

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

State Systemic Improvement Plan

Phase III: Evaluation

Massachusetts Early Intervention

4/3/2017

In developing, implementing, and evaluating the SSIP, OSEP expects that a State's focus on results will drive innovation in the use of evidence-based practices in the delivery of services to children with disabilities, which will lead to improved results for children with disabilities.

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Executive Summary

In 2015, Massachusetts Early Intervention (EI) identified improving positive social-emotional skills (including social relationships), as measured by Summary Statement 1, as its State-Identified Measurable Result (SIMR). Since that time, the Massachusetts Department of Public Health, the Lead Agency, has invested significant time and resources in the four Strands of Action related to its State Systemic Improvement Plan (SSIP): Practice Quality & Consistency, Collaboration, Professional Development, and Data Quality. These Strands of Action are addressed, primarily, through four high-level improvement strategies.

1. Create statewide, standardized administration and interpretation of the Battelle Development Inventory, Second Edition (BDI-2).
2. Develop a curriculum that highlights best practices as determined through Early Childhood research and promotes the Massachusetts EI Mission and Key Principles and train all 60 Massachusetts EI programs on this curriculum.
3. Update the universal Individualized Family Service Plan (IFSP) form to meet the new Federal regulations and provide greater clarity on how to develop IFSP outcomes based on family priorities and concerns.
4. Implement Parents Interacting With Infants (PIWI), the Massachusetts-selected evidence-based practice (EBP) targeted at promoting social-emotional development, at all 60 Massachusetts EI programs.

Per the SSIP Implementation Plan that was developed in 2016, Massachusetts EI has implemented these four strategies on time and in accordance with its original schedule. Within only the first year of implementation, Massachusetts EI can already demonstrate improvements in outcomes and program practice resulting from its SSIP activities through its evaluation data.

Massachusetts EI has provided technical assistance (TA) to select Massachusetts EI programs which demonstrate 39% greater fidelity to BDI-2 administration as compared to programs not receiving TA. The research-based best practices curriculum, entitled *Embedding the Key Principles into the IFSP Process*, was fully rolled out to all 60 Massachusetts EI programs by June 2016. As measured by the Placemat Tool, Massachusetts EI programs improved in all six categories related to developing high-quality, functional IFSP outcomes following the *Training* (by more than 20% in most categories). The new universal IFSP form is being piloted at select EI programs, prior to statewide rollout, and EI program staff survey results show that it is meeting its intended purpose. Finally, the PIWI training is being rolled out across three cohorts (20 programs per cohort). Cohort 1 training is complete, and Cohort 2 training is currently on schedule and will finish by June 30, 2016.

Despite these early evaluation results, Massachusetts EI's SIMR has declined by 0.5% in FY16. For the most recent year in which SIMR data is available, FY16, most of the SSIP improvement strategies were not yet fully implemented and none of the implemented strategies had sufficient run time to significantly affect the SIMR for FY16. Massachusetts EI expects that the SIMR is likely to moderately decline as data quality improves – a result of the BDI-2 improvement activities. After this correction in data quality is complete, Massachusetts EI expects the SIMR to improve as a result of its SSIP strategies and activities. The preliminary evaluation data shared in this document provides promising results that are likely to improve the SIMR. Massachusetts EI will continue to collect and monitor evaluation data and refine implementation activities as necessary.

1. Phase III Overview

1a. Theory of Action

During the State Systemic Improvement Plan Phase I in 2015, Massachusetts Part C/ Early Intervention identified improving positive social-emotional skills (including social relationships), as measured by Summary Statement 1, as its State-Identified Measurable Result. Improving positive social-emotional skills is the only federally-reported Child Outcome for which Massachusetts performed below the national average. Massachusetts reported children showing positive growth results exceeding the national average, in Acquisition and Use of Knowledge and Skills and Use of Appropriate Behaviors.

Massachusetts EI's efforts to improve social-emotional outcomes have been informed by the data and infrastructure analysis laid out in SSIP Phase I and by the Implementation and Evaluation Plans detailed in SSIP Phase II. Through the Data and Infrastructure Analysis completed as part of SSIP Phase I, Massachusetts EI identified four Strands of Action which address the key clusters of strategic action: Practice Quality & Consistency, Collaboration, Professional Development, and Data Quality. Drawing upon the root causes, strategies, and expected outcomes developed in collaboration and consultation with EI stakeholders, the SSIP State Leadership Team developed the first "if-then" statements to inform Massachusetts EI's Strands of Action.

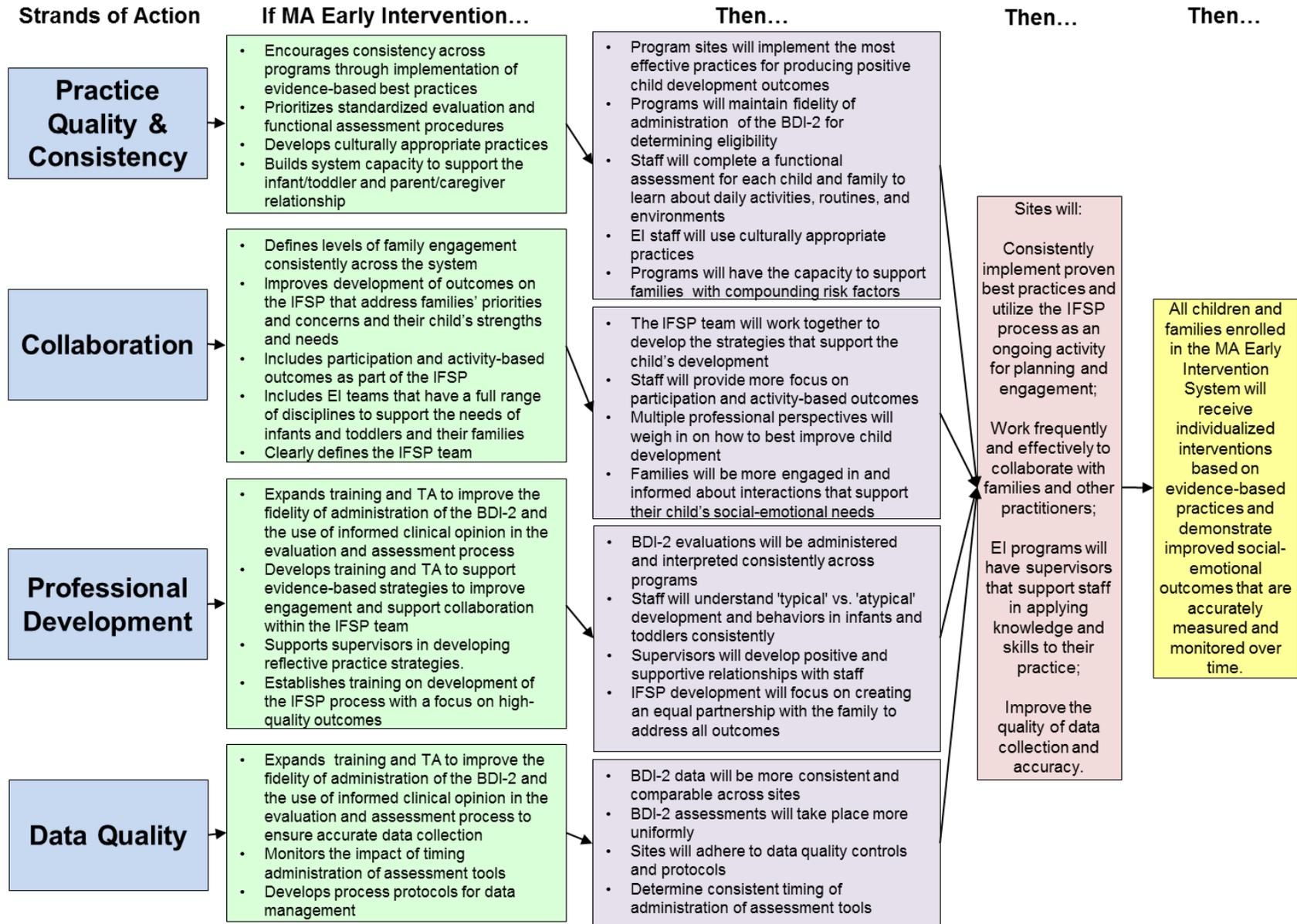
Massachusetts is creating expanded infrastructure to support the following areas:

- Evidence-based practice (e.g. PIWI) implementation with consistency across local programs
- Accuracy of administration of the BDI-2
- Individualized Family Service Plan development grounded in research-based best practices
- Revised universal IFSP document with updated training materials and toolkit resources
- Culturally appropriate practices
- Consistent family engagement models
- Monitoring of timing regarding exit assessments
- Resources and support to program-level supervisors
- Consistent data management protocols

The Massachusetts EI system has spent the last two years focusing its SSIP efforts on implementing these strategies to improve the statewide percentage of children showing positive growth in Child Outcome 1: improving positive social-emotional skills (including social relationships). The improvement strategies and evidence-based practices have been implemented according to the Implementation and Evaluation Plan detailed in SSIP Phase II.

EI programs are implementing research based best practices, PIWI principles, and reviewing evaluation results to improve their own outcomes. The expected outcome is that children and families will experience higher quality services based on research-based best practices with consistency across local programs, which would result in improved outcomes, particularly in positive social-emotional skills development. The Massachusetts EI Theory of Action graphic illustration is included on the next page.

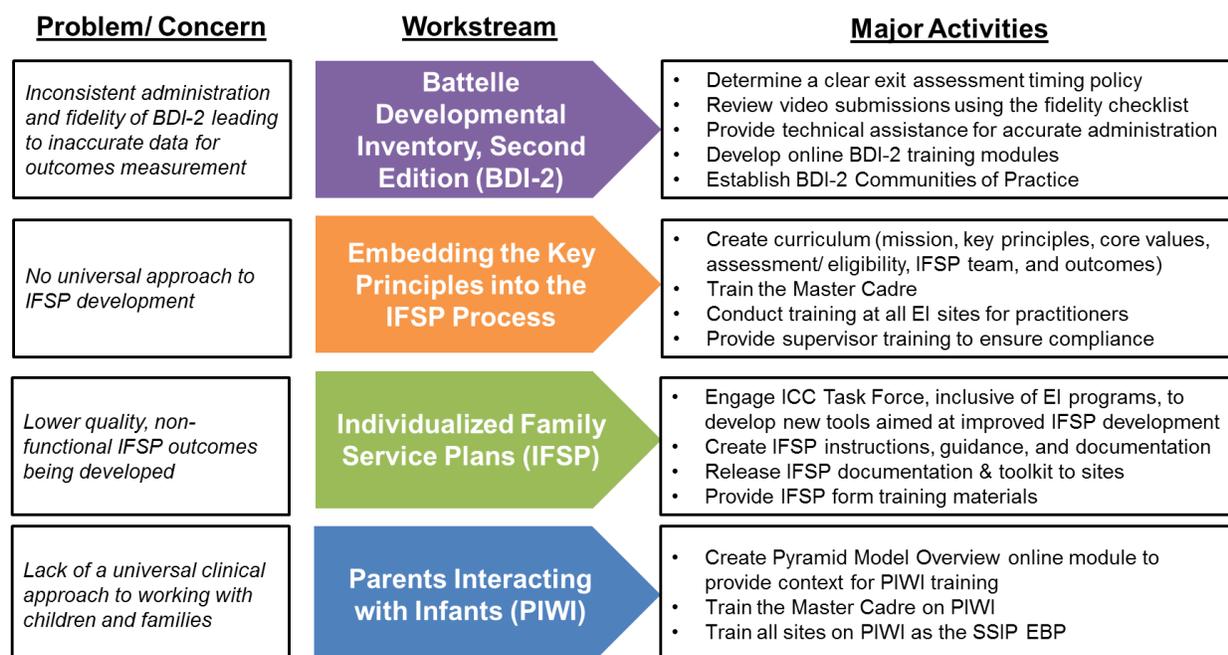
Vision: Massachusetts Early Intervention is a viable system that utilizes evidence-based practices, collaborates with practitioners of wide ranging disciplines, engages families, and develops well trained and knowledgeable staff to improve social-emotional outcomes that are accurately measured and tracked over time.



1b. Improvement Strategies

Massachusetts EI's SSIP Phase II submission, Implementation and Evaluation Plan, laid out a detailed roadmap which provided clear activities, infrastructure improvements, timelines, and project owners associated with the implementation of the Theory of Action's improvement strategies. Collectively, these improvement strategies are intended to increase the consistency of research-based best practices used in Massachusetts EI, enhance child outcomes, and support activities at the state agency, EI program, and participant levels. These strategies will, ultimately, contribute to positive growth in social-emotional skills.

At a high-level the Massachusetts EI's Theory of Action, and its corresponding Strands of Action, are addressed through four primary implementation workstreams. These workstreams, as well as the addressed problem and major activities, are detailed in the graphic below.



Battelle Developmental Inventory 2nd Edition Fidelity and Administration

The Battelle Developmental Inventory, Second Edition is the tool used by Massachusetts EI programs for federal child outcome reporting. It is the universal developmental assessment tool used by Massachusetts to determine initial and ongoing eligibility for Early Intervention services. Results of the BDI-2 assessments are also used to calculate the Summary Statements for child outcomes, including Massachusetts EI's SIMR.

As part of the SSIP Phase I efforts, Massachusetts EI identified non-uniform administration of the BDI-2 to be a significant concern in assuring accurate data for child outcome measurement. For example, stakeholders voiced concerns that there may be inconsistent interpretation of 'typical' vs. 'atypical' behavior, particularly at initial assessments.

The collective BDI-2 improvement efforts address three of the four Strands of Action: Practice Quality & Consistency, Professional Development, and Data Quality. Although other SSIP activities will also address these strands, the statewide, standardized administration and interpretation of BDI-2 will be a major component of Massachusetts's ability to accurately measure and evaluate child outcomes.

In the Fall of 2015, Massachusetts EI reviewed its policy regarding exit assessments for children using the BDI-2, and analyzed child outcomes data to further determine if a change in the policy regarding the timing of exit assessment was needed. In this review, it was determined that a timing policy change would not increase the number of children in the reporting cohort, and Massachusetts EI stakeholders did not believe program staff had the capacity to implement a timing policy change. Following these activities, no change was made in the requirements of EI programs for conducting exit assessments.

In February 2016, EI programs were provided with a BDI-2 fidelity checklist to provide further quality assurance efforts regarding the accurate administration and use of the BDI-2¹.

In March 2017, Massachusetts EI released an online BDI-2 training module, entitled “*Using the Standardized Interview Procedure of the BDI-2.*” The training module is focused on providing participants with a clear understanding of how to properly use the standardized interview procedure when administering the BDI-2. This training module is now available to all 60 Massachusetts EI programs and their EI staff. Massachusetts EI will monitor completion of this training module, and it will particularly encourage EI staff completion in those programs reporting less favorable BDI-2 evaluation results.

As of December 31, 2016, each Massachusetts EI program was required to submit at least one video of a team of EI staff administering the BDI-2 assessment. These videos will be evaluated using a fidelity checklist, as part of Massachusetts’s SSIP Evaluation Plan. Programs have the option to engage in technical assistance for the accurate administration of the *BDI-2* through the Early Intervention Training Center (EITC). The TA includes a focus on fidelity of administration, impact of not following the standardized procedures, and use of the fidelity checklist. As of March 2017, two programs have already received TA for the BDI-2 administration and **demonstrate 39% greater fidelity to BDI-2 administration as compared to programs not receiving TA.** These results are further detailed in Section 1d: Overview of the Evaluation and Section 3: Data on Implementation and Outcomes.

Lastly, Massachusetts EI is offering additional professional development opportunities called Communities of Practice (CoPs) to provide peer-to-peer support to EI staff around the administration of the BDI-2. The BDI-2 CoPs are regionally-based and facilitated by the Early Intervention Training Center. EITC staff present a topic for discussion and facilitate the group discussions. The focus of these groups is for participants to learn and problem solve about challenges that impact the accuracy of administration of the BDI-2 at their local programs. As much as possible, participating EI programs receive feedback and guidance from their peer programs regarding successful strategies.

Embedding the Key Principles into the IFSP Process Training

The *Embedding the Key Principles into the IFSP Process Training* has been developed by the Early Intervention Training Center and is applicable to all four Strands of Action: Practice Quality & Consistency, Collaboration, Professional Development, and Data Quality. The *Training* was created to highlight best practices as determined through Early Childhood research and to promote the Massachusetts EI Mission and Key Principles that were developed through a strategic planning process by Massachusetts Lead Agency staff in 2014. The core of this curriculum was developed using a training that was created by the Early Childhood Technical

¹ The BDI-2 Fidelity Checklist is included in the Appendix for reference.

Assistance Center (ECTA) and the Western Regional Resource Center (WRRC) for states to use to support the development of high quality IFSP outcomes.

The *Training* is intended to ensure that the IFSP process includes best practices identified through Early Childhood research to support infants and toddlers learning and development. These best practices embed culturally appropriate practices, collaboration, participation, and activity-based outcomes that support the overarching goal of Early Intervention:

For children

to enable young children to be active and successful participants during the early childhood years and in the future in a variety of settings – in their homes with their families, in child care, preschool or school programs, and in the community

For families

to enable families to provide care for their child and have the resources they need to participate in their own desired family and community activities

In preparation for the delivery of this *Training* to EI programs, the Master Cadre trainers, who are the in-state trainers for Massachusetts's selected evidence-based practice (e.g. PIWI), were trained on core concepts and *Embedding the Key Principles into the IFSP Process Training* in December 2015 through February 2016 by EITC staff. This *Training* supported the Master Cadre trainers so that they had full best practice knowledge prior to training sites on the evidence-based practice (further discussed in Section 1c).

EITC staff initiated site-level training on *Embedding the Key Principles into the IFSP Process* at EI programs in January 2016. Over the following six months, all 60 Massachusetts EI programs and more than 1,940 EI program staff completed the *Embedding the Key Principles into the IFSP Process Training*. This *Training* was completed on time and within budget by the end of June 2016. This success required significant dedication of EITC resources, EI program and staff time (e.g. it was a full day training), and coordination among the EITC, EI programs and staff. Specific outcomes and participant feedback from this training, across all 60 programs, are included in Section 3. This curriculum has now been incorporated into orientation training for all new EI staff, entitled *Foundations of Massachusetts EI (Part 1): Partnering with Families throughout the IFSP Process*, to ensure sustainability and ongoing compliance with these best practices.

