EC-LINC Research to Action:
Measuring the Impact of Early Childhood Systems

Summary Report (Abridged)

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Acknowledgements

The full Final Report provided to participating communities contains data displays for each of the indicators described below.   Because the communities have only recently received and begun to analyze the data, they are not yet prepared to disseminate it. Accordingly, this abridged report contains the full data section for one indicator (Low Birthweight, p. 18) as an example; for the remaining indicators it includes only the sections describing the sources of data and the conclusions of the implementation analysis.

General Project Description

The primary purpose of the Measuring the Impact of Early Childhood Systems Results to Action (RTA) grant was to test the feasibility of cross-national, **common indicators of early childhood wellbeing** (common indicators) by conducting a pilot implementation of the indicators identified during the EC-LINC Outcomes and Metrics Learning Lab. Through this work, the RTA aimed to provide a "proof of concept" of how to construct the measurement and reporting of common indicators and, in the process, assess opportunities and challenges for ongoing indicator data collection and reporting. The secondary purpose of the RTA grant was to further the Learning Lab's development and refinement of **common measures of early childhood system performance** (system performance measures). The pilot implementation of the common indicators and the identification of system performance measures will support future work to determine how these common indicators and measures can be used within and across communities to affect improvement in the systems of services for children and families.

The common indicators implemented during this pilot were:

> **Outcome 1: Pregnant women and young children are healthy**
> > Indicator 1.1: Percentage of babies born below 2,500 grams or 5.5 pounds
> > Indicator 1.2: Percentage of children 0-5 hospitalized due to asthma
> > Indicator 1.3: Percentage of children who are overweight or obese
>
> **Outcome 2: Children are ready to succeed in school**
> > Indicator 2.1: Percentage of children assessed as ready for kindergarten
> > Indicator 2.2: Percentage of early childhood education programs that are high quality
> > Indicator 2.3: Percentage of children read to, had a story told to, or sung to daily
>
> **Outcome 3: Children live in safe, nurturing, and stable families and communities**
> > Indicator 3.1a: Reported cases of abuse and neglect
> > Indicator 3.1b: Substantiated cases of abuse and neglect
> > Indicator 3.2: Percentage of children living in poverty

During this grant period, the participating EC-LINC communities also identified the following additional indicators of **Outcome 3**, but they were not implemented during this phase:

> > Indicator 3.1: Parenting Stress Index (replacement of 3.1a and 3.1b)
> > Indicator 3.2b: Family Financial Stability Index
> > Indicator 3.3: Parent protective factor survey (specific tool TBD, including parent knowledge of child development and positive interactions)

The value propositions and system performance measures refined or identified during this project are listed below. The identified system performance measured were reassessed at the end of the implementation via the post-implementation survey.

Value Proposition 1: Young children and families receive services and supports to meet universal and identified needs

     1.1: Percentage of pregnant women receiving early prenatal care

     1.2: Percentage of young children that have received a standardized developmental screening

       Subsequent addition: Percentage of young children with identified concerns connected to services

       Subsequent addition: Percentage of children that complete the services to which they were referred

     1.3: Percentage of postpartum and pregnant women screened for depression

       Subsequent addition: Percentage of postpartum and pregnant women connected to mental health services when indicated

Value Proposition 2: Systems are integrated to improve quality and avoid duplication

     2.1: Early Childhood System Performance Standards

     2.2: Social network density among providers (may be a component of 2.1)

     2.3: Percentage of children entering school with an unidentified/untreated developmental issue (exploratory measure informed by Campaign for Grade Level Reading efforts)

Value Proposition 3: People support and understand the importance of early childhood health, learning, and well-being

     3.1: Change public norms/public opinion about early childhood

     3.2: Communities and neighborhoods are child and family friendly

     3.3: Assessment of community leadership engagement in early childhood

Methodology

The researchers relied on several methods to achieve the goals of this project:

