/positive family outcomes is strongly supported. In addition to Indicator 4A, B, and C, two other family outcomes were identified in early national conversations – "families have support systems" and "families have access to support systems". There is a strong need for the NYSEIP to address the broad spectrum of

family outcomes expected and achievable for families participating in the early intervention program.

- Families informed the outcomes to be achieved for families and the process for family-centered services at the national and state levels.

At the conclusion of this discussion, EICC members unanimously endorsed ***positive family outcomes***, as measured by the State standard on the NYIFS, as New York State's SIMR.

Selection of Coherent Strategies

OSEP Instructions: An explanation of how the improvement strategies were selected, and why they are sound, logical and aligned, and will lead to a measurable improvement in the State-identified Measurable Result(s) for Infants and Toddlers with Disabilities and their Families. The improvement strategies should include the strategies, identified through the Data and State Infrastructure Analyses, that are needed to improve the State infrastructure and to support EIS program and/or EIS provider implementation of evidence-based practices to improve the State-identified result(s) for infants and toddlers with disabilities and their families. The State must describe how implementation of the improvement strategies will address identified root causes for low performance and ultimately build EIS program and/or EIS provider capacity to achieve the State-identified Measurable Result(s) for Infants and Toddlers with Disabilities and their Families.

Selection of Improvement Strategies

The Department and NYSEIP stakeholders have selected *positive family outcomes* as the State Identified Measurable Result (SIMR). The State standard that will be used to measure the SIMR encompasses all three OSEP Indicator 4 family outcomes. Analyses of family outcome data demonstrated that trends in family outcome indicators have been relatively stable over time and the mean score on the NYIFS which measures positive family outcomes varies widely across counties, as did the percent of families who met the State standard for minimum positive impact of early intervention services on family outcomes considered acceptable for accountability purposes.

Furthermore, the percent of families who reported receiving the minimum level of quality family-centered services, as measured by the national Family Centered Services Scale (FCSS), also varies widely across counties. In all counties, less than 40% of families participating in the NYS Family Survey reported receiving the minimum level of quality family-centered services. While there were some differences in achievement of positive family outcomes by race and ethnicity at the individual child and family level, interaction analyses examining Medicaid status and race at the county level indicate that these demographic variables do not impact family outcomes differently across counties – the direction of the effect is constant.

Based on these data and discussions with stakeholders, the Department’s “theory of action”, in the form of an “if-then” statement, is as follows:

If the quality of Early Intervention Program services to families improves, by making sure they are more family-centered as measured by the national Family-Centered Services Scale (FCSS), then the percentage of families who achieve the State standard for positive family outcomes, as measured by the New York Impact on Family Scale (NYIFS) will increase, and SIMR targets will be met.

As mentioned in the Data Analysis section, the Department has been collecting data on the NCSEAM Family-Centered Services Scale (FCSS) as part of its New York State Family Survey since 2008. As previously described (see discussion of baseline and target data), the Department collaborated with stakeholders to set State standards for the NYIFS, NYICS, and FCSS.

The standard established for the FCSS is 599. Table 18 shows the FCSS with items orders from least to most agreeable to families, and illustrates the state standard:

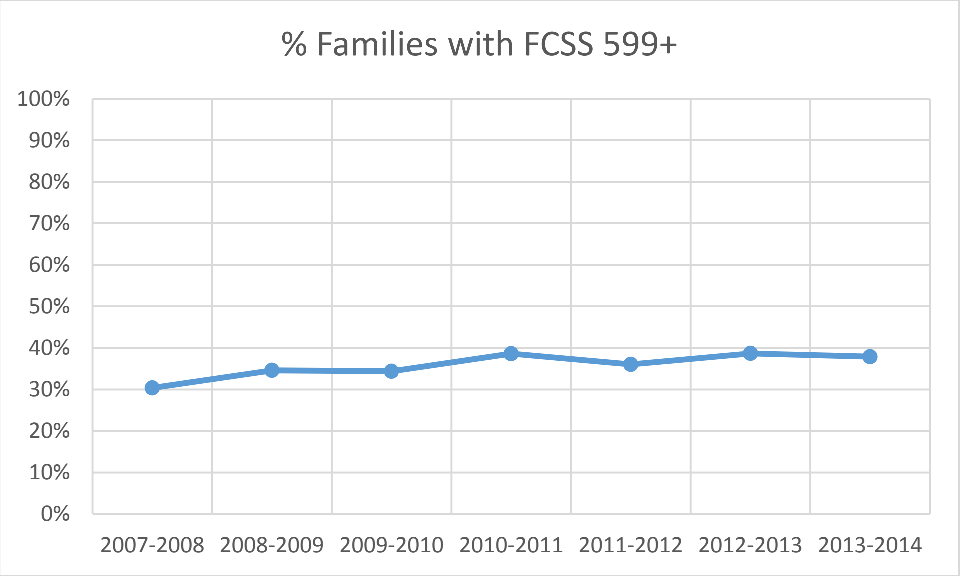
Table 18. FCSS Items ordered from least agreeable to most agreeable to families