Further quality assurance will be made possible through supervisor trainings. Additional supports for supervisors at local programs are being explored to ensure that the key concepts of the training are being implemented. Currently, EITC is in the process of exploring various professional development options.

Individualized Family Service Plans

A primary concern resulting from the Data and Infrastructure Analysis, completed in SSIP Phase I, was the frequent development of lower quality, non-functional IFSP outcomes by EI staff. Partially, this concern is addressed through the *Embedding the Key Principles into the IFSP Process Training* discussed previously. Massachusetts EI believed that further improvements were required with specific regard to the universal IFSP document and toolkit resources.

Consequently, Massachusetts Interagency Coordinating Council (ICC) had formed an ICC Task Force in 2012, consisting of Lead Agency staff, local program directors, EI program staff, and parents to update the universal IFSP to meet the new Federal regulations. This Task Force was further tasked with supporting the SSIP efforts. The Task Force has developed and refined the new universal IFSP form and its associated toolkit resources.² To do this, the Task Force reviewed many examples from other states and selected the most appropriate sections for the new Massachusetts form and toolkit resources. These items provide greater clarity on how to develop IFSP outcomes based on family priorities and concerns. These documents support EI staff in documentation of the IFSP process and in the use of best practices throughout the process.

The statewide release of these items has been delayed from the original target date of July 2016. Instead, the universal IFSP document and toolkit resources are being piloted at five EI programs. The pilot, ending on March 31, 2017, will be evaluated to inform universal, statewide rollout expected to occur between July and September 2017. The corresponding implementation plan changes and pilot details are further elaborated in Section 2a.

1c. Parents Interacting With Infants, Massachusetts's Evidence-Based Practice

Massachusetts EI's selected evidence-based practice, Parents Interacting With Infants (PIWI), is targeted at promoting social-emotional development, and it is directly applicable to the SIMR. The PIWI is a philosophy that focuses on the role of the home visitor to support the parent/caregiver-infant dyad to promote and reinforce confidence, competence, and mutual enjoyment. It is a Pyramid Model approach for working with families and their young children focusing on promoting social-emotional development. The PIWI training focuses on the parent-child interactions and the practitioner's role in supporting the parent/child dyad during home visits.

Massachusetts EI has selected a group of Master Cadre trainers to expand in-state training capacity. These individuals have been trained in the PIWI philosophy and approach used in Massachusetts EI home visiting, using a train-the-trainer model. This group has been training EI programs on PIWI.

In preparation for PIWI training, all Massachusetts EI programs are required to complete the *Pyramid Model Framework Overview Training*, which is an online training that was developed by the EITC using resources from the Pyramid Model. The training provides the context necessary to complete the PIWI training. Completion of the training is a prerequisite to the PIWI in-person training.

PIWI training is required for all practitioners working more than 20 hours per week, and it is a full day training. PIWI training has been divided into three cohorts, spanning an 18-month time period. The PIWI Cohort 1, consisting of 20 of Massachusetts EI's 60 programs, received PIWI training between July and December 2016. As of January 2017, PIWI Cohort 1 has begun implementation and evaluation of the PIWI. Concurrently, PIWI Cohort 2 training was initiated in January 2017, and all 20 of Cohort 2's programs will be trained by the end of June 2017. In this way, training and implementation/evaluation are staggered six months across each cohort. The training and evaluation has met all implementation milestones and timelines to-date. Cohort 2 is currently in the midst of training.

² The new IFSP form and handbook are included in the Appendix for reference.

Finally, as each EI program is trained on PIWI, the EI Program designates one or more PIWI Champions that will be coached by one of the PIWI Master Cadre trainers. The PIWI Champions are responsible for ensuring the successful implementation of the PIWI at the local program through supporting staff in the use of PIWI, documenting coaching and other TA activities, and conducting program-level evaluation of the PIWI. The PIWI Champions are responsible for collecting PIWI evaluation data through observation of staff conducting home visits. Champions acts as the program-specific resource for quality assurance and PIWI sustainability. All Cohort 1 Champions have been identified and trained; they are currently in the process of collecting Cohort 1’s Round 1 evaluation data.

1d. Overview of the Evaluation

The Massachusetts EI SSIP Evaluation Plan can be broken into two blocks: formative and summative measures. The formative evaluation measures (e.g. how is it going?) track such things as number of training attendees, programs trained, and training feedback. The summative evaluation measures (e.g. What good did it do?) answer more complex questions such as:

- Are EI staff adhering to administration fidelity when using the BDI-2?
- Are EI staff using best practices to develop high-quality, functional IFSP outcomes?
- Are EI staff developing high-quality, functional IFSP outcomes?
- Are programs/ EI staff incorporating PIWI principles into their daily practice during home visits?

Typically, formative evaluation measures are more short term in nature, whereas summative evaluation measures are longer term. For the purposes of brevity, this section focuses on the high-level summative evaluation outcomes. Many formative evaluation measures have been noted in Section 1c, and complete detail on all evaluation measures is provided in Section 3: Data on Implementation and Outcomes. A high-level overview of Massachusetts EI’s summative evaluation measures is detailed in the graphic below.

	BDI-2: Evaluation	Embedding the Key Principles Training Evaluation	IFSP: Evaluation	PIWI: Evaluation Cohorts
Data To Be Collected:	Programs to submit videos of BDI-2 administration for DPH review. 1 video per site	Randomly selected IFSP outcomes.10 records (no more than 3 outcomes per IFSP) per site	Program staff survey and focus groups. Optional parent survey	Program action plans, PIWI videos, and home visit observations
Baseline Data:	Baseline data will be collected from UMass Study → changed to Round 1 video submissions	Baseline data will be collected from outcomes developed prior to Key Principles training	N/A	Baseline data will be collected through online 'pre-test' survey in Pyramid Overview Online Training
Participants:	All programs	All programs	EI Program Staff and Parents	3 Cohorts, All programs
Timing:	Jul-Dec 2016 submissions Jan-Jun 2017 evaluation of videos	Baseline: July-August 2016 Ongoing: Sep-Jun	End pilot in March 2017 Evaluate in April 2017	6 months per cohort
Who:	DPH staff to evaluate videos	DPH Staff	DPH staff	PIWI Champions to accompany or video practitioners during participant interaction

Battelle Developmental Inventory 2nd Edition Fidelity Summative Evaluation

The BDI-2 summative evaluation measure is tracked using EI program video submissions which depict BDI-2 administration by an EI team. These videos are then evaluated by the DPH staff to score each program's adherence to fidelity (both interview and structured procedures) using a fidelity checklist tool.

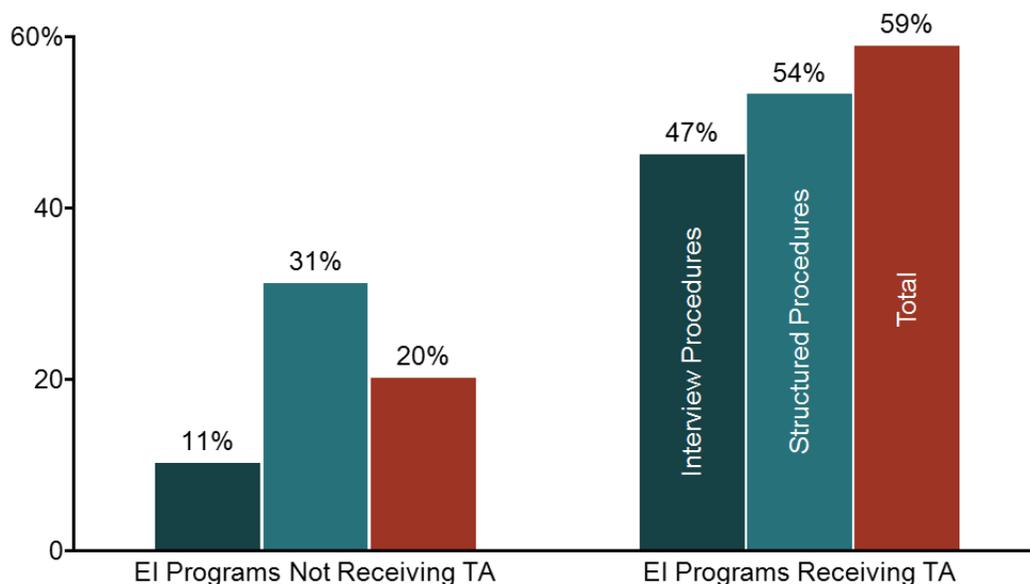
Originally, Massachusetts EI had planned to use evaluation data collected through the University of Massachusetts Boston (UMass Boston) BDI-2 fidelity of administration study. The UMass Boston study evaluated 20 videos which were chosen from volunteer EI programs. However, after review of the study results, Massachusetts EI determined that it would instead use the first round of program video submissions as its BDI-2 fidelity baseline data. This decision was made for the following reasons:

1. Evaluation data from the UMass Boston study showed a significant variance in BDI-2 outcomes across programs (range from 32% to 87%)
2. Sample sizes of ≥ 30 are recommended for statistical analysis, *especially in samples with wide variability*
3. The sample size from the UMass Boston study (16 videos³) was deemed insufficient to be used as a baseline for 60 programs
4. By using Round 1 data as the baseline, program-specific analyses will be possible

Consequently, the BDI-2 Round 1 video submissions will be used as the baseline. All sixty Round 1 program videos were submitted as of December 31, 2016, and video evaluations will be complete by the end of June 2017. Preliminary results of the video submissions (not all videos have been evaluated) show that **EI programs receiving technical assistance for BDI-2 Administration demonstrate 39% higher fidelity of administration and structure than those programs which did not receive the training.** These results are depicted in the graphic below.

³ 20 videos were submitted to UMass Boston, however four were insufficient for full analysis.

Percent of Procedures to Fidelity



Source: Massachusetts Early Intervention, BDI-2 Video Evaluations, March 2017. N=12

The full UMass Boston Study results and preliminary/ incomplete Round 1 BDI-2 baseline data is included in Section 3.

Embedding the Key Principles Training Summative Evaluation

A primary purpose of the *Embedding the Key Principles into the IFSP Process Training* was to establish research based best practices for the IFSP process resulting in the creation of high-quality, functional IFSP outcomes. To determine the effect of the *Training* on EI program staff, DPH staff randomly selected and evaluated IFSP outcomes at every program within Massachusetts. Ten records (no more than three outcomes per IFSP per site) were evaluated by the DPH staff, who used the Placemat Tool⁴ to evaluate IFSP outcomes. The Placemat Tool evaluates IFSP outcomes based on six objective criteria.

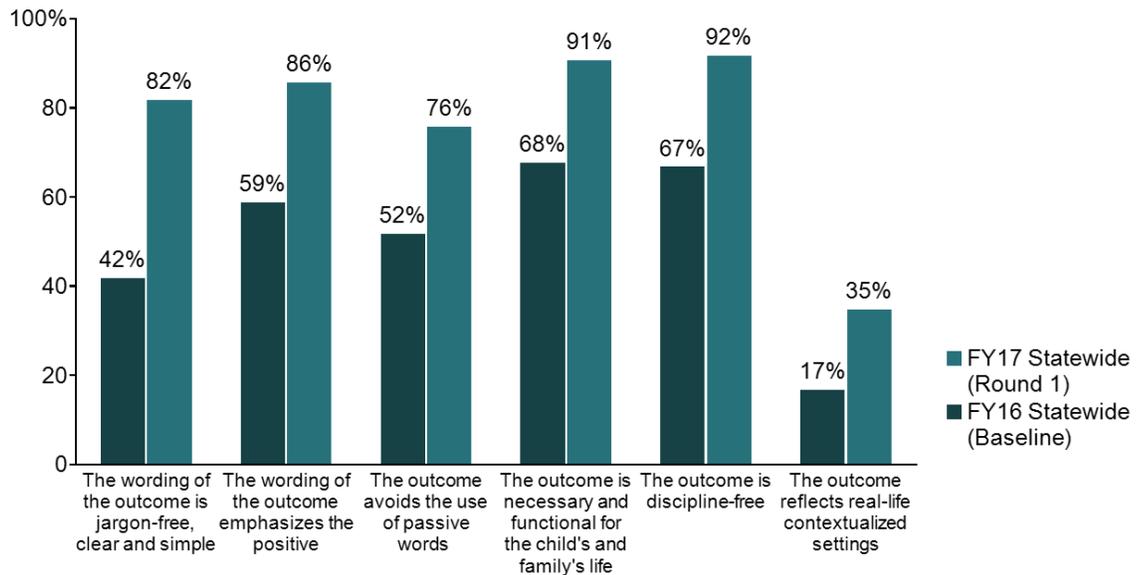
Baseline data was collected by sampling records and IFSP outcomes from 20 programs that were developed prior to the respective program's full day *Embedding the Key Principles into the IFSP Process Training*. Round 1 data was collected by sampling records and IFSP outcomes from all 60 Massachusetts EI programs and that were developed between September 2016 and February 2017 (subsequent to the training occurring at all programs).

In the FY16 Baseline data, 201 Initial IFSPs and their 355 outcomes were evaluated, and 191 Annual IFSPs and their 326 outcomes were also evaluated. In the FY17 Round 1 data, 347 Initial IFSPs and their 560 outcomes were evaluated, and 249 Annual IFSPs and their 441 outcomes were also evaluated. The Massachusetts statewide averages for the Baseline and Round 1 IFSP outcomes data is detailed in the graphics below.

⁴ The Placemat Tool is included in the Appendix for reference.

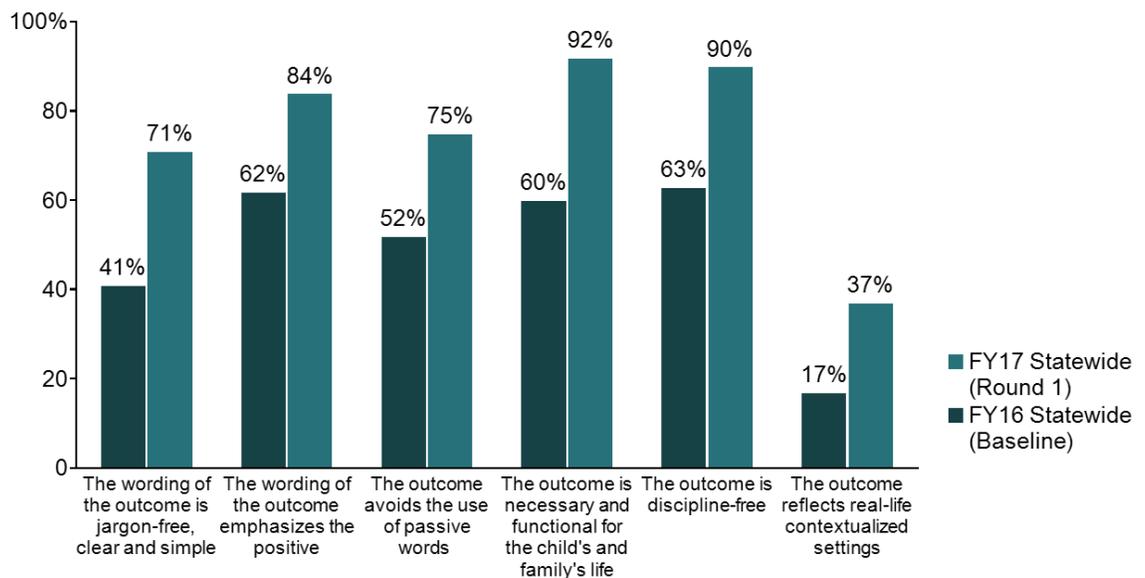
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MA EI Statewide Initial IFSP Outcomes: Met Criteria



Source: MA Early Intervention, IFSP Outcomes Database, February 2017.

MA EI Statewide Annual IFSP Outcomes: Met Criteria



Source: MA Early Intervention, IFSP Outcomes Database, February 2017.

Massachusetts EI programs improved in every Placemat Tool category related to high-quality, functional IFSP outcomes following the *Embedding the Key Principles into the IFSP Process Training*.

In addition, each program was provided with a customized report which detailed their program's performance benchmarked to the statewide average. DPH staff have prepared written reports

for each program to detail their IFSP outcomes results and identified program-specific areas for improvement. DPH staff have also made available the FY16 and FY17 state average information to all local programs. This specific and direct feedback identifies areas of strengths and concerns for programs to analyze and learn from their data to improve program practice and provide continuous quality improvement.

New IFSP Form and Toolkit Summative Evaluation

The new IFSP form and associated toolkit resources are being piloted at five select EI programs to test its real-world applications. EI program staff have agreed to provide feedback on the new universal IFSP form and toolkit at various intervals throughout the pilot. During the pilot, programs have agreed to the following responsibilities:

- Complete monthly online surveys, providing feedback on the use and appropriateness of the IFSP materials
- Distribute family feedback letter with a link to an online survey for parents to complete
- Track how many/ which families used the new IFSP form and toolkit
- Participate in an online webinar to ask questions regarding IFSP form and toolkit during first week of pilot launch
- Participate in a facilitated discussion, feedback session, and Q&A with Massachusetts EI staff after two months of program implementation
- Participate in a focus group, led by Massachusetts EI staff, to provide feedback at the end of the pilot
- Allow Massachusetts EI staff to evaluate IFSPs developed during the pilot

The pilot, starting January 1st and ending on March 31, 2017, will be evaluated to inform universal, statewide rollout which is expected to occur between July and September 2017. As necessary, the Lead Agency will revise the universal form and the IFSP Task Force will review the toolkit resources and materials to address any issues identified through the pilot.

At this time, the pilot appears to be going well at all programs; EI program staff are rating the new form and associated materials highly, although staff and parent survey data entry is not yet fully submitted. Preliminary staff survey results are shared in Section 3a: Evaluation Measures and Outputs.