- **Communication.** Researchers conducted regular calls with the project leadership, as well as a kick-off call with all participating communities in order to affirm project goals and next steps.
- **Data collection, analysis and reporting.** To test the concept of a common indicators effort, secondary data were collected from each participating community. These data were compiled by the researchers and presented in this report to enable participant assessment of the success or failure of the concept.
- **Technical Documentation and Assistance.** Researchers provided data collection tools and individualized implementation plans to each participating community to facilitate quality data collection. Regular calls with each community were held to provide technical assistance and support.
- **Consensus-based Facilitation.** A two-day in-person retreat was held to make measurable progress on key project goals, including defining additional common indicators and identifying system performance measures. Participants were also shown possible options for data reporting (e.g. dashboards) to inform further conversations about how to

consume the data and what data elements are key to include. The retreat also offered participants an opportunity to affirm their goals for the project and discuss opportunities for cross-community learning and quality improvement.

- **Survey.** To solicit participant feedback on the pilot implementation, an online, post-implementation survey was conducted.

Pilot Implementation Results

The Pilot Implementation Results: Common Indicators of Early Childhood Wellbeing section provides the results for each population-level indicator implemented under this pilot and an assessment of the indicator's readiness for future implementation. Depending on data availability, each indicator summary includes charts and narrative that provide trends and side-by-side results for each community, their respective state, and the United States, as well as detail by race/ethnicity and/or income status. Following each results summary is an assessment of the indicator's strength and readiness for full implementation. This assessment was informed by a post-implementation survey of the participating communities, based on their review of the results in the draft summary report, and by the observations of the researchers.

Common Indicators Implementation Assessment

Pilot implementation of the common indicators revealed varying levels of success depending on the indicator. However, while results varied by indicator, the researchers' overarching conclusion was that the concept of common indicators of early childhood wellbeing can be successful despite the challenges uncovered during the implementation.

The pilot revealed that the indicators fell into different stages of readiness for ongoing implementation. The table below summarizes assessment of strength and readiness for each indicator implemented and proposed for future implementation.

Table 1: Summary of Assessment of Indicator Strength

Key to Assessment of Data, Communication or Proxy Power

LOW	MEDIUM	HIGH
e.g. little to no data currently, or not a strong indicator	e.g. Partial data available, or poor data alignment, or an alternative measure may be stronger	e.g. Good data availability, or ready/near ready, for full implementation
🔴	🟡	🟢

Implemented	Data	Comm	Proxy	Readiness
1.1 Percentage of babies born below 2,500 grams or 5.5 pounds	🟢	🟢	🟢	Ready
1.2 Percentage of children 0-5 hospitalized due to asthma	🟡	🟡	🟡	Mixed
1.3 Percentage of children who are overweight or obese	🔴	🟢	🟢	Mixed
2.1 Percentage of children assessed as ready for kindergarten	🟡	🟢	🟢	Ready
2.2 Percentage of early childhood education programs that are high quality	🟡	🟡	🟡	Mixed
2.3 Percentage of children read to or had a story told to them daily	🟡	🟢	🟢	Mixed
3.1a Rate of reported cases of abuse and neglect	🟢	🟢	🟡	Ready
3.1b Rate of substantiated cases of abuse and neglect	🟢	🟢	🟢	Ready
3.2a Percentage of children living in poverty	🟢	🟢	🟢	Ready
Proposed	**Data**	**Comm**	**Proxy**	**Overall**
3.1 Parenting Stress Index (to replace current 3.1a & b)	🔴	🟡	🟡	Mixed
3.2b Percentage of neighborhoods with low Family Financial Stability	🔴	🟢	🟢	Adds value
3.3 Parent protective factor survey	🔴	🟢	🟢	Adds value

Common Indicators Implementation: Lessons Learned

The assessment of each indicator highlighted any challenges uncovered for individual indicators during the implementation. Below, a summary of the overarching implementation challenges, and their attendant solutions, are identified.