Item Parameter	**Family-centered Services Scale Items**
	Someone from the Early Intervention Program went out into the community with me and my child to help get us involved in community activities and services.
	My family was given information about ways of connecting with other families for information and mutual support.
State Standard >=599	Someone from the Early Intervention Program asked whether other children in the family needed help in understanding the needs of the brother or sister with a disability.
	My family was given information about community programs that are open to all children.
	My family was given information about where to go for help or support if I feel worried or stressed.
559.0	My family was given information about opportunities for my child to play with other children.
	Someone from the Early Intervention Program asked if I was having any problems getting the services I needed.
	My family was given information about how to advocate for my child and my family.
	My family was given information about the public school system's programs and services for children age three and older.
	My family was given information about what my options are if I disagree with a decision about my child's services.
	Someone from the Early Intervention Program asked if the services my family received met our needs.
	I was given help in preparing for the IFSP meeting.
	The IFSP kept up with my family's changing needs.
	My family was given information about activities that I could do with my child in our everyday lives.
	My child transitioned from early intervention (birth to 3 program) to preschool special education without a break in services.
	My family was given information about the rights of parents regarding early intervention services.
	I was given information to help me prepare for my child's transition.
	My child received all the supports for transition listed in our IFSP.
	I was offered the chance to meet with people from the Early Intervention Program and the committee on preschool special education to plan for my child's transition to preschool special education.

Item Parameter	Family-centered Services Scale Items
	I knew who to call if I had problems with the services and supports my child and family are receiving.
	Written information I received was written in an understandable way.
	My family's daily routines were considered when planning for my child's services.
	I felt part of the team when meeting to discuss my child.
	My service coordinator was available to speak with me on a regular basis.
	Overall, I am satisfied with the services my family received.
	The Early Intervention Service Providers that worked with my child showed a willingness to learn about the strengths and needs of my child and family.
	The Early Intervention Service Providers that worked with my child did what they said they were going to do.
	My service coordinator was knowledgeable and professional.
	Overall, I am satisfied with the services my child received.
	The Early Intervention Service Providers that worked with my child were easy for me to talk to about my child and family.

As shown in Figure 11, state-level trend data on the percent of families meeting the FCSS standard, while illustrating a trend toward improvement, also indicates that a relatively low percentage of families report receiving the minimum level of quality family-centered services expected by stakeholders to be experienced by families.

Figure 11. Trends in FCSS measures over time



As discussed in the analysis of the State Infrastructure to support improvement and build capacity, the NYSEIP is a vast and comprehensive service delivery system that serves a large and diverse population of infants and toddlers with developmental delays and disabilities and their families. In addition, the NYSEIP has an extensive work force, including 435 agencies and 628 independent practitioners that accept service authorizations and bill the program for services. Agencies approved to deliver NYSEIP services employ a mean of 55 individual rendering practitioners, with a median of 20 and ranging to over 1,000 practitioners associated with these agencies. Most of these agencies also contract with independent practitioners to deliver early intervention services. Agencies subcontract on average with 55 individual rendering providers, with a median of two subcontractors and ranging to over 1,000 subcontractors. When examining rendering provider data, there are over 16,800 professionals delivering early intervention services to infants and toddlers and their families in New York State.

The NYSEIP is administered locally by fifty-eight local programs (57 county government agencies and the City of New York). With few exceptions, local programs are administered by local health departments. As is evident from the data presented in the SSIP, there is wide variation across New York's 62 counties (including the five boroughs of New York City) in many aspects of the program's infrastructure and outcomes data.

To ensure a broad reach and scope of the SSIP while ensuring a manageable implementation process, the Department will phase in improvement strategies with a cohort of local programs for 2015 through 2018, including boroughs of New York City in each cohort, as illustrated in Table 19. New York City boroughs were targeted for phase-in from low-performing to higher-performing boroughs on the NYIFS, selected for the SIMR.