Parents Interacting With Infants Summative Evaluation

In preparation for PIWI training, all Massachusetts EI programs are required to complete the *Pyramid Model Framework Overview Training*, which is an online training that was developed by the EITC. The training provides the context necessary to complete the PIWI training.

The *Pyramid Model Framework Overview Training* is preceded with a self-assessment in which practitioners self-assess their use of triadic strategies. The data collected in this self-assessment provides a baseline measure regarding the use and frequency of PIWI strategies in home visits prior to PIWI training.

On average, 76% of Massachusetts EI practitioners report using triadic strategies in their practice “all of the time.” It should be noted that some of this baseline data may be suspect as it is self-reported (more on this in Section 4) and current results show a relatively high utilization of PIWI strategies prior to training. The full self-assessment results (as of Phase III submission) are detailed in Section 3.

Massachusetts EI is rolling out the PIWI training to EI programs in three cohorts. Each cohort consists of 20 programs and lasts six months. The six-month training period per cohort is followed by a six-month implementation and evaluation period.

As each program is trained on PIWI, the EI Program Director designates one or more PIWI Champions. The PIWI Champions will be coached by one of the PIWI Master Cadre trainers. The PIWI Champions are responsible for ensuring the successful implementation and data collection at the program level.

Programs are responsible to collect PIWI evaluation data through observation of staff conducting home visits. Observations must be made on at least two EI staff members per program with 2-3 observations of that staff member with the same family. The observations must be at least one month apart from one another with the same family. Through these observations, PIWI Champions will collect data on the use of triadic strategies during the home visits.

All PIWI Cohort 1 Champions have been identified and trained; they are currently in the process of collecting Cohort 1's Round 1 evaluation data. Evaluation submissions for the Cohort are due to Massachusetts EI by June 30, 2017. DPH is working with UMass Boston to develop a qualitative evaluation of video data of the PIWI implementation. At this time, Massachusetts EI has no Round 1 summative evaluation data to share regarding PIWI.

SIMR Results

The Massachusetts State-Identified Measurable Result is the federally-reported Child Outcome 1: social-emotional skills (including social relationships), as measured by Summary Statement 1 in the State Performance Plan. Massachusetts EI and its advisory groups felt strongly in the selection of the SIMR due to the fact that it was Massachusetts's only Summary Statement below the national average.

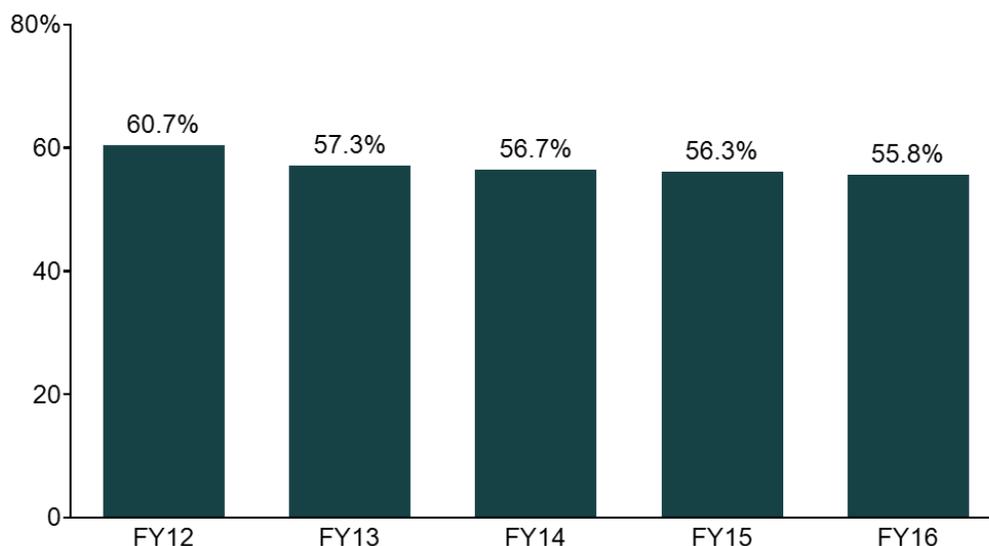
Massachusetts EI utilizes the same measurement for each of the three Child Outcome indicators, and believes that the data reflects a more accurate use of the evaluation tool, BDI-2, and data measurement. The Lead Agency expects to see a decrease in the percentage of the summary statements as the outcomes data becomes more accurate and improvement and training efforts continue but expects this to turn around once all state improvement initiatives have been thoroughly implemented across Massachusetts EI.

The SIMR has, in recent years, moderately declined. This indicates a troubling trend that of those children who enter Early Intervention below age expectations in social-emotional skills, the percent who substantially increase their rate of growth by the time they exit the program has declined.

For the most recent year in which SIMR data is available, FY16, most of the SSIP improvement strategies were not yet implemented and none of the implemented strategies had sufficient run time to significantly affect the SIMR for FY16. As the *Embedding the Key Principles into the IFSP Process Training* is built into every IFSP development process, PIWI is implemented and its strategies are consistently used in home visits, the new IFSP form and toolkit is released to all sites, and the BDI-2 is more consistently administered, Massachusetts Early Intervention expects to see positive progress in the SIMR. The improvement in the SIMR is likely to be a gradual increase over time, as Massachusetts EI's implementation activities are varied and staggered in their timing. However as shown in the aforementioned evaluation results,

Massachusetts EI is already seeing positive progress in many of its SSIP improvement strategies and outcomes. The historical statewide results for Massachusetts’s SIMR is detailed in the chart below.

Massachusetts Summary Statement 1: Positive Social-Emotional Skills



Source: Massachusetts Early Intervention, Child Outcomes, February 2017.

1e. Notable Changes to the Implementation Plan

Massachusetts Early Intervention has made six notable changes to its SSIP Implementation & Evaluation Plan. These alterations have been made for various reasons, however most often these decisions were the result of stakeholder feedback, data observations, and prioritization of resources at the Lead Agency. The six SSIP Implementation and Evaluation Plan changes, as well as their corresponding rationales, are detailed below:

Change to Implementation & Evaluation Plan	Decision Rationale
1. The BDI-2 electronic scoring pilot and two online training modules (e.g. <i>Standardized Testing Environment & Providing Feedback</i>) have been placed on hold.	All Department of Public Health IT projects are serviced through the MA Executive Office of Health & Human Services which has limited capacity to support all IT requests. Massachusetts EI has prioritized its new Early Intervention Information System (EIS), which is a data system that collects information such as enrollment, IFSP, service, and discharge, as the program’s immediate IT need.
2. The SSIP State Leadership Team, in consultation with its stakeholder and advisory groups, has decided to use Round 1 BDI-2 video submission data (as opposed to the UMass Boston Study	The UMass Boston data showed significant variance across EI programs, and the sample size (e.g. 16 videos) was deemed insufficient to accurately represent the statewide baseline for BDI-2 fidelity of administration.

Change to Implementation & Evaluation Plan	Decision Rationale
data) as its baseline for the BDI-2 administration and fidelity evaluation.	
3. The SSIP State Leadership Team, in consultation with its stakeholder and advisory groups, has decided not to pilot the Routines-Based Interview (RBI) at this time.	According to the original SSIP Implementation Plan, the RBI was an additional evidence-based practice that Massachusetts EI <i>may choose</i> to implement in 2017. However, the Lead Agency resources, particularly the Early Intervention Training Center, are fully allocated with existing SSIP responsibilities.
4. The EITC has added a technical assistance process to support the accurate administration of the BDI-2 and has been engaged with multiple EI programs already.	This TA framework was created by DPH staff to support programs with change or improvement activities and was provided in response to EI program requests and interest. It also expanded BDI-2 implementation activities which were reduced when the electronic scoring pilot and online training modules were placed on hold.
5. The new IFSP form and toolkit is currently being piloted at five EI programs with statewide representation prior to full rollout.	DPH preferred to test the new form and toolkit at select programs, in order to receive feedback on the form and training materials and allow for a complete iteration prior to statewide rollout.
6. The SSIP State Leadership Team will provide program-specific evaluation reports to all of its 60 EI programs. The reports will include BDI-2 results, new IFSP form and toolkit use, high-quality and functional IFSP outcomes development, PIWI implementation, and Federal Child Outcomes (inclusive of MA EI's SIMR)	Massachusetts EI stakeholders have requested program-specific evaluation results and partial evaluation reports (e.g. IFSP outcomes evaluations) have proven to be extremely useful for programs in assessing and improving their own clinical practice and practitioner behaviors. This will support continuous quality improvement at the program-level.

2. Progress in Implementing the SSIP

2a. Description of the Implementation Progress

Battelle Developmental Inventory 2nd Edition

In Massachusetts, the Battelle Developmental Inventory 2nd Edition is used for federal child outcome reporting. The BDI-2 is the universal developmental assessment tool utilized to determine initial and ongoing eligibility for EI services in Massachusetts and these results are used to calculate the Summary Statements for child outcome reporting. The progress categories for the Summary Statement 1 for Social-Emotional Skills (including social relationships) are defined below: (A Developmental Quotient [DQ] of 80 is considered typical to same age peers):

- (a) The exit DQ is less than 80 and all exit raw subdomain scores are less than or equal to entry raw subdomain scores

- (b) The exit DQ is less than 80 and less than or equal to entry DQ and one or more exit raw subdomain scores are greater than the entry raw subdomain score
- (c) The exit DQ is less than 80 and greater than entry DQ and one or more exit raw subdomain scores are greater than the entry raw subdomain score
- (d) The entry DQ is less than 80 and the exit DQ is greater or equal to 80
- (e) The entry and exit DQs are greater than or equal to 80

The SIMR will be measured using Summary Statement 1 for Child Outcome 1: positive social-emotional skills (including social relationships). In FY16, Massachusetts EI included 10,155 children in its child outcome calculations. Targets have been set for the measure. Massachusetts EI will also monitor fidelity of BDI-2 administration which will be more sensitive to practice changes.

As part of the SSIP Phase I efforts, Massachusetts EI identified non-uniform administration of the BDI-2 to be a significant concern in determining child eligibility for the program and verifying data quality as it relates to child outcomes. For example, stakeholders voiced concerns that there may be inconsistent interpretation of 'typical' vs. 'atypical' behavior, particularly at initial assessments. More specifically, Massachusetts EI identified the following concerns regarding the BDI-2 and its use that may be contributing to low social-emotional skills outcomes:

- 1) Change in methodology of measuring child outcomes (*Massachusetts moved to the BDI-2 as the only tool to be used for eligibility and federal outcome reporting in January 2012; previously, scores from the Michigan Early Intervention Developmental Profile [Michigan] evaluation tool were used for outcome reporting*)
- 2) Fewer total counts of exiting children between fiscal years 2012 and 2016 included in child outcome totals due to the absence of at least two BDI-2 assessments by the time of exit as the Michigan was being phased out (*the percentage of children exiting EI who were included in federal child outcome reporting went from 68% of all discharged children in fiscal year 2011 to 53% in fiscal year 2016*)
- 3) Outcome data is collected at different times prior to a child exiting EI services. *Children with an established condition will have an exit evaluation closest to their third birthday while other children included in the outcome analysis will have received up to as much as 11 additional months of service after their most recent evaluation. If the exit assessment occurred closer to the time of exit for all children there may be differences in child outcome results.*
- 4) Potential data quality issues regarding the use of the BDI-2.
 - a. There is a lack of consistency in the use of the BDI-2 evaluation tool across all programs. *The BDI-2 is administered by multi-disciplinary teams at the local program that is also providing IFSP services to the family. This model of evaluation/assessment involves almost all of the EI staff working in the Massachusetts EI system. The need for continuous training for new staff and to update skills of experienced staff is critical. In the three programs involved in the onsite data collection visits, during SSIP Phase I, 25% of the clinicians had worked at the program for less than 2 years.*
 - b. The Personal/Social domain of the BDI-2 is primarily administered using a standardized interview procedure. *Through observations in the field, videotaping evaluations, and client record reviews the lead agency and Early Intervention Training Center (EITC) have identified inconsistencies in the administration of the personal-social domain resulting in inaccurate data. Stakeholders agree that this domain is a challenge for EI staff to administer and interpret accurately.*

- c. The BDI-2 data audit identified inconsistencies and errors in the manual calculations on the paper record. *EI staff use a paper record form to record data for the BDI-2 and manually calculate scores. This data is later inputted into the Early Intervention Information System.*

To address these concerns, Massachusetts EI has developed a comprehensive improvement plan and strategy related to the BDI-2. The collective BDI-2 improvement efforts address three of the four Strands of Action: Practice Quality & Consistency, Professional Development, and Data Quality. Although other SSIP activities will also address these strands, the administration and interpretation of BDI-2 will be a major component of Massachusetts's ability to accurately measure and evaluate child outcomes, as well as determine child eligibility for the program. In addition, more consistent administration and interpretation of the BDI-2 will result in improved data accuracy.

Among the specific activities designed to address inconsistent administration and fidelity of the BDI-2, Massachusetts EI reviewed BDI-2 timing data and its policy regarding exit assessments for children using the BDI-2 in the Fall of 2015. Massachusetts EI sought to determine if a change in the timing policy was needed to improve BDI-2 assessment data quality and comparability. In this review, it was determined that a timing policy change would not increase the number of children in the reporting cohort, and Massachusetts EI stakeholders did not believe program staff had the capacity to implement a timing policy change. Following these activities, no change was made in the requirements of EI programs for conducting exit assessments.

Additionally, Massachusetts EI has released an online BDI-2 training module, entitled "*Using the Standardized Interview Procedure of the BDI-2.*" The training module is focused on providing participants with a clear understanding of how to properly use the standardized interview procedure when administering the BDI-2. This training module was released in March 2017, and it is readily available to all 60 Massachusetts EI programs and their staff for review. Massachusetts EI will monitor completion of this training module, and it will particularly encourage EI staff completion in those programs reporting less favorable BDI-2 evaluation results.

Two other online BDI-2 training modules, *Standardized Testing Environment* and *Providing Feedback*, were targeted for late 2016 release but have been placed on hold. In addition, Massachusetts EI has placed its BDI-2 electronic scoring pilot on hold. These strategies had to be prioritized with competing IT projects which were under request to the State's Executive Office of Health and Human Services IT Department. Massachusetts EI is replacing its Early Intervention Information System (EIS) which is a client-based data system that collects referral, evaluation, IFSP, service, transition and discharge data on every enrollment into EI. It is the main data source for child outcome and SIMR data and information. The replacement of the EIS has been a significant undertaking which the Lead Agency has had to prioritize over other IT projects such as the BDI-2 training modules and electronic scoring pilot.

In addition, the University of Massachusetts-Boston was awarded a grant to code and analyze video-taped BDI-2 administrations for voluntary EI programs and consenting families. UMass Boston completed this study in Summer 2016 and provided feedback to the lead agency and the EITC regarding training, best practice, guidance, and recommendations on how to properly administer this tool. Originally, the data results of this study were intended to provide the

statewide baseline for BDI-2 summative evaluation. For reasons further detailed in Section 3a: Evaluation Measures and Outputs, Massachusetts EI decided to instead use BDI-2 videos submitted by *all* 60 EI programs which was originally intended to be Round 1 data.

As of December 31, 2016, each Massachusetts EI program was required to submit at least one video of an EI program staff individual administering the BDI-2 interview. These videos will be evaluated using the fidelity checklist, as part of Massachusetts's SSIP Evaluation Plan. EI programs will have the option to engage in technical assistance with the EITC to increase the accuracy of BDI-2 administration. The TA includes a focus on fidelity of administration, impact of not following the standardized procedures, and use of the fidelity checklist. The TA process adheres to the following structure.

1. Bring TA request to the status call, so everyone knows the request & response being shared
 - I. Share information collected to date
 - II. Hear related information from others
 - III. All perspectives and information heard
2. Identify who are the key people to address the call ~ information gathering
3. Look at information that we have available
4. Collect additional information from the program ~ call or face to face follow-up
 - I. What is the next step?
 - a. NO TA needed
 - b. Moving forward with a plan
 - II. Meeting with program for next steps ~ determine additional information
 - a. Training needed
 - b. Support needed
 - c. Guidance needed
 - III. Work with Program to develop a plan
 - a. Develop action steps
 - b. Identify resources
 - c. Develop a plan
 - d. Evaluate the plan
 - IV. Bring back to status call
 - V. Evaluate the process internally

As of Phase III submission, four programs have already received this in-person training and demonstrate significantly improved compliance and fidelity to BDI-2 administration as compared to other programs. These results are further detailed in Section 1d: Overview of the Evaluation and Section 3: Data on Implementation and Outcomes.

Lastly, Massachusetts EI is offering additional professional development opportunities in the form of BDI-2 Communities of Practice (CoPs) to provide peer-to-peer support to EI programs and their staff. The BDI-2 CoPs are regionally-based and facilitated by the Early Intervention Training Center. EITC staff present a topic for discussion and facilitate the group discussions. The focus of these groups is for participants to learn and problem solve about the challenges that impact the accuracy of administration of the BDI-2 at their local programs. As much as possible, participating EI programs receive feedback and guidance from their peer programs regarding successful strategies. As of Phase III submission, one CoP has been held with 7 EI program staff participants, and two additional CoPs are scheduled in April and May.

Massachusetts EI is also developing its state fiscal year 2018 (beginning in July) schedule of CoPs to be released soon.

Embedding the Key Principles into the IFSP Process Training

In order to ensure the quality of services provided to children and families enrolled in Massachusetts Early Intervention, DPH designed its *Embedding the Key Principles into the IFSP Process Training* to promote the Massachusetts EI Mission, Key Principles, and Core Values and to ensure compliance with federal and state requirements through training, technical assistance, and monitoring. Massachusetts EI’s Mission and Key Principles are detailed in the graphic below.

Massachusetts Early Intervention System



Mission Statement:

Massachusetts Early Intervention is a viable system that builds upon supports and resources for family members and caregivers to enhance the development and learning of infants and toddlers through individualized, developmentally appropriate intervention embedded in everyday activities.