Table 2: Common Indicators Implementation Summary of Lessons Learned

Challenge	Possible Solutions
Lack of data alignment	• Select alternative indicators/system performance measures where alignment exists • Continue local efforts to obtain data that align with the plurality of participating communities • Focus on trends vs. actual rates
Lack of data or poor quality data	• Pursue efforts to develop or improve local data for both indicators and system performance measures • Select alternative indicators/system performance measures where data exist or are of higher quality
Lack of consensus on the strength of a particular indicator or measure	• Review troublesome indicators or system performance measures to determine whether the issues identified are surmountable
Need for context and story behind the data to facilitate cross-community interpretation	• Select indicators with context built in • Provide community socioeconomic profile data along with indicators • Construct a measure of relative burden to assess an indicator's variable impact on different groups • Research and share what may be behind trends or variability among sites
Quality control	• Refine data collection processes, including investigation into feasibility of a single entity collecting all data • Improve documentation of variations between sites' data, including better race/ethnicity definitions.
Overwhelming data presentation with six or more geographies participating	• Investigate online user interfaces that enable users to select as many or as few variables as desired • Engage a professional designer to streamline chart presentations
Advocacy goals limited by reporting challenges	• Continue data development work • Start a dedicated report or online interface development process which identifies key data points, data visualizations, and explanations of trends. • Engage professional designer and/or communications expert to message indicators/measures effectively • Develop a communication and dissemination plan that identifies what products or messages are key to move policy
Resources for continuing work	• Pursue investigation into funding availability and in-kind contributions for ongoing work

System Performance Measures Assessment

The System Performance Measures Assessment section summarizes the system performance measures developed during this project and summarizes participants' assessment of the measures. Based on survey responses, this assessment by participants includes the measure's perceived value or utility and whether it warrants future data identification work (in the event data were not readily available, as was frequently the case for the system measures).

For most measures identified, data availability is a substantial barrier, although a few measures were viewed as potentially ready and worthy of implementation. They all fell under the first value proposition, "Young children and families receive services and supports to meet universal and identified needs:"

- **1.1 Percent of pregnant women receiving prenatal care;**
- **1.2 Percentage of young children that have received a standardized developmental screening;** and
- **1.3 Percentage of postpartum and pregnant women screened for depression**.

Despite the readiness of these three indicators, future work may want to consider broader implementation to include all three value propositions. Within value proposition 2, "Systems are integrated to improve quality and avoid duplication," the most promising measures, or those that required more information were:

- **Children entering school with unidentified concerns (2.3)**; and
- **Early Childhood System Performance Standards (2.1).** One respondent indicated that may be a place to think about and developing measures that get at leadership, norms, social network density, etc.

Within value proposition 3, "People support and understand the importance of early childhood health, learning, and well-being," the most promising measure, or that required more information was:

- **Communities and neighborhoods are child and family friendly (3.2)**

Next Steps for Continued Progress

The RTA participants' commitment to the goal of data-driven, cross-community quality improvement bodes well for continued progress. The researchers heard from participants that they valued their participation in the RTA effort. Most, if not all, would like to continue the work. Participants communicated that the pilot results were illuminating and, in some cases, surprising. There was optimism that even results that may challenge perceptions could lead to some valuable, intentional conversations and collaboration with other communities.

The table below summarizes recommended or optional action items for ongoing progress.

Table 3: Action Items for Ongoing Progress on Common Indicators and Measures

Action
Review indicators that received mixed reviews and determine next actions
• Asthma Hospitalizations
• Obesity
• Quality ECE
• Read to
• Child Abuse Reports/Substantiated Reports
• Parenting Stress Index
Determine short-term data development goals and pursue
Determine short-term continuous quality improvement/cross-community learning goals and pursue
Research online platforms for potential indicators' long-term home
Develop work plan summarizing key short-term actions (above) and long-term actions (potential items below)
• Outreach to new early learning communities
• Determine reporting goals
• Develop communication plan
• Dialogue on sustainability

Conclusion

With this RTA project, the EC-LINC communities sought to test whether a set of common, cross-national indicators of early childhood wellbeing could be reported on an annual basis. The chief premise to be tested during the pilot implementation is whether data from disparate communities, often with variable sources, can be shown together in a meaningful way. **While results varied by indicator, the overarching conclusion is that the concept of common indicators can be successful.** Attention to lessons learned, data development objectives, and proposed next steps will increase the future success of a fully implemented common indicators project.