Table 19. Summary of Plan to Phase-in Local Programs

FFY	2014	2015	2016	2017	2018
Local Program Cohorts	Small population counties New York/Manhattan		Medium population counties Brooklyn	Large population counties Queens	Long Island Bronx, Richmond

The Department has selected a well-tested and proven improvement strategy to work with NYSEIP local programs and service providers to increase the percent of families receiving family-centered services: the breakthrough series approach developed by the Institute for Healthcare Improvement (IHI) (www.ihi.org). IHI uses the science of improvement to assist health care organizations in making "breakthrough improvements" in the quality and value of health care services. Improvement science is an applied, multidisciplinary approach that emphasized innovation, rapid-cycle testing in the field, and the concept of "spread" to generate learning about what changes, in what settings and contexts, yield improvement in the quality of service delivery (http://www.ihi.org/about/Pages/ScienceofImprovement.aspx). The science of improvement draws on clinical science, systems theory, statistics, and other fields in its approach to working with health care organizations to improve the quality of care.

The “breakthrough series” was chosen as a strategy to work with NYSEIP local programs and service providers to improve positive family outcomes by improving the quality of family-centered services for several reasons.

First, the “breakthrough series” is an evidence-based approach to working with organizations and professionals to achieve improvements in the quality of service delivery through “Learning Collaboratives.” A Learning Collaborative is a systematic, time-limited approach to quality improvement in which multiple organizations come together with faculty to learn about and create improved processes in a specific topic area. The expectation is that the teams share expertise and data with each other; thus, “everyone learns, everyone teaches.” Teams engaged in healthcare “Learning Collaboratives” have achieved dramatic results, including reducing waiting times by 50% percent, reducing worker absenteeism by 25% reducing intensive care unit costs by 25%, and reducing hospitalizations for patients with congestive heart failure by 50%. In addition, IHI has trained over 650 people in the Breakthrough Series methodology, thus spawning hundreds of Collaborative initiatives throughout the health care world, sponsored by organizations other than IHI. (see *The Breakthrough Series: IHI’s Collaborative Model for Achieving Breakthrough Improvement.* IHI Innovation Series white paper. Boston: Institute for Healthcare Improvement; 2003; available on www.IHI.org).

Second, the Breakthrough Series offers a collaborative *team* approach in which interested organizations and individuals learn from each other and recognized experts in topic areas where they want to make improvements. This approach will foster team-building among NYSEIP local programs and service providers, other early childhood partners (e.g., Early Head Start, home visiting programs), and families in communities of learning to improve the quality of family-centered services and meet SIMR targets.

Third, the Breakthrough Series is designed to assist organizations and individuals in applying the science and evidence-base in their daily work and reduce the gap between what is *known* and what is *done*. This data-driven and evidence-driven approach will enable the Department to work strategically with NYSEIP local programs and service providers, early childhood partners, and families to assess their baseline on the suite of measures available from the NY Family Survey (NYIFS and NYICS and FCSS), identify improvement strategies based on evidence, implement those strategies, and periodically assess progress.

Fourth, the approach is a short-term (six to 15 months) learning system that assists organizations and professionals in achieving and maintaining rapid change and improvement in delivery practices. Thus, this approach corresponds with the framework for the SSIP, enabling the Department to engage successive cohorts and achieve targeted improvements in the SIMR.

Finally, the Department has successfully used the Breakthrough Series approach in a variety of healthcare and public health improvement initiatives, including in the Division of Family Health (DFH), which is the organizational unit in which BEI is housed. DFH has developed substantial expertise in leading successful quality improvement both in improving the use of developmental screening practices among pediatricians (through grant-funded projects sponsored by the U.S. Department of Health and Human Services, Health Services and Resources Administration) and more recently, with NYS birthing hospitals employ evidence-based strategies to reduce infant mortality through the New York State Perinatal Quality Collaborative (nyspqc.org). The Division and BEI Early Hearing Detection and Intervention Program are currently working with 16 hospitals to improve newborn hearing screening and follow-up in these facilities. Thus, through the Department’s expertise and knowledge, a strong State-level infrastructure exists to use the Breakthrough Series methodology for implementation of the SSIP.

Specific Improvement Strategies

The Department will establish the New York State Quality Improvement Team (NYSQIT) to guide state implementation of the SSIP Family-Centered Practices Learning Collaboratives. The NYSQIT will include Department staff, representatives of the EICC and ECAC (including parent representatives and state agency partners), and NYSEIP local program and service provider representatives. The NYSQIT will be formed by July 1, 2015, and will be responsible for advising and assisting the Department in all aspects of implementation of the SSIP Family-Centered Practices Learning Collaboratives.