RESPECT ~ INDIVIDUALIZATION ~ FAMILY CENTEREDNESS ~ COMMUNITY ~ TEAM COLLABORATION ~ LIFE LONG LEARNING		
Key Principles:	Administrative Responsibilities:	Clinical Knowledge and Skills:
1. Infants and Toddlers develop and learn through meaningful everyday experiences and interactions with familiar people in familiar places.	Determine Eligibility	Infant and Toddler Development
2. ALL families with the necessary supports and resources can enhance children’s development and learning.	Family Participation	Evaluation/Assessment
3. The primary role of the Early Intervention Specialist is to establish relationships and foster equal partnerships with family members and caregivers to enhance development and learning through the IFSP process.	Service Coordination	Family Centered Services
4. Interventions must be based on developmentally appropriate practice, current research, and appropriate laws and regulations.	IFSP Development	IFSP
5. The Early Intervention process, from initial contacts through transition, must be collaborative and individualized to reflect the child’s and family members’ priorities, learning styles and culture.	IFSP Implementation	Service Coordination
6. The service coordinator ensures that the family’s priorities, needs and concerns are addressed through the IFSP team, coordinates the IFSP process and facilitates collaboration among all IFSP and community team members.	Procedural Safeguards	Intervention
7. IFSP outcomes must be functional and based on children and family’s needs, family identified priorities, and input from all members of the child’s IFSP team.	Policies/Procedures	Team Collaboration
	Quality Assurance	Policy and Procedures
		

The *Embedding the Key Principles into the IFSP Process Training* was developed by the Early Intervention Training Center and is applicable to all four Strands of Action: Practice Quality & Consistency, Collaboration, Professional Development, and Data Quality. The *Training* was created to highlight best practices as determined through Early Childhood research on how to develop high quality, functional IFSP outcomes. The core of this curriculum was developed collaboratively with staff from the ECTA Center and WRRRC using a training that was developed for states to support the development of high quality IFSP outcomes.

The *Training* is intended to ensure that the IFSP process includes best practices identified through Early Childhood research to support infants and toddlers learning and development. These best practices embed culturally appropriate practices, collaboration, participation, and activity-based outcomes that support the overarching goal of Early Intervention:

For children

to enable young children to be active and successful participants during the early childhood years and in the future in a variety of settings – in their homes with their families, in child care, preschool or school programs, and in the community

For families

to enable families to provide care for their child and have the resources they need to participate in their own desired family and community activities

In preparation for the delivery of this *Training* to EI programs, the Master Cadre trainers, who are the lead in-state expert trainers for Massachusetts's selected evidence-based practice (PIWI), were trained on core concepts and *Embedding the Key Principles into the IFSP Process Training* in December 2015 through February 2016 by EITC staff. This supported the Master Cadre trainers so that they had best practice knowledge prior to training sites on the evidence-based practice (further discussed in the PIWI section).

EITC staff initiated site-level training on *Embedding the Key Principles into the IFSP Process* at EI programs in January 2016. Over the following six months, all 60 Massachusetts EI programs and more than 1,940 EI program staff received onsite *Embedding the Key Principles into the IFSP Process Training*. This training was completed on time and within budget by the end of June 2016. This success required significant dedication of EITC resources, EI program and staff time (e.g. it was a full day training), and coordination among the EITC, EI programs and staff, and participants. Specific outcomes and participant feedback from this training, across all 60 programs for all new EI staff, are included in Section 3. This curriculum has now been incorporated into orientation training, entitled *Foundations of Massachusetts EI (Part 1): Partnering with Families Throughout the IFSP Process*, to ensure the sustainability and ongoing compliance with these best practices. As of Phase III submission, 140 new EI program staff have completed this training as part of their orientation.

Further quality assurance will be made possible through additional supervisor trainings. Additional supports for supervisors at local programs are being explored to ensure that the key concepts of the training are being implemented. Currently, EITC is in the process of exploring various professional development alternatives and formats.

New IFSP Form and Toolkit

The Individualized Family Service Plan (IFSP) is a key aspect of outcomes development and expectation-setting with families which takes place in the early stages of relationship building. During SSIP Phase I, Massachusetts EI had noted varying frequencies of parent interaction, limited professional development opportunities related to IFSPs, and unclear expectations of which professionals are to be involved in the development of IFSP outcomes in its Data and Infrastructure Analysis. Accordingly, family engagement and IFSP outcomes development were identified as key foci of the Collaboration Strand of Action in Massachusetts EI's Theory of Action.

In response to these concerns and as part of its SSIP Phase I follow-up planning, Massachusetts EI, through its Interagency Coordinating Council, formed a Task Force in July 2015. The Task Force consisted of Lead Agency staff, members of the SSIP State Leadership Team, Program Directors, and families to develop a new IFSP document and toolkit, including a

new universal IFSP, instructions, instructor notes, and training materials for local use. These items provide greater clarity on how to develop IFSP outcomes based on family priorities and concerns. These documents support EI program staff in documentation of the IFSP process and in the use of best practices throughout the process.

The statewide release of these items, originally targeted for July 2016, was delayed by the DPH after conferring with the Task Force. Instead, the new universal IFSP form and toolkit resources are being tested during a limited pilot of five select programs. The pilot will be evaluated to inform universal, statewide rollout. Massachusetts EI solicited applications from programs proposing to pilot the materials and collect evaluation data. Pilot programs were selected based on the below criteria.

- Strength of the program's proposed implementation plan
- Strength of the program's proposed evaluation plan, inclusive of parent involvement
- Program size, as measured by EI staff and participant volume
- Statewide geographic representation
- Participant demographics and diversity

Of the 19 pilot applicants, the SSIP State Leadership Team, in coordination with its stakeholder groups, selected five programs to participate in the pilot. Each program was provided with training materials and toolkit resources in order to properly pilot the new forms. The pilot launched in January 2017 and will conclude on March 31, 2017. During the pilot, programs have agreed to the following responsibilities:

- Complete monthly online surveys, providing feedback on the use and appropriateness of the IFSP materials
- Distribute family feedback letter with a link to an online survey for parents to complete
- Track how many/ which families used the new IFSP form and toolkit
- Participate in an online webinar to ask questions regarding IFSP form and toolkit during first week of pilot launch
- Participate in a facilitated discussion, feedback session, and Q&A with Massachusetts EI staff after two months of program implementation
- Participate in a focus group, led by Massachusetts EI staff, to provide feedback at the end of the pilot
- Allow Massachusetts EI staff to evaluate IFSPs developed during the pilot

The pilot will be evaluated to inform universal, statewide rollout which is expected to occur between July and September 2017. As necessary, the Lead Agency will revise the universal form and the IFSP Task Force will review the toolkit resources and materials to address any issues identified through the pilot. This decision to pilot the form prior to statewide release was a significant implementation plan change which was reviewed and approved by Massachusetts EI's stakeholder and advisory groups.

At this time, the pilot appears to be going well at all programs; EI program staff are rating the new form and associated materials highly, although staff and parent survey data entry is not yet fully submitted. Preliminary staff survey results are shared in Section 3a: Evaluation Measures and Outputs.

Parents Interacting With Infants

During SSIP Phase II, Massachusetts EI selected Parents Interacting with Infants (PIWI) as its evidence-based practice to improve its SIMR. The PIWI is philosophy that focuses on the role of the home visitor to support the parent/ caregiver-infant dyad to promote and reinforce confidence, competence, and mutual enjoyment. It is a Pyramid Model approach for working with families and their young children focusing on promoting social-emotional development. The PIWI training focuses on the parent-child interactions and the practitioner's role in supporting the parent/child dyad during home visits.

The Pyramid is a tiered public health model of promotion, prevention and intervention with an effective workforce as the foundation. It has been developed by the Center for the Social and Emotional Foundations for Early Learning (CSEFEL) and Technical Assistance Center on Social Emotional Intervention (TACSEI). The foundation for all of the practices in the Pyramid, including PIWI, is the systems and policies necessary to assure that the workforce is able to adopt and sustain these evidence-based practices. An effective EI workforce is supported through PIWI training, ongoing coaching and supervision. Practitioner training provides strategies, free resources, and tools on how to support the parent-child relationship. The PIWI professional development fosters practitioner's skills in providing targeted social emotional strategies to help families with the necessary supports and resources to enhance children's development and learning. PIWI teaches a philosophy of working with families and building relationships, as opposed to teaching families specific strategies in the social-emotional area. Practitioners learn to support parents as developmental observers, an approach used in PIWI. As astute observers of their child's behavior, parents are better prepared to participate under the PIWI model in developing IFSP outcomes that are functional and based on children and family's interests, needs and daily routines.

To better familiarize its staff with the PIWI, Massachusetts EI Lead Agency staff participated in two full-day trainings on the Pyramid Foundations model (the larger context for PIWI) and PIWI in December 2015 and March 2016. All EITC and Regional Staff personnel were included in the training. Furthermore, the EITC expanded its training capacity through a Master Cadre of trainers. The Master Cadre consists of select individuals who have been trained in PIWI philosophy and approach used in Massachusetts EI home visiting. Master Cadre training took place in March and April 2016.

Using a train-the-trainer model, the Master Cadre were tasked with training all Massachusetts EI programs on the PIWI. The 60 programs were equally divided into three cohorts to be trained every six months from June 2016 through December 2017. All practitioners working more than 20 hours per week are required to attend the full-day training.

Prior to PIWI training, EI program staff must complete the *Pyramid Model Framework Overview Training*, a preliminary training on the Pyramid Foundations model. The *Pyramid Model Framework Overview Training* provides the context necessary to complete the PIWI training. Completion of the training and its self-assessment (to serve as the PIWI baseline evaluation data) is tracked in an online database. The results of the self-assessment are included in Section 3a: Evaluation Measures and Outputs.

Since SSIP Phase II submission, the PIWI Cohort 1 (20 EI programs) has completed the *Pyramid Model Framework Overview Training* and the full-day PIWI training as of December 2016 (as planned in Massachusetts EI's SSIP Implementation Plan). Cohort 2 EI program

training kicked off in January 2017. As of Phase III submission, 1,567 EI program staff have completed the *Pyramid Model Framework Overview Training*, and all 20 Cohort 1 EI programs and 11 Cohort 2 EI programs (totaling 359 EI program staff) have completed the PIWI training.

To ensure the evidence-based practice’s sustainability, Massachusetts EI will incorporate the PIWI training into Day 2 of the mandatory orientation for new staff entering the Massachusetts EI system. This will ensure that all new EI staff are trained on the EBP and its approach. Further, each EI program has selected at least one PIWI Champion per program to act as an onsite resource for EI practitioners to utilize to ensure proper practice and implementation of PIWI. As PIWI is rolled out to each program, the PIWI Champion receives ongoing training and support from the Master Cadre and EITC on a regular basis. The PIWI Champion also acts as the onsite data collection mechanism for PIWI evaluation (Cohort 1 PIWI Champions are currently collecting evaluation data, and Cohort 2 PIWI Champions will collect evaluation data beginning in July 2017). This will encourage greater practice fidelity to PIWI across each EI program.

2b. Stakeholder Involvement in Implementation

The majority of SSIP-related activities have been led and managed by the SSIP State Leadership Team. This Team guides the various Implementation and Evaluation workstreams. The Team is comprised of seven members from the Massachusetts Department of Public Health, the EI State Lead Agency.

Name	Title	Role
Faith Bombardier	Statewide Monitoring Coordinator, DPH, Division of EI	Ensures data collection and information gathering from onsite visits are considered in the SSIP process
Michelle Conlon	EI Regional Specialist, DPH, Division of EI	Provides general supervision to local EI programs
Noah Feldman	Director of Program Planning and Professional Development, DPH, Division of EI	Provides oversight of professional development, program projects, and liaison with EI Data team.
Patti Fougere	Assistant Director, DPH, Division of EI	Provides oversight of EI day-to-day operations to ensure implementation of IDEA
Darla Gundler	Director, EI Parent Leadership Project, and Marketing and Communications, DPH, Division of EI	Provides parent perspective through the SSIP implementation and assists in messaging SSIP activities to the field.
Julie Longpre	EI Regional Specialist, DPH, Division of EI	Provides general supervision to local EI programs
Jean Shimer	EI Data Manager, DPH, Division of EI	Responsible for data systems and ongoing data collection, management, and analysis

Massachusetts EI has collaborated with multiple partners on all of its SSIP activities. Implementation progress, evaluation results, and proposed changes to the SSIP have been

frequently reviewed and verified by Massachusetts EI’s stakeholder and advisory groups to ensure diverse viewpoints and buy-in among the system’s stakeholders.

In fact, virtually all of the material presented in this document has been developed in collaboration with key stakeholders. The primary stakeholder groups that have participated in this process include:

Stakeholder Group	Roles/ Responsibilities
Early Childhood Outcomes (ECO) Stakeholders	Provides oversight to the SSIP process and activities
Interagency Coordinating Council (ICC)	Provides broad input and feedback on the SSIP process and focus area
Higher Education Task Group	Provides pre-service professional development that aligns with our Mission and Key Principles
Early Childhood Personnel Center Stakeholders/ Task Group	Provides TA and support with regard to professional development activities related to the SSIP and the development of the CSPD.
Early Intervention Provider Community (agency representatives, local program directors, and supervisory staff)	Provides broad input, feedback, and guidance throughout SSIP process
Early Intervention Parent Leadership Project (PLP)	Facilitates parent education and family participation in EI services. Supports family and parent engagement in the SSIP process
SSIP State Leadership Team	Provides direct oversight of the SSIP implementation and evaluation plans, reviewing results, providing plan adjustments as necessary, etc.

Formal stakeholder and advisory group meetings regarding SSIP Phase III were held on the following dates:

Date	Activities
June 1, 2016	MA EI Provider Community (Program Directors) reviewed the SSIP Implementation and Evaluation Plan and SSIP’s alignment with every day program activities. Brainstormed on IFSP process improvement changes. Q&A session with Regional Specialists.
August 22, 2016	SSIP State Leadership Team reviewed the Outcomes Conference findings, SSIP implementation progress, and evaluation plan. The Team made the following decisions: <ul style="list-style-type: none"> • Clarified that the PIWI Champion will collect program-level evaluation data • Defined BDI-2 video submission specifications • Defined IFSP outcomes collection format and specifications • Created an online IFSP outcomes database

Massachusetts State Systemic Improvement Plan
Phase III: Evaluation

Date	Activities
	<ul style="list-style-type: none"> Placed two BDI-2 online modules and electronic scoring pilot on hold.
September 15, 2016	SSIP State Leadership Team reviewed SSIP Phase III federal guidance, UMass Boston BDI-2 fidelity study results, IFSP outcomes database, Key Principles Training feedback, and Pyramid Online Overview pre-test results. Planned for upcoming ECO, ICC, and Program Directors meetings.
October 6, 2016	ECO Stakeholders reviewed Phase III implementation progress to-date and evaluation results on the following: <ul style="list-style-type: none"> UMass Study BDI-2 baseline results. Decided to instead use Round 1 BDI-2 video submissions for baseline. IFSP outcomes baseline data results. <i>Embedding the Key Principles into the IFSP Process Training</i> feedback and online survey results.
November 10, 2016	ICC Stakeholders reviewed Phase III implementation progress and upcoming evaluation due dates and program responsibilities. Provided input on the PIWI evaluation data collection responsibilities and mechanisms.
November 16, 2016	The Higher Education Task Group reviewed changes within the SSIP State Leadership Team and role/responsibility changes, as well as a general discussion regarding the role of this group in collaborating and providing support to the EI workforce.
November 17, 2016	SSIP State Leadership Team compiled the state summary for why social-emotional outcomes are the focus for MA's SSIP and defined Program Director responsibilities related to the SSIP. This was later shared with the MA EI Provider Community.
November 30, 2016	MA EI Provider Community (Program Directors) discussed how SSIP can support programs and vice versa. Reviewed why MA is focused on social-emotional outcomes improvement and Program Directors' responsibilities related to: <ul style="list-style-type: none"> BDI-2 evaluation video submissions Identifying a program PIWI Champion Completion of the Pyramid Overview Online Training Allowing Regional Specialists to collect IFSP outcomes as part of the <i>Embedding the Key Principles into the IFSP Process Training</i> evaluation
January 12, 2017	ICC Stakeholders reviewed Phase III implementation progress and evaluation plan. Created an action plan to receive outstanding BDI-2 evaluation video submissions which were due December 31, 2016.
January 23, 2017	SSIP State Leadership Team created a timeline for SSIP Phase III writing, reviewed the implementation plan

Date	Activities
March 1, 2017	ECO Stakeholders reviewed the Implementation and Evaluation Plan for the next year (2017 and beyond). Reviewed progress and data related to the following: <ul style="list-style-type: none"> • Preliminary BDI-2 evaluation scores for the new baseline data, as well as the improved outcomes for programs receiving technical assistance. • IFSP Outcomes inclusive of Baseline and Round 1 data. Significant improvements shown as a result of the <i>Embedding the Key Principles Training</i>. • Clarified the PIWI evaluation plan and PIWI Coach and Champion responsibilities. • Agreed not to pilot the Routines-Based Interview. • Decided to provide program-level evaluation reports to all 60 MA EI programs. • Decided to expand <i>BDI-2 Administration Training and Support</i> after reviewing evaluation data showing the positive effects associated with it.
March 1, 2017	SSIP State Leadership Team reviewed the Phase III draft and provided feedback. Further detailed and agreed upon Plans for Next Year (2017 and beyond).
March 9, 2017	ICC Stakeholders reviewed evaluation activities, federal and state level child outcomes data, BDI-2 fidelity updates from TA, and progress of the IFSP pilot.

There are four notable implementation plan alterations that have been made to the original Massachusetts SSIP Implementation Plan, submitted in Phase II.

1. Two BDI-2 online training modules and the electronic scoring pilot were placed on hold.
2. The *BDI-2 Administration Training and Support* in-person training will be expanded to additional programs.
3. The new IFSP form and toolkit was piloted prior to statewide rollout.
4. The Routines-Based Interview (RBI) will not be piloted as an additional evidence-based practice.

As mentioned previously, the BDI-2 online training modules and the electronic scoring pilot had to be prioritized with competing IT projects which were under request to the State’s Executive Office of Health and Human Services IT Department. The SSIP State Leadership Team, after consulting with the ECO and ICC Stakeholders, determined that the EIS was a higher priority for Massachusetts EI. Consequently, in the hopes of successful procurement and implementation of a new EIS, these BDI-2 strategies were placed on hold.