The participating EC-LINC communities were also successful in their effort to define system performance measures. The experimental nature of many of the system performance measures, and the concept itself, will necessitate further work to define the measures and prioritize implementation activities, but significant progress was made during this RTA project.

As data development continues, progress toward full implementation of the common indicators and system performance measures will be incremental, but important accomplishments towards improving early childhood services and outcomes can be achieved along the way. Namely, participant engagement in joint continuous quality improvement work will inform the emerging knowledge base on how common data and targeted cross-community dialogue can impact policy, systems, and services, with the end goal of improving outcomes for children and families.

Introduction

Purpose and Goals

The primary purpose of the Measuring the Impact of Early Childhood Systems Results to Action (RTA) grant was to test the feasibility of cross-national, common indicators of early childhood wellbeing by conducting a pilot implementation of the indicators identified during the EC-LINC Outcomes and Metrics Learning Lab. The secondary purpose of the RTA grant was to further the Learning Lab's development and refinement of common measures of early childhood system performance. Through this work, the RTA assessed opportunities and challenges for ongoing indicator data collection and reporting, and began work to identify how these common indicators and measures can be used within and across communities to affect improvement in the systems of services for children and families.

The Results to Action effort was motivated by the following core goals:

- **Drive the development and use of common indicators and measures.** The EC-LINC communities seek to develop common indicators and system performance measures that can be adopted by any early childhood stakeholder nationwide.
- **Use data to learn from other communities, share best practices, and understand outliers.** Communities want to be able to look at the data and have conversations with other communities about what is working well, what are the stories behind outliers, and how inequities are being addressed in different contexts.
- **Leverage data to show effectiveness of interventions and inform decision making.** Communities want to use data internally within a community or state to highlight successes and needs, and determine policy, process, funding, or other approaches in response to this information.
- **Inspire public advocacy for early childhood.** Communities seek ways to share data broadly and strategically to inform the governance and decision-making processes of key champions for children and families. The intent of this advocacy is to increase investment in early childhood systems to support improved outcomes for children and families.

The RTA work builds on the work of the EC-LINC communities' Outcomes and Metrics Learning Lab. The goal of the Learning Lab was to collectively define population-level common outcomes and indicators of child and family wellbeing (common indicators), as well as identify common measures of early childhood system performance (system performance measures). At the close of the Learning Lab work in early 2016, the EC-LINC communities participating had successfully identified three core outcomes of early childhood wellbeing and several population-level indicators that would help determine progress toward those outcomes. The Learning Lab participants also identified three "value propositions," or vision statements of a well-functioning early childhood service system. Some progress had been made in terms of identifying system performance measures to track progress on these goals, but consensus was not reached by the

close of the Learning Lab. That measure identification work was folded into this RTA grant, along with the pilot implementation of the common indicators.

Common Indicators of Early Childhood Wellbeing

The purpose of identifying population-level common indicators was to help early childhood stakeholders assess their current impact and future opportunities to improve outcomes for children and their families. Specifically, the indicators were selected with the hope of helping stakeholders evaluate progress, create a basis for quality improvement efforts, and communicate and build support for families and early childhood.