The NY Family Survey sample conducted for APR data collection purposes will be expanded this year and each subsequent year of the SSIP to include all families residing in the county cohort in participating in Family-Centered learning collaboratives. For the upcoming FFY 2014 data collection period, all families residing in small population counties and the county of New York (Manhattan) will be invited to participate in NY Family Survey. These data will provide a baseline on the suite of family-reported measures (the NYIFS, NYICS, and FCSS) for the first cohort of the Family-Centered Learning Collaborative.

The Department anticipates procuring one or more contractor(s) with expertise in implementation and improvement science and scale up of evidence-based practices to provide technical assistance, training, mentorship and coaching support to Family-Centered Learning Collaborative cohort participants.

Family-Centered Practices Learning Collaboratives will use these and other data to identify and understand the root causes in their communities for low performance in delivering quality family-centered services and achieving positive family outcomes. The NYSEIP is a large and complicated system. There is a diversity of geography, demographics, and families in New York State. As such, strategies will have to be tailored to the particular circumstances within a county or region of the State. As described in greater detail below, improvement teams from NYSEIP local programs, including service providers and families, who are extremely familiar with their regions, local infrastructure and resources, and families referred to their local early intervention programs, will develop improvement plans that are specific to their areas. Plans will also be shared across local programs to enable all improvement teams to capitalize on the strategies developed by teams working in similar contexts.

Each team participating in the Family-Centered Practices Learning Collaborative cohorts will learn quality improvement fundamentals to create small tests of change before a broader organizational rollout of successful interventions. At the same time, each team will collect monthly data on measures to track improvements. Learning is accelerated as the Collaborative teams work together and share their experiences through monthly reports, Learning Sessions, conference calls, and e-mail.

The three phases of for each of the Family-Centered Learning Collaboratives will be include Pre-Work activities, Learning Sessions and Action Periods.

1. Pre-Work

Collaborative teams will be involved in Pre-Work from the time they join the Collaborative until the first Learning Session. The purpose of the Pre-Work is to prepare the participating teams to launch the improvement initiative at their site and prepare for this first face-to-face meeting. During this time, the Collaborative team has several important tasks to accomplish, including:

creating an AIM statement[11], collecting baseline data, developing a Storyboard, and participating in one of the Pre-Work calls. A Pre-Work packet, with more detailed information about this phase, follows in Part Two of this package.

2. Learning Session

Learning Sessions bring teams together to become skilled in quality improvement fundamentals through theoretical application with real-time coaching. Through plenary addresses, small group discussions and team meetings, attendees have the opportunity to:

- Learn from faculty and colleagues;
- Receive coaching from faculty members;
- Gather new information on the subject matter and process improvement; and
- Share information and create detailed improvement plans.

The Learning Collaborative will include two Learning Sessions facilitated by the Collaborative's project team and expert faculty. One of these will occur at the start of the Collaborative, and the other at the end. A minimum of two key members from each facility team are expected to attend the Learning Sessions.

3. Action Periods

The time between Learning Sessions (both in-person and virtual) is called an Action Period. During Action Periods, Collaborative teams work within their organizations toward major, breakthrough improvements by initiating small tests of change. Although each participant focuses on his/her own organization, continuous contact with other Collaborative participants and faculty is provided.

Monthly conference calls, regular e-mails and webinars maintain this continuous contact during the Action Period. Each organization collects data to learn if the tests of change are resulting in improvement. Monthly data is reviewed by each team and then submitted to the Department. Teams are encouraged to include additional staff in Action Period activities.

The Model for Improvement[2] is a simple yet powerful strategy for making improvements in the care you provide. Developed by Associates in Process Improvement, the application of the model has two components. First, the Collaborative team will address three fundamental questions. These questions will guide the team in creating an AIM Statement, measures and specific change ideas. Secondly, the team will use Plan-Do-Study-Act (PDSA) cycles to easily test these changes in your work environment. Successful tests of change pave the way for full scale implementation within a system.