At the March 1, 2017 ECO Stakeholders meeting, it was decided to further expand the BDI-2 technical assistance after the group reviewed the BDI-2 evaluation results which showed a 39% increase in BDI-2 fidelity in those programs receiving the TA. The SSIP State Leadership Team and ECO Stakeholders agreed that BDI-2 fidelity of administration could be further improved by expanding the TA. This should support improved social-emotional outcomes.

The IFSP Task Force completed the new IFSP form and toolkit in Fall 2016. After SSIP State Leadership Team staff attended the DaSY-sponsored IFSP Topic cohort, the Team, in consultation with the IFSP Task Force, decided to conduct a formal pilot prior to statewide rollout. This decision was made in August 2016. The Task Force agreed to this approach, and several members provided similar feedback reinforcing the decision. The Task Force assisted Lead Agency staff in preparation of the IFSP pilot.

Finally, one of the other evidence-based practices considered by Massachusetts EI during Phase II was the Routines-Based Interview, developed by Robin McWilliam and The RAM Group. The SSIP State Leadership Team, in consultation with its stakeholder groups, selected the PIWI for implementation. However, the original implementation plan allowed Massachusetts EI to reconsider implementing the RBI as a pilot after one year of SSIP implementation. The SSIP State Leadership Team, in consultation with its ECO Stakeholders in March 2017, determined that it is not appropriate to pilot the RBI at this time. EITC and program capacity are being heavily utilized by the other SSIP workstreams, and the Stakeholders saw little value in piloting the RBI at a small number of programs. This decision may be revisited after PIWI training is complete.

3. Data on Implementation and Outcomes

3a. Evaluation Measures and Outputs

Massachusetts EI developed its SSIP Evaluation Plan to directly align with its implementation strategies and activities. The formative and summative evaluation measures are aligned with each of the four Strands of Action included in the Theory of Action: Practice Quality & Consistency, Collaboration, Professional Development, and Data Quality. The Strands of Action are addressed by the three major implementation strategies and Massachusetts's evidence based practice: BDI-2, *Embedding the Key Principles into the IFSP Process Training*, the new universal IFSP form and associated resources, and the PIWI.

The following sub-sections detail Massachusetts EI's full evaluation activities and collected outcomes. While not all implementation activities are complete as of Phase III submission, initial outcomes of those strategies which have been implemented (namely, BDI-2 technical assistance and *Embedding the Key Principles into the IFSP Process Training*) show promising results.

BDI-2 Evaluation

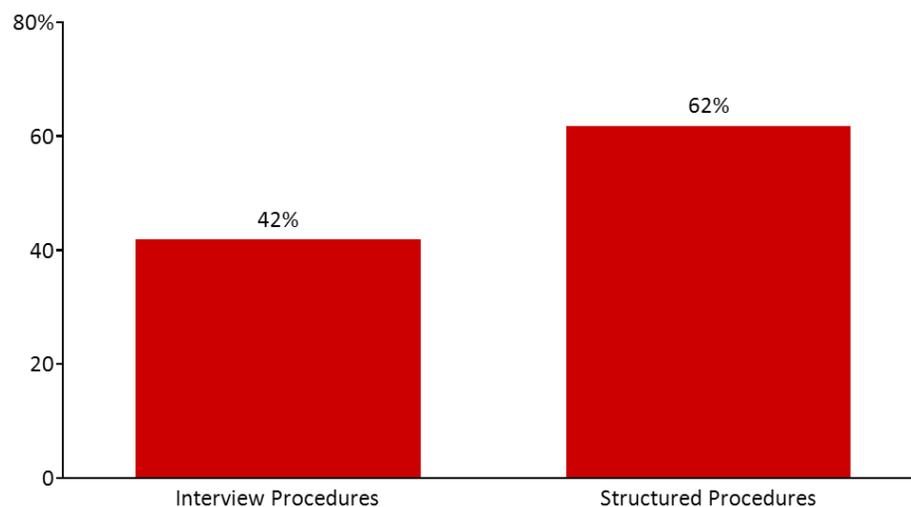
Massachusetts EI has targeted its BDI-2 improvement efforts to address Practice Quality & Consistency, Professional Development, and Data Quality. The BDI-2 improvement strategies and activities are intended to ensure EI staff are consistent in their administration of the tool and adhere to the tool's fidelity. These strategies were designed to address stakeholder concerns regarding inconsistent interpretation of 'typical' vs. 'atypical' behavior, particularly at initial assessments. Corrections in this area are critical for improvement of fidelity of administration, accurate assessments of children, and increased data quality. Finally, accurate administration of the BDI-2 will ensure higher quality data is collected and that comparisons across EI staff and programs are valid and appropriate.

The EITC has provided multiple trainings and learning forums to advance EI staff professional development in this regard. Specifically, the following activities have been completed as of April 2017:

BDI-2 Strategy/ Activity	Formative Evaluation Result(s)
Review and data analysis of the BDI-2 timing policy	Verified that no change was needed regarding the timing of exit assessments. This decision was validated by analyzing child outcomes data.
Created and released an online BDI-2 training module, entitled “ <i>Using the Standardized Interview Procedure of the BDI-2</i> ”	Published in March 2017 and available online to all 60 EI program staff.
Provision of BDI-2 technical assistance which is specialized BDI-2 in-person assistance and guidance on the use of the tool and fidelity checklist	Five programs (four are completed and one is currently underway) have engaged in this process to identify strategies to improve BDI-2 fidelity across the program.
Formation of regional BDI-2 Communities of Practice (CoPs) to provide peer-to-peer support whereby EI programs and staff drive the conversation and learning focus.	One CoP has been held with a total of 7 attendees, and two additional CoPs are scheduled for April and May. Additional CoPs will be scheduled for the upcoming state fiscal year to start in July 2017.

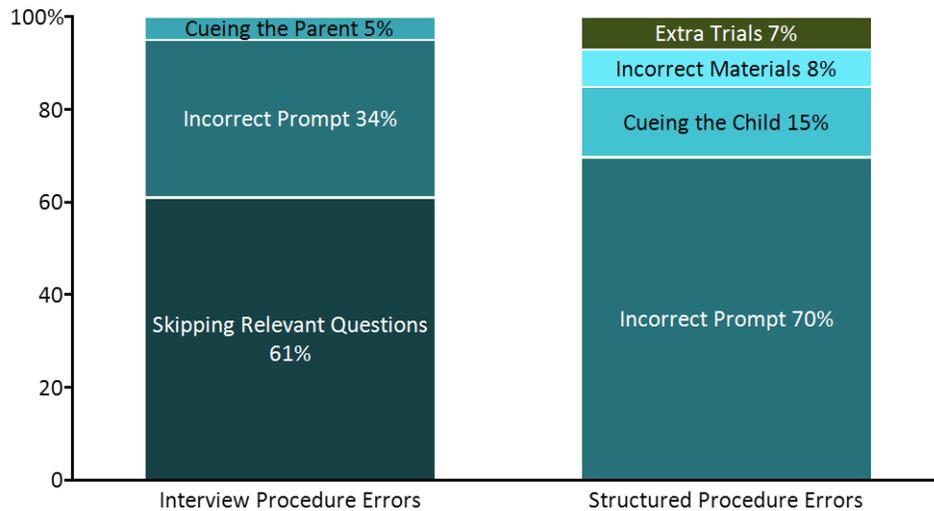
In terms of summative evaluation results related to the BDI-2, Massachusetts EI evaluated program video submissions for fidelity of BDI-2 use. Originally, Massachusetts EI had planned to use evaluation data collected through UMass Boston’s BDI-2 fidelity of administration study. The UMass Boston study evaluated 20 videos which were chosen from volunteer Massachusetts EI programs. The results of the UMass Boston study are detailed below:

Percent of Procedures to Fidelity



Source: University of Massachusetts Boston, BDI-2 Video Fidelity Study, N= 16 videos

Type and Prevalence of Errors

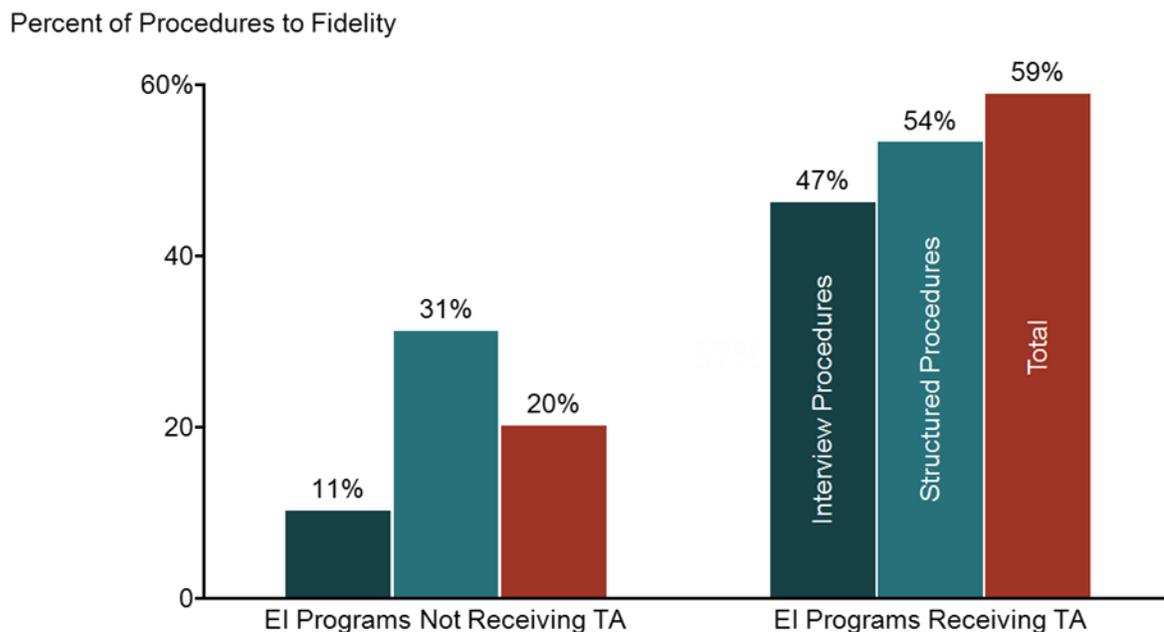


Source: University of Massachusetts Boston, BDI-2 Video Fidelity Study, N= 16 videos

However, after review of the above study results, Massachusetts EI, in coordination with its advisory and stakeholder groups, determined that it would instead use the first round of all 60 EI program video submissions (which were due as of December 31, 2016) as its BDI-2 fidelity data baseline.

Since the December 31, 2016 submission deadline, Massachusetts EI has evaluated and scored 11 of the submitted Round 1 videos (completion and evaluation results are due to programs by June 30, 2017). These videos were sorted into two groups: 1) programs that received BDI-2 technical assistance through the EITC and 2) those that did not. Although the results are not yet inclusive of all 60 EI programs, preliminary results demonstrate the efficacy of the EITC's technical assistance. **Programs receiving EITC TA reported 39% higher fidelity of BDI-2 administration and structure than programs not receiving training.** Results are

detailed in the chart below:



Source: Massachusetts Early Intervention, BDI-2 Video Evaluations, March 2017. N=12

To further strengthen and improve EI program BDI-2 fidelity, EITC will continue to provide BDI-2 technical assistance to those programs requesting it and encourage other programs to do so as well. Massachusetts EI expects that continued improvement in BDI-2 fidelity will be a critical improvement strategy towards improving social-emotional skills development.

Further, Massachusetts EI will benchmark the BDI-2 fidelity of EI programs participating in the Communities of Practice to those programs not participating in those forums. This will provide a means of measuring the efficacy of CoP participation, discussions, and peer feedback in improving BDI-2 administration at the local program level.

Embedding the Key Principles into the IFSP Process Training Evaluation

The *Embedding the Key Principles into the IFSP Process Training* has been developed by the Early Intervention Training Center and is applicable to all four Strands of Action: Practice Quality & Consistency, Collaboration, Professional Development, and Data Quality. The curriculum was developed collaboratively with staff from the ECTA Center and WRRRC. The *Training* is designed to establish research-based best practices for the IFSP process resulting in the creation of high-quality, functional IFSP outcomes.

Between January and June 2016, EITC staff initiated site-level training on Embedding the Key Principles into the IFSP Process at EI programs. In terms of formative evaluation results, the *Training* was completed in the following manner:

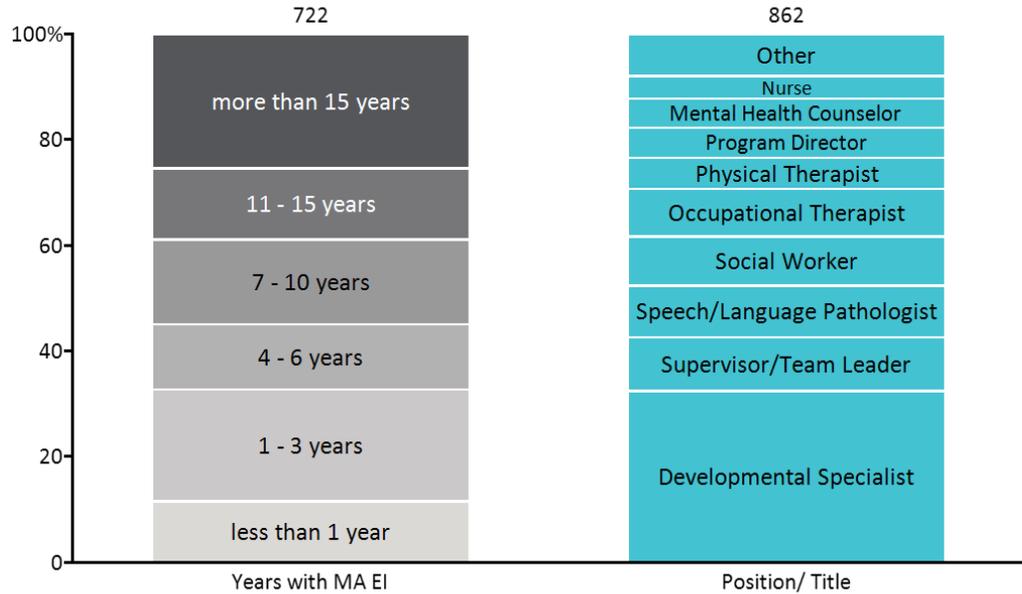
- All 60 Massachusetts EI programs received onsite training;
- More than 1,940 EI program staff participated in the onsite training;

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- 722 training participants provided feedback;
- 80% of participants reported gaining knowledge of the Massachusetts EI Mission Statement, Key Principles and Core values and how to apply them in practice; and
- 30 EI programs rated the training 4 or higher (on a scale of 1 to 5) regarding how much they learned (average across all program participants).

These highlights, in addition to other formative training results, are further elaborated in the charts below:

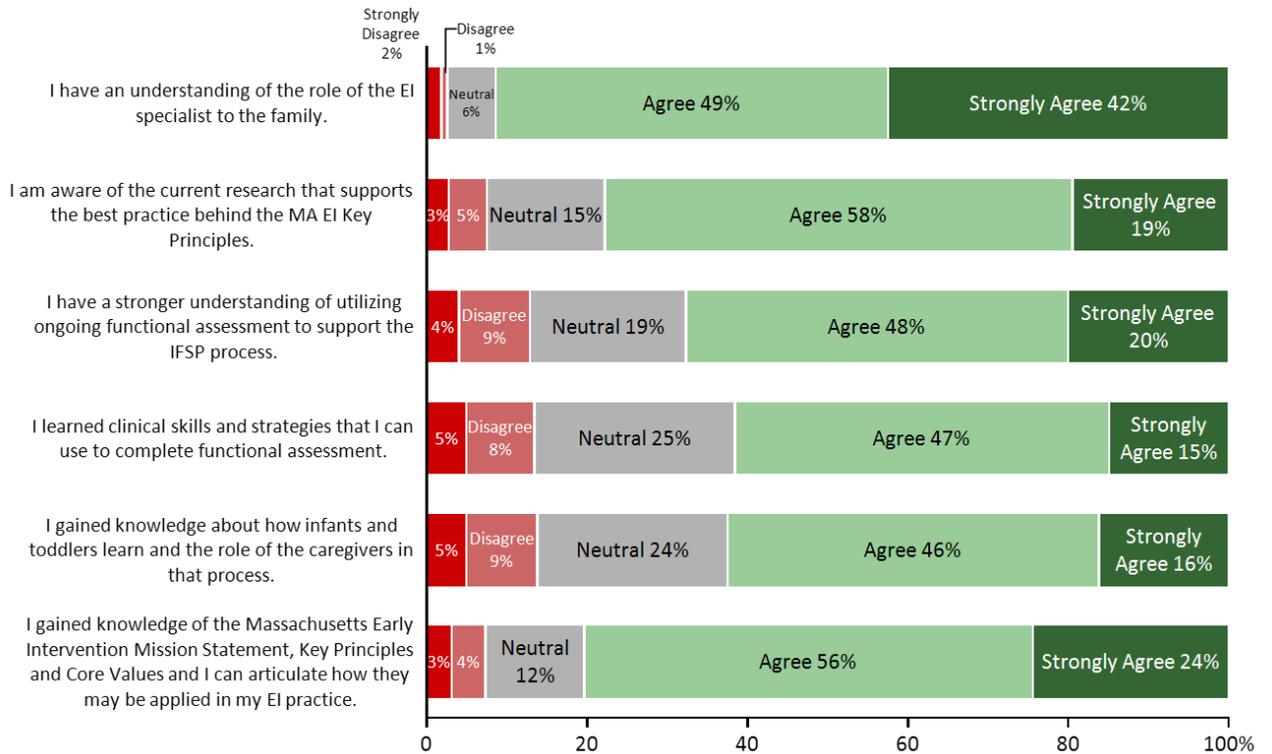
Embedding the Key Principles Participant Feedback Demographics