The common indicators that were implemented during this pilot were:

Outcome 1: Pregnant women and young children are healthy
Indicator 1.1: Percentage of babies born below 2,500 grams or 5.5 pounds
Indicator 1.2: Percentage of children 0-5 hospitalized due to asthma
Indicator 1.3: Percentage of children who are overweight or obese

Outcome 2: Children are ready to succeed in school
Indicator 2.1: Percentage of children assessed as ready for kindergarten
Indicator 2.2: Percentage of early childhood education programs that are high quality
Indicator 2.3: Percentage of children read to, had a story told to, or sung to daily

Outcome 3: Children live in safe, nurturing, and stable families and communities
Indicator 3.1a: Reported cases of abuse and neglect
Indicator 3.1b: Substantiated cases of abuse and neglect
Indicator 3.2: Percentage of children living in poverty

The participating EC-LINC communities also identified several additional indicators during this grant period, but they were not implemented during this grant. They will require data development, as will several of the indicators implemented during this grant.

Indicator 3.1: Parenting Stress Index (replacement of 3.1a and 3.1b)
Indicator 3.2b: Family Financial Stability Index
Indicator 3.3: Parent protective factor survey (specific tool TBD, including parent knowledge of child development and positive interactions)

Common Measures of Early Childhood System Performance

In addition to the pilot implementation of the population-level common indicators, progress was made during this grant period to further define measures of the functioning of the early childhood service system. The Common Measures of Early Childhood System Performance (system performance measures) were designed to align with three "value propositions" identified during the Outcomes and Metrics Learning Lab. The value propositions are vision statements related to direct service provision, system integration, and community and family supports and attitudes.

The value propositions and system performance measures are listed below. Participants may be interested in further revising the wording of the value propositions, although the idea expressed by each was affirmed during this project. Additionally, participants recognize that additional work will be required to further define some of the system performance measures.

> **Value Proposition 1: Young children and families receive services and supports to meet universal and identified needs**
> > 1.1: Percentage of pregnant women receiving early prenatal care
> > 1.2: Percentage of young children that have received a standardized developmental screening
> > > *Subsequent addition:* Percentage of young children with identified concerns connected to services
> > > *Subsequent addition:* Percentage of children that complete the services to which they were referred
> > 1.3: Percentage of postpartum and pregnant women screened for depression
> > > *Subsequent addition:* Percentage of postpartum and pregnant women connected to mental health services when indicated
>
> **Value Proposition 2: Systems are integrated to improve quality and avoid duplication**
> > 2.1: Early Childhood System Performance Standards
> > 2.2: Social network density among providers (may be a component of 2.1)
> > 2.3: Percentage of children entering school with an unidentified/untreated developmental issue (exploratory measure informed by Campaign for Grade Level Reading efforts)
>
> **Value Proposition 3: People support and understand the importance of early childhood health, learning, and well-being**
> > 3.1: Change public norms/public opinion about early childhood
> > 3.2: Communities and neighborhoods are child and family friendly
> > 3.3: Assessment of community leadership engagement in early childhood

Methodology

Researchers used the following approach to implementing the RTA grant project:

Research Goal	Activity
Assess indicator readiness and affirm project scope with project participants	Researchers hosted a kick-off conference call with the RTA participants to assess the level of implementation readiness of each identified indicator and confirm the focus and scope of the RTA grant project. (July 2016)
Assess data availability in participating communities	Researchers were assigned to indicator outcome areas to serve as content experts for their assigned indicators. Within each community, researchers reviewed data related to their assigned to determine availability, quality, vintage, and associated questions. (July/August 2016)