Figure 12. New York State Model for Improvement of Family Outcomes

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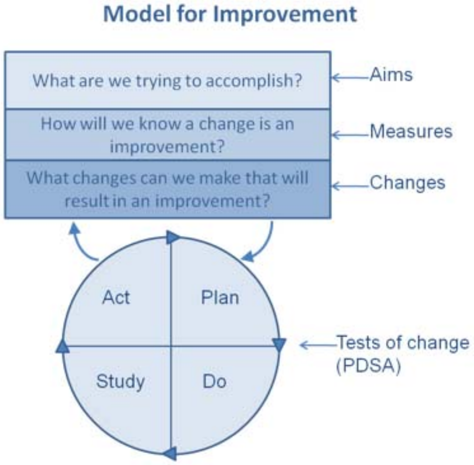
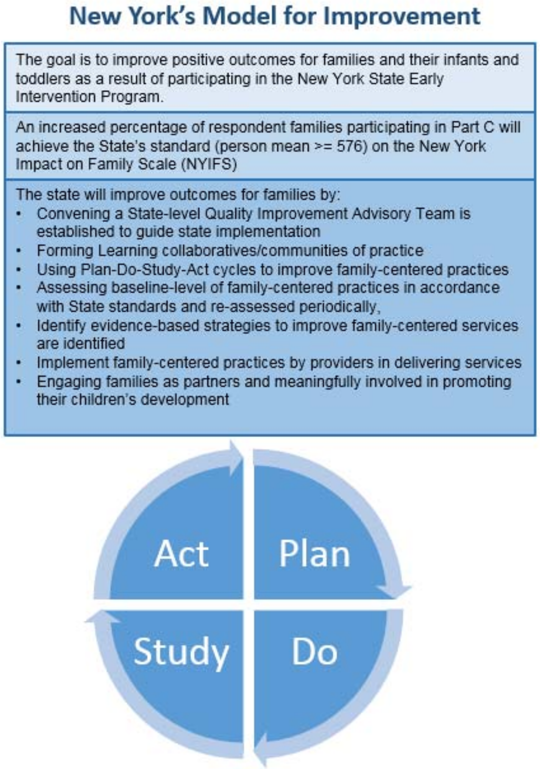
[1] An AIM statement is "a specific statement summarizing what your organization hopes to achieve. It should be time specific and measurable." (Institute for Healthcare Improvement, www.ihi.org)

[2] *The Model for Improvement was developed by Associates in Process Improvement. www.apiweb.org/API_home_page.htm





The goal is to improve positive outcomes for families and their infants and toddlers as a result of participating in the New York State Early Intervention Program.

An increased percentage of respondent families participating in Part C will achieve the State's standard (person mean >= 576) on the New York Impact on Family Scale (NYIFS)

The state will improve outcomes for families by:
- Convening a State-level Quality Improvement Advisory Team is established to guide state implementation
- Forming Learning collaboratives/communities of practice
- Using Plan-Do-Study-Act cycles to improve family-centered practices
- Assessing baseline-level of family-centered practices in accordance with State standards and re-assessed periodically,
- Identify evidence-based strategies to improve family-centered services are identified
- Implement family-centered practices by providers in delivering services
- Engaging families as partners and meaningfully involved in promoting their children's development

Three Key Questions for Improvement

1. *What are we trying to accomplish? (For example: Increase the percentage of families exiting early intervention services who report these services helped them achieve the level of positive family outcomes)*

A strong Aim Statement is specific, intentional and unambiguous. It should be aligned with organizational goals and all team members involved in the improvement process should support it. Teams will identify aim statements related to improving positive family outcomes as part of their work together.

2. *How will we know that a change is an improvement? (NYIFS, NYICS, and FCSS)*

The team will use a set of defined measures, including the NYIFS and NYICS and FCSS and other process measures which may be added by the Department and/or the teams, to determine if the rapid cycle changes in care are working. These measures can also be used to monitor performance over time. These measures are designed to help the team know if the changes that are being tested resulted in improvement.

3. *What changes can we make that will result in an improvement? (Evidence-based Best Practices and ideas)*

As with the measures, the collection of evidence-based changes are based on those selected as part of the SSIP. This collection of changes is called the Change Package and includes multiple opportunities for improving care.