Note: Some respondents reported more than one position/ job title

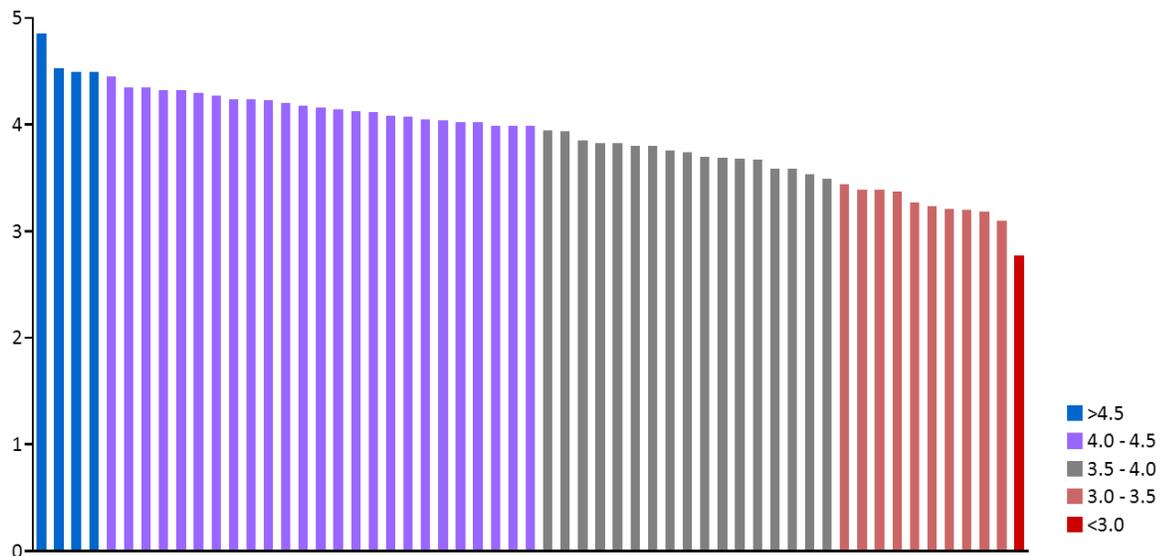
Source: MA Early Intervention, Embedding the Key Principles into the IFSP Process: Training Feedback, September 2016. N= 530

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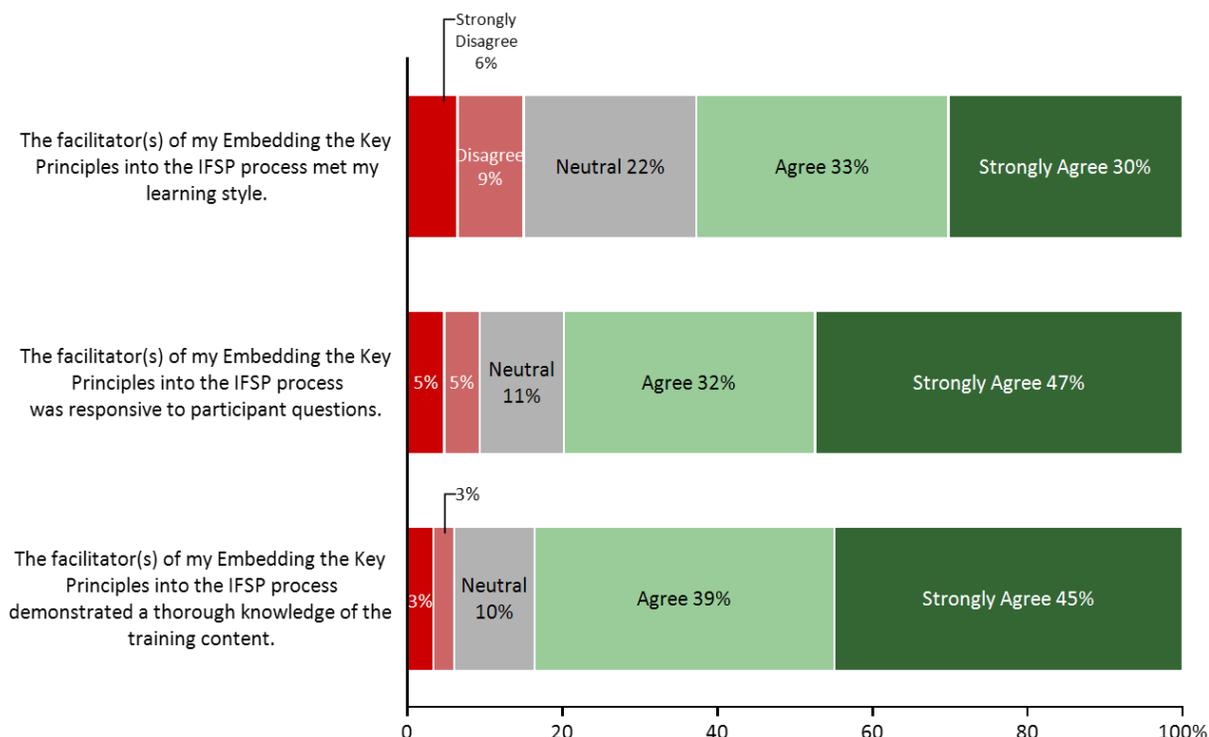
Source: MA Early Intervention, Embedding the Key Principles into the IFSP Process: Training Feedback, September 2016. N= 544

EI Program Average Self-Assessment of Learning Score



Source: MA Early Intervention, Embedding the Key Principles into the IFSP Process: Training Feedback, September 2016. N= 544

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Source: MA Early Intervention, Embedding the Key Principles into the IFSP Process: Training Feedback, September 2016. N= 530

This *Training* was completed on time and within budget by the end of June 2016. This success required significant dedication of EITC resources, EI program and staff time (e.g. it was a full day training), and coordination among the EITC, EI programs and staff, and participants.

In order to evaluate the effectiveness of the *Embedding the Key Principles into the IFSP Process Training* in improving the percentage of high-quality, functional IFSP outcomes that are developed by EI program staff (e.g. summative evaluation), DPH staff evaluated IFSP outcomes developed prior and subsequent to the *Training* at each program. Ten records (no more than three outcomes per IFSP per site) were evaluated by the Regional Specialists, who used the Placemat Tool to evaluate IFSP outcomes. The Placemat Tool evaluates IFSP outcomes based on six objective criteria.

Baseline data was collected by sampling records and IFSP outcomes from 20 sample programs that were developed prior to the respective program's full day *Embedding the Key Principles into the IFSP Process Training*. Round 1 data was collected by sampling records and IFSP outcomes from all 60 Massachusetts EI programs and that were developed between September 2016 and February 2017 (subsequent to the *Training* occurring at all programs).

In the FY16 Baseline data, 201 initial IFSPs and their 355 outcomes were evaluated, and 191 Annual IFSPs and their 326 outcomes were also evaluated. In the FY17 Round 1 data, 347 Initial IFSPs and their 560 outcomes were evaluated, and 249 Annual IFSPs and their 441 outcomes were also evaluated. The full results are detailed in the table below.

MA Early Intervention (All 60 Programs)	Initial Outcomes: Met Criteria		Annual Outcomes: Met Criteria	
	State Baseline Avg FY16	State Round 1 Avg FY17	State Baseline Avg FY16	State Round 1 Avg FY17
The wording of the outcome is jargon-free, clear and simple	42%	82%	41%	71%
The wording of the outcome emphasizes the positive	59%	86%	62%	84%
The outcome avoids the use of passive words (e.g. tolerate, receive, improve, maintain)	52%	76%	52%	75%
The outcome is necessary and functional for the child's and family's life	68%	91%	60%	92%
The outcome is discipline-free	67%	92%	63%	90%
The outcome reflects real-life contextualized settings (e.g. not test items)	17%	35%	17%	37%
Number of IFSP	201	347	191	249
Number of outcomes	355	560	326	441
Percentage of outcomes linking to parent priorities/ concerns	64%	78%	57%	70%

Source: MA Early Intervention, IFSP Outcomes Database, February 2017

Massachusetts EI programs improved in every Placemat Tool category (the first six outcomes in the table above) related to high-quality, functional IFSP outcomes following the *Embedding the Key Principles into the IFSP Process Training*. In addition, IFSP outcomes increasingly focused on improving Child Outcomes, except for the Acquisition and Use of Knowledge and Skills which was already relatively high.

This curriculum has been incorporated into orientation training for all new EI staff to ensure the sustainability and ongoing compliance with these best practices. As of Phase III submission, 140 new EI program staff have completed this training as part of their orientation.

New IFSP Form & Toolkit Evaluation

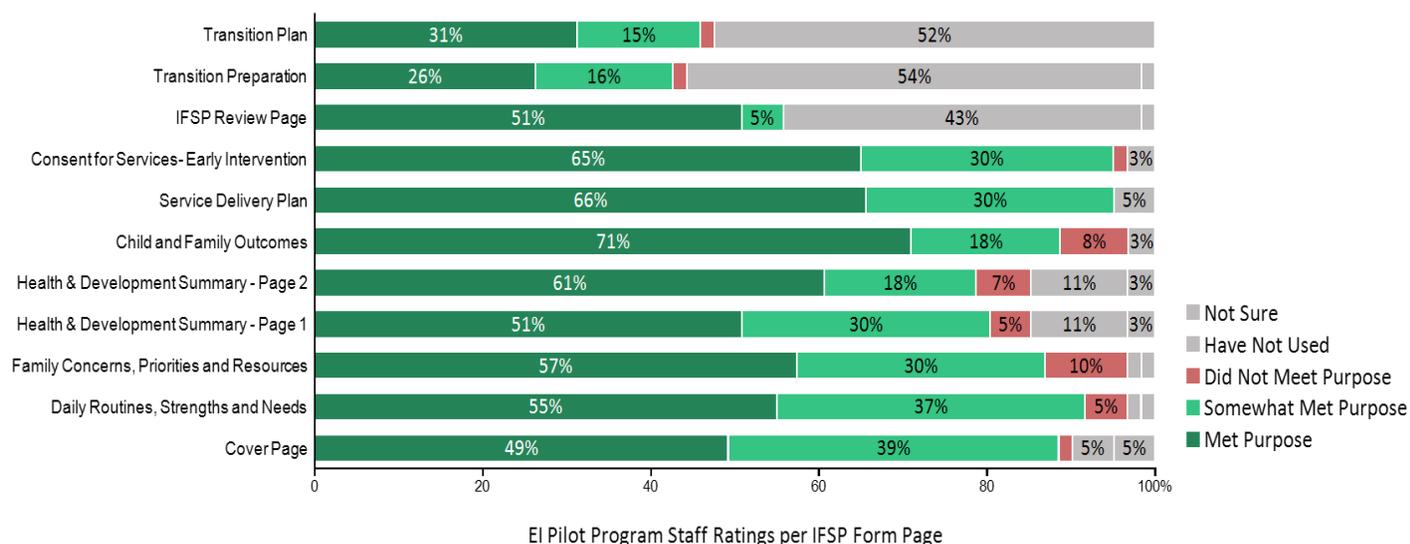
In the Fall of 2016, Massachusetts EI solicited applications from EI programs to pilot the new universal IFSP form and associated toolkit resources. Of the 19 applicants, five EI programs were selected to test the real-world application of the materials. Participating EI program staff have agreed to provide feedback on the new universal IFSP form and toolkit at various intervals throughout the pilot. During the pilot, programs have agreed to the following responsibilities:

- Complete monthly online surveys, providing feedback on the use and appropriateness of the IFSP materials
- Distribute family feedback letter with a link to an online survey for parents to complete
- Track how many/ which families used the new IFSP form and toolkit
- Participate in an online webinar to ask questions regarding IFSP form and toolkit during first week of pilot launch
- Participate in a facilitated discussion, feedback session, and Q&A with Massachusetts EI staff after two months of program implementation
- Participate in a focus group, led by Massachusetts EI staff, to provide feedback at the end of the pilot
- Allow Massachusetts EI staff to evaluate IFSPs developed during the pilot

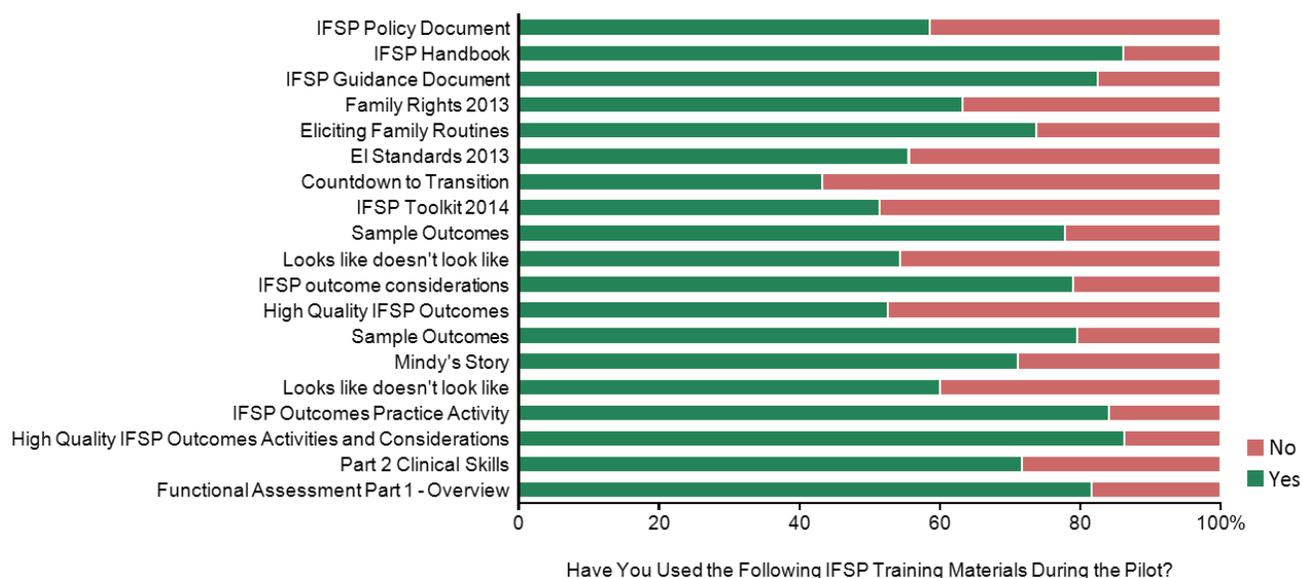
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The pilot, starting January 1st and ending on March 31, 2017, will be evaluated to inform universal, statewide rollout which is expected to occur between July and September 2017. Massachusetts EI will review the EI program staff survey results, parent feedback, facilitated discussion suggestions, and focus group feedback in April and May 2017. As necessary, the IFSP Task Force will revise the universal form and toolkit resources to address any issues identified through the pilot.

As of Phase III submission, Massachusetts EI has preliminary staff survey ratings on the IFSP form and training materials. To be clear, these results are incomplete as additional staff feedback will be collected at the end of the pilot. Preliminary staff survey results are detailed below:



Source: MA EI Programs, IFSP Pilot Staff Survey, March 2017. N= 62



Source: MA EI Programs, IFSP Pilot Staff Survey, March 2017. N= 62

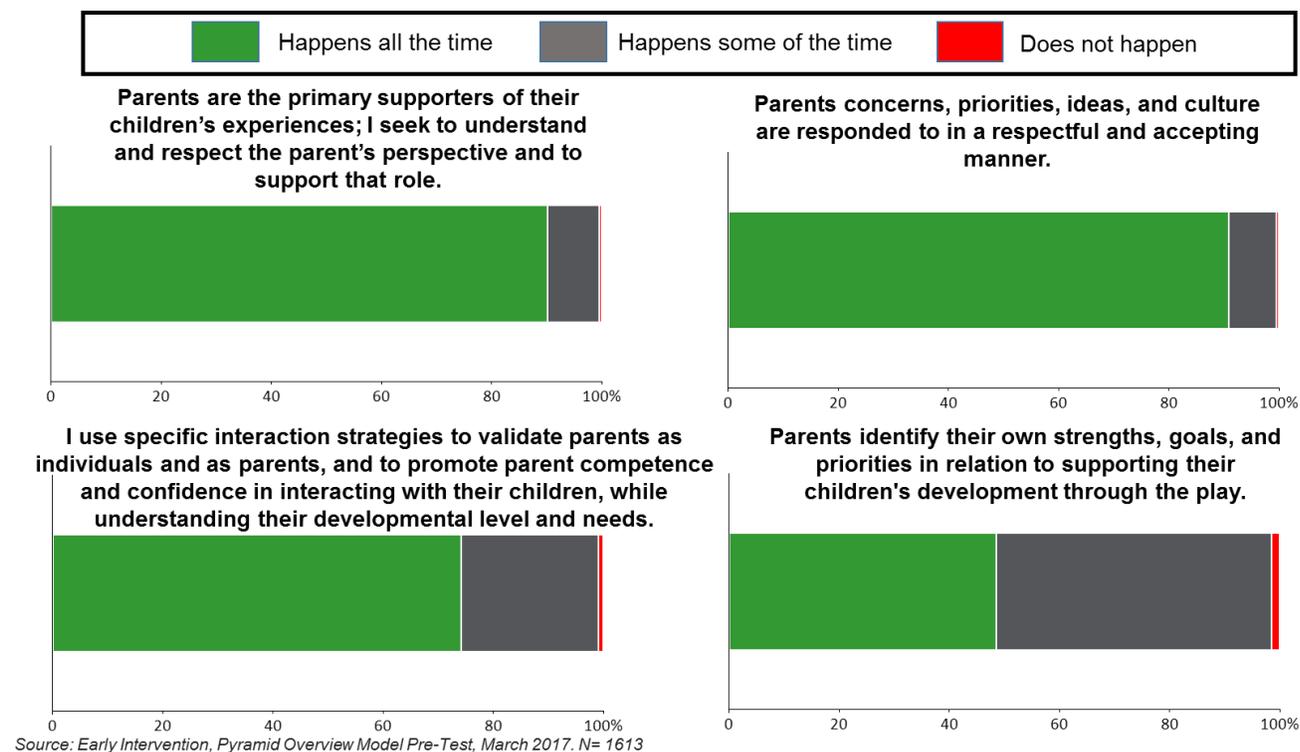
At this time, the pilot appears to be going well at all programs; EI program staff are rating the new form highly, and most of the training materials are being used. However, staff and parent survey data collection is not yet complete. The focus groups, to be held in April, will provide Massachusetts EI with more detail regarding why some training materials and certain pages of the new universal IFSP form were not used.