Support uniform data collection	Researchers developed detailed, individualized <u>implementation plans</u> for each participating community to guide and structure their data collection and reporting efforts. The implementation plans included research into each community's available data, possible local contacts and sources, precise data definitions, and parameters for data collection that would encourage close alignment with the other communities. (August 2016) Researchers developed Excel-based <u>data collection shell</u> into which communities entered data. The shell included data validations to increase data quality. (August 2016) Researchers conducted <u>regular phone meetings</u> with participating communities to track progress, field questions and address issues as they arose. Technical assistance was also provided ad hoc as needed. (August-November 2016)
Determine options for data sharing and reporting templates	Researchers analyzed, prepared and presented <u>several platforms and formats</u> to support ongoing data collection and reporting at the September in-person meeting. Participants came to consensus on short- and long-term reporting tool options. (September 2016)
Define additional population-level indicators	Researchers <u>facilitated a consensus workshop</u> at the two-day September in-person meeting to affirm the existing population-level indicators defined in the Outcomes and Metrics Learning Lab and to identify any additional indicators needed to provide a comprehensive assessment of early childhood well-being. Detailed meeting notes, including next steps, were developed. (September 2016)
Define system performance measures	Researchers <u>facilitated a consensus workshop</u> at the two-day September in-person meeting to further define specific measures for these propositions using the value propositions defined in the Learning Lab as the baseline structure. Detailed meeting notes, including next steps, were developed. (September 2016)
Compile and present pilot indicators results	Researchers <u>compiled and cleaned data</u> provided by all six participating agencies and added U.S. data, where available. (September-December 2016) Researchers <u>summarized results in trend and community comparison charts</u>, including narrative descriptions and detail by income or race/ethnicity, when available. Specific data characteristics and sources were identified to facilitate cross-community interpretation. (November-December 2016)
Assess implementation successes and challenges	Through an <u>online survey and participant review</u> the draft <u>indicator results</u>, researchers collected information from

	participants on their experience with implementation and their interpretation of the pilot results. Consultants also identified their own experience with implementation. These lessons learned helped inform next steps. (November-December 2016)
Summarize challenges, solutions and next steps	Researchers provided <u>key learnings to drive future action</u>, including indicator implementation successes and challenges, possible solutions, and proposed next steps. (December 2016)

Issues, Assumptions, and Constraints

This project acknowledged the following issues, assumptions and constraints:

1. **Dispersed data collection:** Participants would provide their state and regional data for each indicator by entering data into Excel spreadsheets provided by the researchers to each participant. In some cases, data quality/integrity could not be independently verified within the scope of this project. Participants' ability to access data varied based on the organization's relationship with departments of health, education, and other state- and county-level agencies responsible for primary data collection.
2. **Data variance:** There would be variance between regions in how data are defined and reported for many indicators, challenging succinct data dashboard presentation and cross-community interpretation.
3. **Variable local contexts:** There would be variance in community sociodemographic characteristics, challenging cross-community interpretation.
4. **Project scope:** The RTA project would take on the completion of certain Learning Lab activities, including identification of system performance measures and additional performance-level indicators, but it would not be able to implement those identified measures and indicators.
5. **Data dashboard limitations**: The experimental, pilot nature of the effort – as well as many of the issues stated above – would impact the ability to have a fully vetted dashboard ready for public consumption by the end of the grant period. However, substantial progress could be made towards this end through the analysis of the pilot provided in this summary report.

Pilot Implementation Results: Common Indicators of Early Childhood Wellbeing

The EC-LINC Learning Lab that preceded this Results to Action grant defined three core outcomes and eight population-level indicators that represent key components of early childhood wellbeing (shown in black text in Table 4 below). The participants in the RTA project identified several additional indicators (shown in blue text in Table 4) to add to, or replace, the common indicators identified during the Learning Lab. Collectively, these indicators allow tracking of progress towards the three outcomes of early childhood wellbeing identified by the Learning Lab and enable greater cross-community learning and quality improvement.

Table 4: Population-Level Common Indicators of Early Childhood Wellbeing

Outcome 1: Pregnant women and young children are healthy
1.1: Percentage of babies born below 2,500 grams or 5.5 pounds
1.2: Percentage of children 0-5 hospitalized due to asthma
1.3: Percentage of children who are overweight or obese
Outcome 2: Children are ready to succeed in school
2.1: Percentage of children assessed as ready for kindergarten
2.2: Percentage of early childhood education programs that are high quality *Aspirational 2.2: Percentage of children attending high quality early education and care programs*
2.3: Percentage of children read to, had a story told to, and/or sung to daily
Outcome 3: Children live in safe, nurturing, and stable families and communities
3.1a: Reported cases of abuse and neglect
3.1b: Substantiated cases of abuse and neglect *Potential Replacement for 3.1: Parenting Stress Index*
3.2a: Percentage of children living in poverty
3.2b: Family Financial Stability Index
3.3: Parent protective factor survey (specific tool TBD, including parent knowledge of child development and positive interactions)