PDSA Cycles

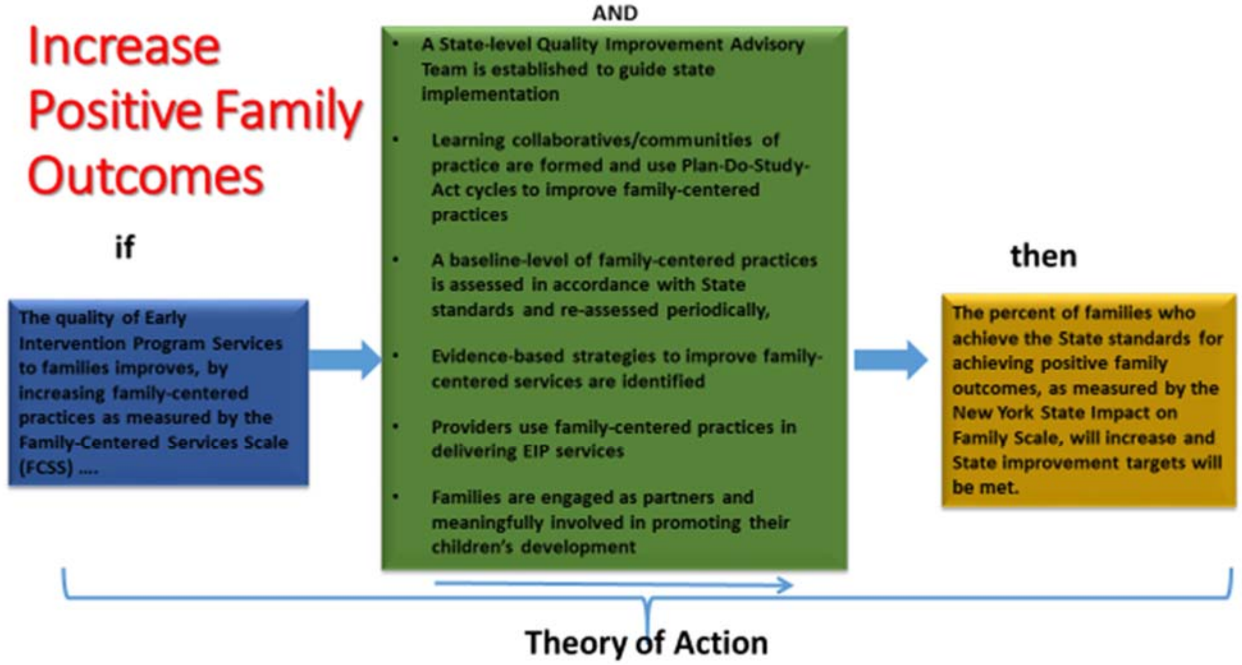
The PDSA (Plan-Do-Study-Act) cycle will be used to rapidly test changes in practice - by planning it, trying it, observing the results, and acting on what is learned. This is a scientific method used for action-oriented learning. After changes are thoroughly tested, PDSA cycles will be used to implement or spread change throughout the local program. The key principle behind the PDSA cycle is to test on a small scale and test quickly. Traditional quality improvement has been anchored in laborious planning that attempts to account for all contingencies at the time of implementation; usually resulting in failed or partial implementation after months or even years of preparation. The PDSA philosophy is to design a small test with a limited impact that can be conducted quickly (in days) to work out unanticipated “bugs”. Repeated rapid small tests and the learning gleaned build a process ready for implementation that is far more likely to succeed.

Summary and conclusions

The Department will use the Breakthrough Series approach, a proven, data-driven, evidence-based approach to improving service delivery quality with four successive cohorts of local programs to improve positive family outcomes by improving the quality of family-centered early intervention services delivered to infants and toddlers and their families participating in the NYSEIP. These four successive cohorts will allow for statewide implementation of coherent improvement strategies, engaging NYSEIP local programs and service providers in evidence-based, family-centered practices in early intervention service delivery and families as partners meaningfully involved in promoting and enhancing their children’s development.

Theory of Action

OSEP Instructions: A graphic illustration that shows the rationale of how implementing the coherent set of improvement strategies selected will increase the State's capacity to lead meaningful change in EIS programs and/or EIS providers, and achieve improvement in the State-identified Measurable Result(s) for Infants and Toddlers with Disabilities and their Families



Increase Positive Family Outcomes

if

The quality of Early Intervention Program Services to families improves, by increasing family-centered practices as measured by the Family-Centered Services Scale (FCSS) ....

AND

- A State-level Quality Improvement Advisory Team is established to guide state implementation
- Learning collaboratives/communities of practice are formed and use Plan-Do-Study-Act cycles to improve family-centered practices
- A baseline-level of family-centered practices is assessed in accordance with State standards and re-assessed periodically,
- Evidence-based strategies to improve family-centered services are identified
- Providers use family-centered practices in delivering EIP services
- Families are engaged as partners and meaningfully involved in promoting their children's development

then

The percent of families who achieve the State standards for achieving positive family outcomes, as measured by the New York State Impact on Family Scale, will increase and State improvement targets will be met.

Theory of Action