With this feedback in hand, the IFSP Task Force will be able to revise the universal IFSP form and associated toolkit resources for statewide rollout.

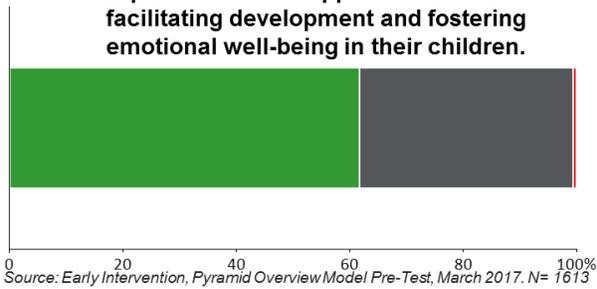
Parents Interacting With Infants Evaluation

In preparation for PIWI training, all Massachusetts EI programs are required to complete the *Pyramid Model Framework Overview Training*, which is an online training that was developed by the EITC. The training provides the context necessary to complete the PIWI training and embed its strategies into every day practice.

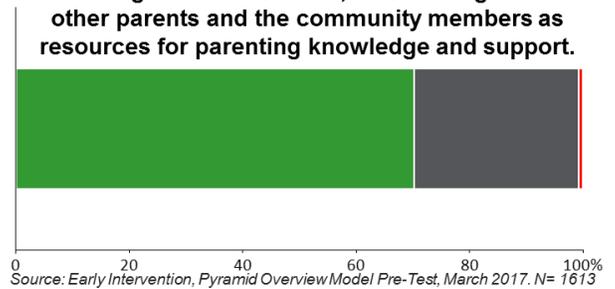
The *Pyramid Model Framework Overview Training*, is preceded by a self-assessment in which practitioners self-assess their use of triadic strategies. As of Phase III submission, 1,613 have completed the online training. The data collected in this self-assessment provides a baseline measure regarding the use and frequency of PIWI strategies in home visits prior to PIWI training. This baseline will be benchmarked against data collected following the PIWI training, in order to determine the change in practitioner use of PIWI strategies during home visits resulting from the training. On average, 76% of Massachusetts EI practitioners report using triadic strategies in their practice “all of the time.” It should be noted that some of this baseline data may be suspect as it is self-reported (more on this in Section 4) and current results show a relatively high utilization of PIWI strategies prior to training. The full self-assessment results (as of Phase III submission) are detailed in the graphics below.



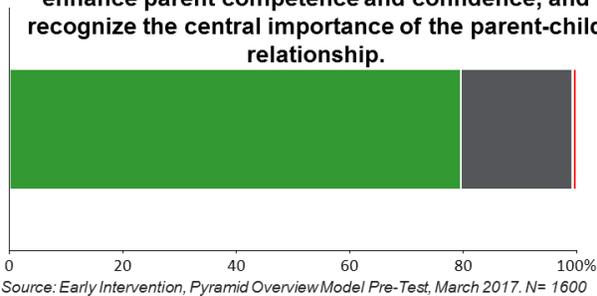
Parents gain information and participate in experiences that support their roles in facilitating development and fostering emotional well-being in their children.



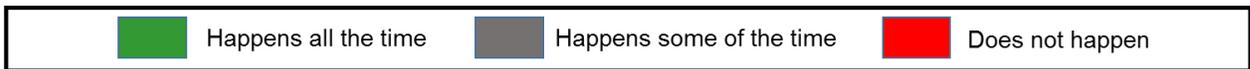
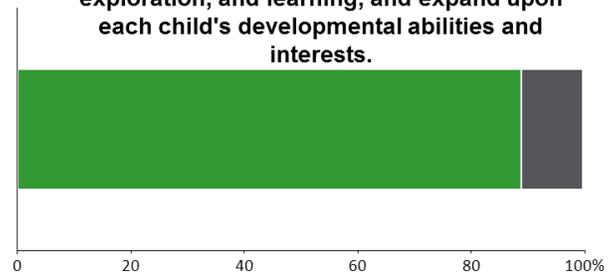
Discussions with parents build on parents' knowledge of their children, foster recognition of other parents and the community members as resources for parenting knowledge and support.



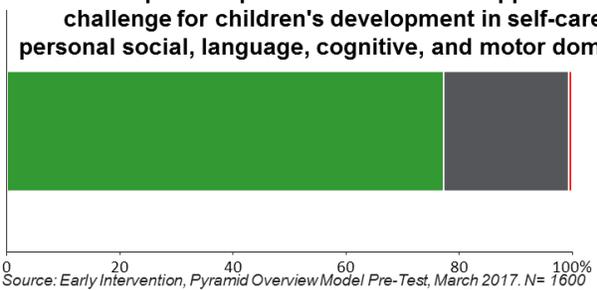
I use strategies and approaches that build on and enhance parent competence and confidence, and recognize the central importance of the parent-child relationship.



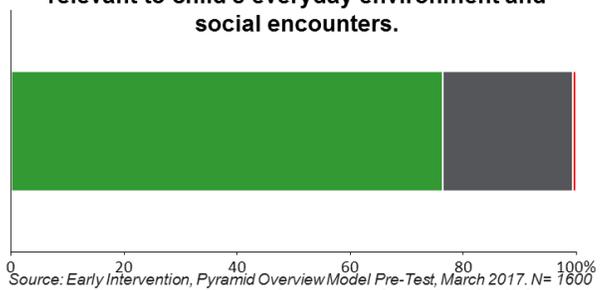
My interactions foster each child's initiative, exploration, and learning, and expand upon each child's developmental abilities and interests.



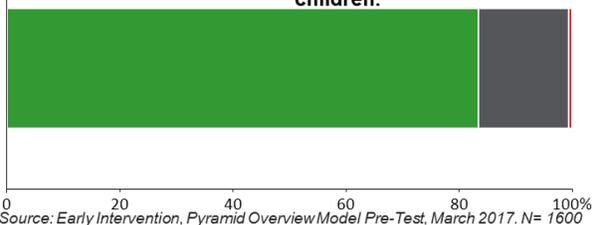
The interactions, environments, and activities that I plan and implement provide a balance of support and challenge for children's development in self-care, personal social, language, cognitive, and motor domains.



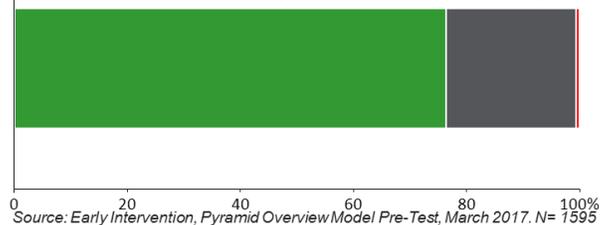
The activities that I plan and implement are relevant to child's everyday environment and social encounters.

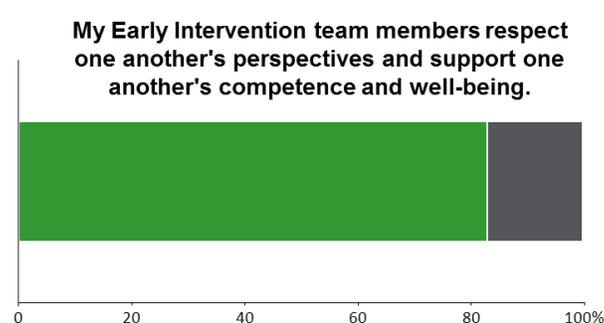
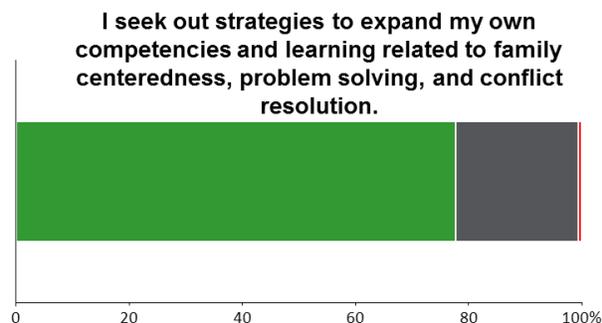
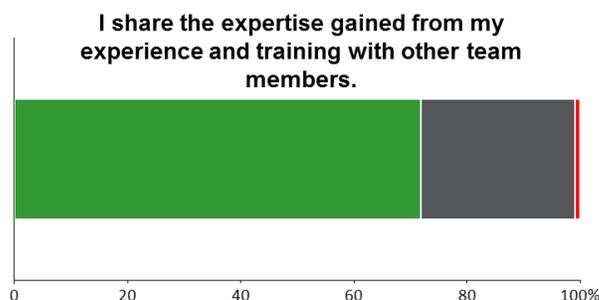
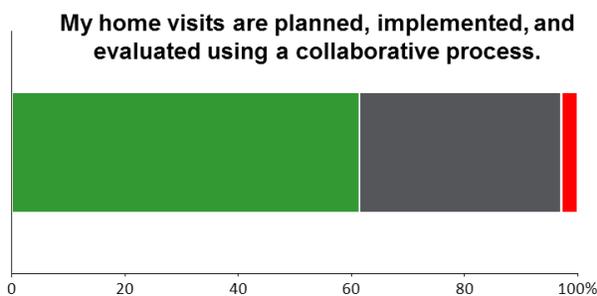


I modify service delivery and interactions to facilitate individual children's interactions with their physical and social environments, taking into account knowledge, temperament, preferences, developmental abilities and needs, and parents' goals for their children.



I use strategies and approaches that build on and enhance parent competence and confidence, and recognize the central importance of the parent-child relationship.

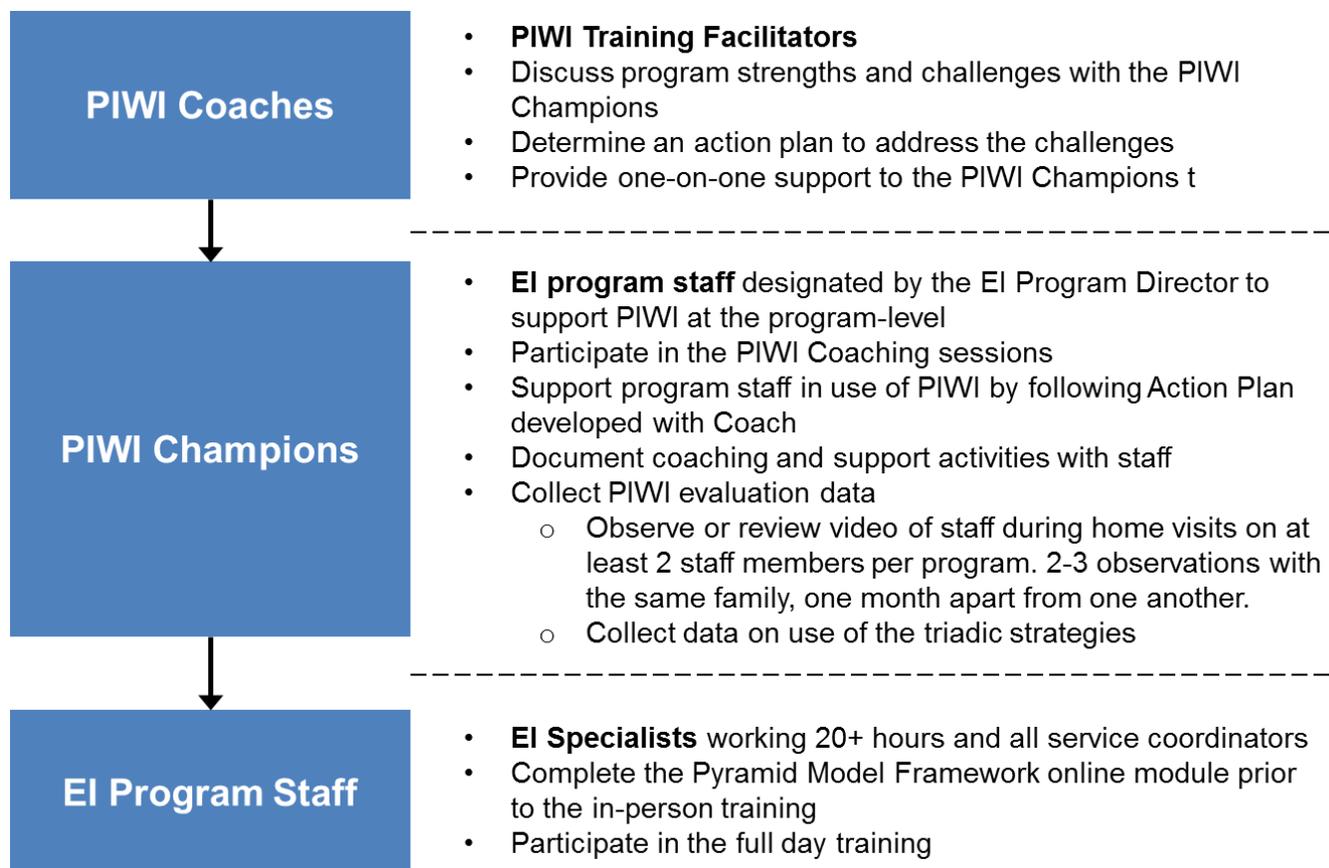




Source: Early Intervention, Pyramid Overview Model Pre-Test, March 2017. N= 1595

The PIWI training is currently being rolled out to all Massachusetts EI programs on a staggered, cohort basis. The three cohorts, each consisting of 20 EI programs, will be trained every six months from June 2016 to December 2017. PIWI Cohort 1's programs were fully trained by December 2016. A total of 359 EI program staff (or 19% of all Massachusetts EI program staff) have completed the PIWI training, as of Phase III submission, inclusive of Cohort 1 and 11 programs in Cohort 2.

As each EI program is trained on PIWI, the EI Program designates one or more PIWI Champions that will be coached by one of the PIWI Master Cadre trainers. The PIWI Champions are responsible for ensuring the successful implementation of the PIWI at the local program through supporting staff in the use of PIWI, documenting coaching and other TA activities, and conducting program-level evaluation of the PIWI. The PIWI Champions are responsible for collecting PIWI evaluation data through observation of staff conducting home visits. Champions acts as the program-specific resource for quality assurance and PIWI sustainability. All Cohort 1 Champions have been identified and trained; they are currently in the process of collecting Cohort 1's Round 1 evaluation data. A more detailed explanation of the PIWI evaluation plan and working relationships between the participants is detailed in the graphic below.



As of Phase III submission, all PIWI Cohort 1 Champions have been identified and trained; they are currently in the process of collecting Cohort 1's Round 1 evaluation data. Evaluation submissions for the Cohort are due to Massachusetts EI by June 30, 2017. At this time, however, Massachusetts EI has no Round 1 evaluation data to share regarding PIWI.

3b. Incorporation of Data into Planning and Implementation

Throughout Massachusetts EI's SSIP implementation, evaluation and data results have been continuously monitored and shared with relevant stakeholders. In reviewing results, Massachusetts EI and its stakeholder and advisory groups have identified areas for adjustment in the implementation plan to further improve outcomes.

Notably, the BDI-2 technical assistance was originally created as a specialized offering for EI programs requesting expanded BDI-2 support. Upon review of the outcomes data, in which EI programs receiving TA reported 39% higher levels of fidelity, the SSIP State Leadership Team has agreed to further expand the technical assistance training to include additional programs that have or will request support. With such positive initial results from the training, it is highly valuable for Massachusetts EI to expand these efforts in order to ensure BDI-2 fidelity of administration success for improved data quality for more accurate reporting of child outcomes.

3c. Stakeholder Involvement in Evaluation

Massachusetts EI has conducted extensive stakeholder engagement and communications. **Advisory and stakeholder groups have reviewed and offered input on every change and proposed change to the implementation plan and have reviewed all evaluation results to-**

date. Virtually all of the material presented in this document has been developed in collaboration with and approved by key stakeholders. The primary stakeholder groups that have participated in this process include:

1. Early Childhood Outcomes Stakeholders (ECO)
2. Interagency Coordinating Council (ICC)
3. Higher Education Task Group
4. Early Childhood Personnel Center Stakeholders/ Task Group
5. Early Intervention Provider Community (Program Directors)
6. Early Intervention Parent Leadership Project (PLP)
7. SSIP State Leadership Team

A complete, detailed listing of formal stakeholder engagement meetings is provided in Section 2b. Stakeholder Involvement in the Implementation Plan. Meeting summaries, including stakeholder involvement in evaluation review and decisions, are noted in that section's corresponding table.

There are two notable evaluation plan alterations that have been made to the original Massachusetts SSIP Evaluation Plan.

1. Changing the BDI-2 evaluation baseline measure to the Round 1 video submissions (as opposed to the UMass Boston study results)
2. Providing comprehensive, program-level evaluation data to all 60 EI programs

During the October 6, 2016 ECO Stakeholders meeting, the UMass Boston study's evaluation results regarding BDI-2 fidelity baseline data were reviewed. The sample size, 20 videos (all from separate EI programs) of which 16 were valid for analysis, was originally intended to serve as the statewide baseline for BDI-2 fidelity. As stakeholders reviewed the data, several inconsistencies and outlier results were noted. Stakeholders were concerned that the UMass Boston sample was non-representative of the statewide system and, therefore, should not be used as the statewide baseline. Four primary concerns were noted:

1. Evaluation data showed a significant variance in BDI-2 outcomes across programs (range from 32% to 87%)
2. Sample sizes of ≥ 30 are recommended for statistical analysis, *especially in samples with wide variability*
3. The sample size (16 videos) was deemed insufficient to be used as a baseline for 60 programs
4. By using Round 1 data as the baseline, program-specific analyses would be possible

Consequently, the SSIP State Leadership Team, upon feedback from the ECO Stakeholders, determined that the Round 1 data, as opposed to the UMass Boston results, would serve as the statewide baseline. Fortunately, this did not cause significant delay or inconvenience in the SSIP Evaluation as Round 1 BDI-2 video submissions were due to Massachusetts EI by December 31, 2016.

In addition, Massachusetts EI has determined that it will provide detailed, program-level data on all summative evaluation measures to its 60 EI programs. Originally, Massachusetts EI had only planned to provide statewide evaluation results due to resource capacity constraints. However, as the SSIP State Leadership Team has shared evaluation results with its stakeholders, multiple

requests from various groups (e.g. ECO Stakeholders, ICC, Program Directors, and EI Parent Leadership Project) have been made to provide program-specific data for ongoing program improvement.

Further, EI programs have found IFSP outcomes reports (regarding the efficacy of the *Embedding the Key Principles into the IFSP Process Training* on development of high-quality, functional outcomes) to be extremely useful. Such reports empower EI programs to inform and adjust their own clinical practice and practitioner behavior according to their specific outcomes. These new program-specific reports (to include BDI-2 results, IFSP use, development of IFSP outcomes, PIWI implementation, and Federal Child Outcomes) will require significant Lead Agency resources to develop, but they can provide a “bottoms-up” approach to continuous improvement strategies.

Finally, Massachusetts EI has developed a comprehensive communications strategy to support stakeholder engagement and awareness of SSIP-related activities. The SSIP State Leadership Team will continue to utilize its stakeholder and advisory groups to determine implementation plan logistics and timelines. Evaluation measures and outcomes will be shared with these groups which can then inform conversations and decisions regarding implementation and evaluation plan changes. In addition to formal meetings, EI programs will be kept informed of SSIP progress through the monthly newsletter, monthly webinar, and ongoing communications with their Regional Specialists.

4. Data Quality Issues

4a. Data Limitations and Concerns

Massachusetts’s data quality concerns are illustrative of the inherent tradeoffs between ensuring sufficient, high quality data and reducing the burden placed on EI programs and the Lead Agency to collect this data. In each instance, these data limitations and concerns are the result of deliberate decisions by Massachusetts EI to balance these competing priorities. Massachusetts EI has noted three primary data quality concerns⁵ based on the evaluation results shared in Section 3.

1. BDI-2 fidelity evaluation results are determined by scoring one video per program. Collectively, this amounts to 60 scored BDI-2 assessments, but one video per program may be insufficient to ensure an accurate statewide evaluation.
2. As the *Pyramid Model Framework Overview Training* self-assessment represents data from more than 1,600 EI program staff, Massachusetts EI does not have concerns regarding the quantity of this data. However, the data comes from a self-assessment which may be inaccurate or poor quality baseline data from which to determine the presence and use of PIWI triadic strategies in EI programs prior to PIWI training.
3. PIWI evaluation results will be calculated by the PIWI Champion monitoring and scoring two staff members (2-3 observations per staff member over subsequent months) per program. Similar to the BDI-2 videos, the collective sample will amount to 120 staff members and at least 240 program staff-participant interactions. However,

⁵ UMass Boston’s BDI-2 fidelity study results are excluded from this section, as the rationale for not using the study’s data as the BDI-2 baseline has been explained in prior sections.

Massachusetts EI would prefer a larger dataset to evaluate the prevalence and use of PIWI strategies if EI program burden were not an issue.

On the other hand, it should be noted that Massachusetts EI is confident and satisfied with the quantity and quality of its remaining evaluation data. This is especially true for the *Embedding the Key Principles Training* evaluation results. The IFSP Outcomes were calculated by analyzing nearly 1,000 IFSPs and 1,700 outcomes against the Placemat Tool. This data collection has been a substantial undertaking by DPH staff which has resulted in high-quality and accurate evaluation data.

4b. Corrective Action Plan for Data Quality

Massachusetts EI believes that it has applied an acceptable balance between collection of high-quality SSIP evaluation data and imposition of additional burdens on EI programs to collect the data. Massachusetts EI does not foresee additional evaluation plan changes outside of those which have already been agreed upon and mentioned in Section 3c. The SSIP State Leadership Team, however, is striving to ensure that EI programs submit data that is representative of actual program practice.

For example, EI programs may be inclined to submit BDI-2 videos and/or PIWI evaluation data which depict the best possible evaluation results, as opposed to truly representative EI staff practice and evaluation results. This concern has been duly noted by the Lead Agency, and the SSIP State Leadership Team has engaged with its stakeholder and advisory groups to mitigate this risk.

Specifically, the ECO Stakeholders have stressed the importance of communicating to EI programs that the evaluation data is being used to measure SSIP outcomes and it will not be used to reprimand programs. This messaging has been relayed to Program Directors and stressed by DPH staff when collecting the data. Although the evaluation results may initiate program technical assistance, training, or other supports, it will not be used to penalize EI programs. Massachusetts EI will continue to stress this distinction throughout its SSIP evaluation.

5. Progress Toward Achieving Intended Improvements

5a. Assessment of Progress

Massachusetts EI is on track for its first year of SSIP implementation. The four high-level SSIP strategies to improve the SIMR are at varying levels of completion, but all major activities are on schedule per the implementation plan. The BDI-2 technical assistance is demonstrating significant progress in BDI-2 administration at participating programs, and the complete statewide rollout of the *Embedding the Key Principles into the IFSP Process Training* has resulted in quantifiable improvements in IFSP outcomes. Although the new universal IFSP form and toolkit have not been released statewide yet, pilot EI program staff are providing positive feedback on its use and applicability to their program practice. Perhaps most importantly in regards to SIMR improvement, PIWI training is on schedule to complete statewide rollout by December 31, 2017.

By the end of CY2017, Massachusetts EI expects that the bulk of SSIP implementation activities will be completed. SSIP evaluation activities will proceed throughout the duration of the SSIP to

track results. Massachusetts EI will continue to monitor the evaluation data and adjust its implementation activities to address concerns and improve outcomes.

Each of the major strategies will be sustained after initial implementation to ensure research-based best practice sustainability and continued use at EI programs.

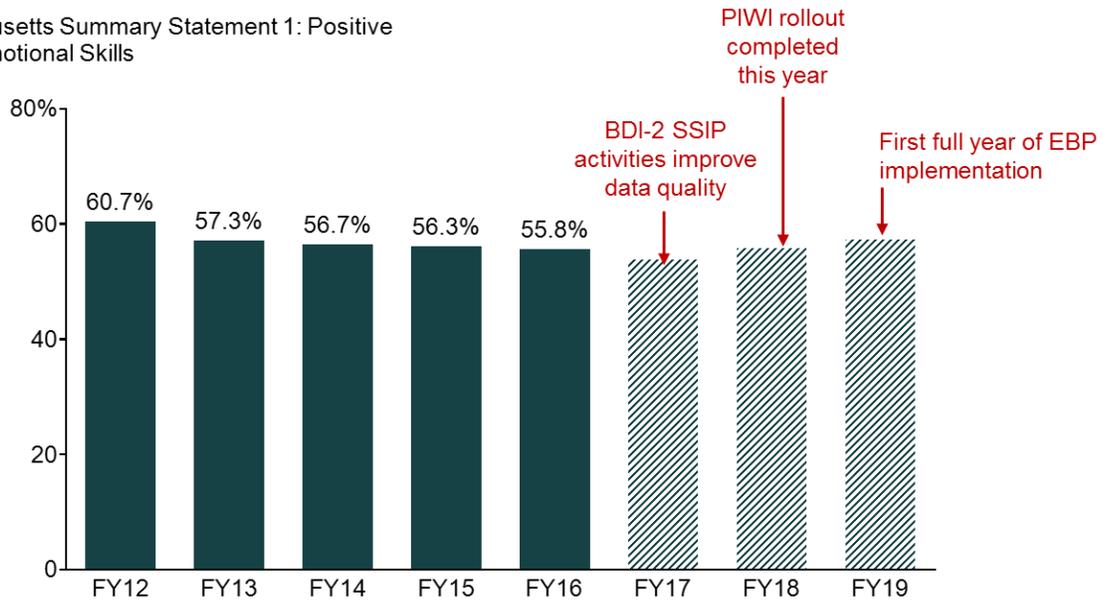
- BDI-2 technical assistance is an ongoing offering to all EI programs. It will continue to meet program demand for BDI-2 support.
- *Embedding the Key Principles into the IFSP Process Training* has now been incorporated into new staff orientation training part 1.
- The new universal IFSP form will replace prior materials, and it will be used by all Massachusetts EI programs after statewide rollout scheduled for July 2017.
- The PIWI training will be incorporated into Day 2 of the mandatory orientation for new staff entering the Massachusetts EI system once statewide implementation is complete.

Massachusetts EI considers these four high-level strategies to all be supportive of its SIMR, positive social-emotional skills development. However, due to the non-uniform administration of the BDI-2, Massachusetts EI believes that the existing SIMR scores may be inflated. The data quality of the SIMR, and other child outcomes resulting from the BDI-2 administration, is expected to improve as a result of BDI-2 activities (e.g. technical assistance, online training module, and Communities of Practice).

Initially, these BDI-2 activities are likely to produce a slippage in SIMR results, as the data becomes more accurate and representative of child outcomes. Massachusetts EI's concerns related to data quality are easily validated through the initial BDI-2 video evaluations which demonstrate only 20% of procedures to fidelity in those programs not receiving technical assistance. After this correction in data quality is complete, Massachusetts EI expects the SIMR to improve as a result of its SSIP strategies and activities. With PIWI training to be rolled out statewide by December 31, 2017, improved SIMR results are expected in FY19 (the first full year of PIWI implementation). These expectations are depicted in the graphic below.

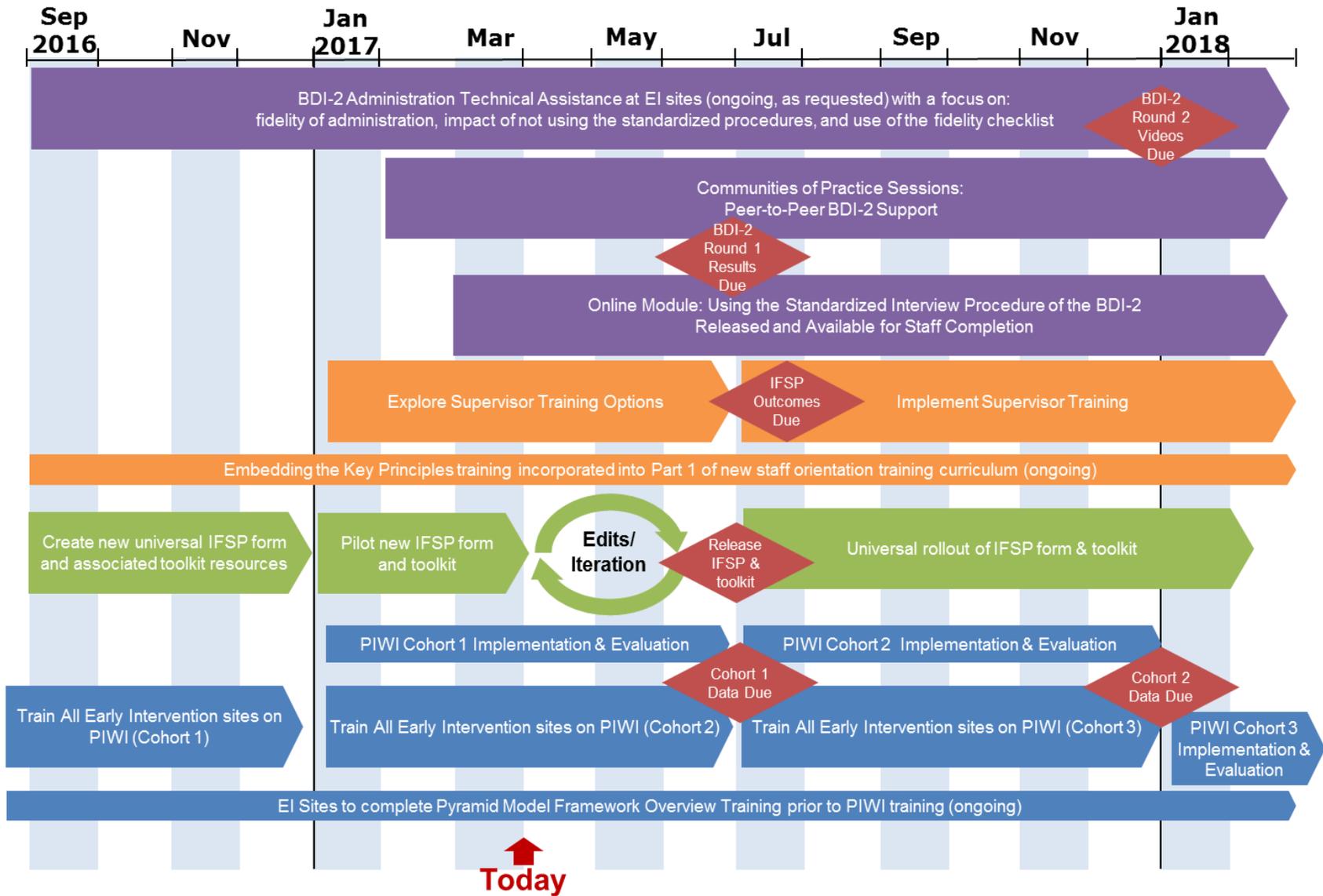
Massachusetts State Systemic Improvement Plan
Phase III: Evaluation

Massachusetts Summary Statement 1: Positive
Social-Emotional Skills



Source: Massachusetts Early Intervention, Battelle Child Outcomes, February 2017.

6. Plans for Next Year



The above timeline provides a high-level overview of Massachusetts EI's upcoming SSIP activities for the remainder of CY2017. In many instances, these activities are a continuation of the existing strategies that have been discussed in this document. The implementation plan changes noted in Section 2b are also represented in the timeline.

Evaluation results collected in this first year of SSIP implementation demonstrate the efficacy of the BDI-2 technical assistance and *Embedding the Key Principles into the IFSP Process Training*, and the new universal IFSP form shows positive, preliminary staff survey results. Massachusetts EI will continue to monitor its improvement strategies and associated outcomes. In the situation that some of the planned SSIP activities are deemed to be ineffective, the SSIP State Leadership Team will review evaluation data and consult with its stakeholder and advisory groups to determine the preferred course of action.

Upcoming SSIP Activities

Massachusetts EI plans to implement the following activities during the remainder of 2017 and beginning of 2018:

The Early Intervention Training Center will continue to provide BDI-2 technical assistance on administration to those programs which request it. As shown in the BDI-2 evaluation results, Massachusetts EI believes that this can be a particularly effective method to increase the fidelity and accuracy of BDI-2 administration. As of Phase III submission, the EITC has completed TA at four EI programs, and it is currently providing TA to one program which will be completed later in 2017.

The BDI-2 Communities of Practice will continue to meet on a regular basis. The EITC will present topics and facilitate the CoP discussions. EI programs will brainstorm and problem solve about challenges that impact the accuracy of BDI-2 administration at their programs. It is possible that additional programs will request BDI-2 TA after hearing of its success during these discussions.

Similarly, the *Using the Standardized Interview Procedure of the BDI-2* online training module was released to all EI programs in March 2017. Massachusetts EI will encourage EI programs to complete this training module as a supplemental strategy to improve practitioner compliance in the administration of BDI-2.

In terms of the *Embedding the Key Principles into the IFSP Process Training*, all programs have been trained on this curriculum in the first year of SSIP implementation. The sustainability of this curriculum will be supported through the mandatory new staff orientation. The *Training's* curriculum has been incorporated into orientation training for all new EI staff, entitled *Foundations of Massachusetts EI (Part 1): Partnering with Families throughout the IFSP Process*. As of Phase III submission, 140 new EI program staff have completed this training as part of their orientation.

Further, Massachusetts EI will provide quality assurance so that the research-based best practices in the *Training* are continually utilized in program practice, collaboration, participation, and activity-based outcomes. Specifically, Massachusetts EI will expand quality assurance efforts through its supervisor trainings. EITC has yet to determine the format of its supervisor trainings. Currently, EITC is in the process of exploring various professional development options for supervisors. The supervisor training curriculum and format will be defined by June 2017 and implemented through the second half of 2017.

The new IFSP form pilot will end concurrently with the SSIP Phase III submission on March 31, 2017. Following the completion of the pilot, Massachusetts EI will evaluate what, if any, changes are required to the IFSP form and its associated toolkit resources. Following revision of these materials, Massachusetts EI will begin statewide rollout of the new universal IFSP form and toolkit to all 60 Massachusetts EI programs. The Lead Agency expects that statewide rollout will begin in July. Massachusetts EI and the IFSP Task Force will monitor program implementation, answering questions and providing additional supports as necessary.

Finally, Massachusetts EI will continue to implement and evaluate its evidence-based practice, PIWI. By the end of June 2017, PIWI Cohort 2 will complete its training and all Cohort 1 evaluation data will have been collected. Starting in July 2017, Cohort 2 will begin practice implementation and evaluation, and Cohort 3 will begin training. Cohort 3, the final PIWI Cohort, will complete its training by December 31, 2017. Cohort 3 will begin implementation and evaluation in January 2018, although not all of their evaluation data will be available for next year's SSIP submission, as it will be due by the end of June 2018.

Appendix

BDI-2 Fidelity Checklist



BDI2 Fidelity
Checklist FY17.xlsx

IFSP Outcomes Placemat Tool

		<i>Criteria Defining High Quality, Participation-Based IFSP Outcomes</i>		
		Yes	Yes	
The outcome is necessary and functional for the child's and family's life.	Yes	IFSP Outcome Card 1	Yes	The outcome is jargon-free, clear and simple.
The outcome reflects real-life contextualized settings.	Yes	Lily will go fishing with her family and hold her own fishing pole.	Yes	The outcome emphasizes the positive, not the negative.
The outcome crosses developmental domains and is discipline-free.	Yes	When the child's contextual information is available, the following IFSP outcome criteria can also be evaluated: <ul style="list-style-type: none"> • The outcome is based on the family's priorities and concerns. • The outcome describes both the child's strengths and needs based on information from the initial evaluation and ongoing assessment. 	Yes	The outcome uses active words rather than passive ones.

ECTA Center
ectacenter.org/~pdfs/pubs/rating-ifsp.pdf

New IFSP Form



IFSP 2016 Pilot
Document.docx

New IFSP Handbook



IFSP Handbook
2017-PILOT.docx