The RTA project conducted a pilot implementation of the common indicators identified by the Learning Lab, as well as one indicator defined during the RTA project (2.3). The Methodology section outlines the activities undertaken for the implementation. This section of the report provides results for each indicator, as well as an assessment of each indicator's strength and readiness for continued implementation.

For each indicator, three descriptive tables summarize the data characteristics, variations, and sources for each community:

- **Data Characteristics and Availability:** Characteristics of each communities' data, such years available, age ranges, and whether the data include subgroup detail;
- **Detailed notes:** As needed, for each community, notes such as variations in data definitions or availability are provided.
- **Data Sources:** Data sources for each community are provided.

Depending on data availability, the descriptive tables are followed by several figures, and accompanying narrative, to display the results:

- **Cross-Community:** Side-by-side displays of each communities' data for the latest year consistently available. Statewide and nationwide data are also included when possible.
- **Trend:** Data over a five-year period are shown for each community, state and the nation. When data had substantial misalignment among the participating communities, the data were displayed in a series of charts that group communities according to data alignment. For example, communities with data for children ages 0-5 would be shown in one chart, while communities with data for children ages 0-18 would be shown in another chart. This helps reduce the possibility of misinterpreting results due to large variations in age ranges or other characteristics. However, despite these precautions, variations in data definitions may continue to confound direct alignment.
- **By Race/Ethnicity:** When available, detail by race/ethnicity is shown. For some indicators, this display is both cross-community and trend. When trend data by race/ethnicity is shown, it is displayed in individual charts for each community.
- **By Income:** When available, detail by income status is shown.

The results are followed by a table that summarizes the assessment of strength of each indicator. The assessments were jointly made by the six participating communities, CSSP and the researchers. The input of the participants and CSSP was obtained by the researchers through an online survey issued along with the draft summary report, enabling respondents to review the initial results to inform their assessment. The assessment of each indicator used the following criteria:

- **Data power:** data quality, availability and cross-community alignment;
- **Communication power:** whether the indicator is intuitive and clear to a broad audience;
- **Proxy power:** whether the indicator is a good measure of progress on its associated outcome.

The survey posed a summary question to participants about the readiness of each indicator for ongoing implementation – whether the indicator is ready for implementation, not ready but should continue to be pursued, or dropped. These responses are summarized in this section using a simple graphic, identifying the consensus.

Finally, the assessment section provides options for continued data development for the indicators in need of additional work.

Indicator 1.1: Number of babies born at low birth weight per live birth

DESCRIPTION

This indicator measures the proportion of babies that are born at low birth weight, which is defined as less than 5.5 pounds or 2,500 grams. The data reflect all live births in the county/city of residence of the mother (as opposed to the city/county where the birth took place).

Table 5: Low Birth Weight Data Characteristics and Availability by Geography

Geography	Data Universe	Data Years	Year Description	Age Range	Income Levels	Race/ Ethnicity
United States	Pop-level	2010-2014	Calendar	Newborns	All only	Yes
California	Pop-level	2010-2013	Calendar	Newborns	All only	Yes
Alameda County	Pop-level	2010-2014	Calendar	Newborns	All only	Yes
Orange County	Pop-level	2010-2014	Calendar	Newborns	All only	Yes
Ventura County	Pop-level	2010-2014	Calendar	Newborns	All only	Yes
Florida	Pop-level	2011-2015	Calendar	Newborns	All only	Yes
Palm Beach County	Pop-level	2011-2015	Calendar	Newborns	All only	Yes
Massachusetts	Pop-level	2010-2014	Calendar	Newborns	All only	Yes
Boston	Pop-level	2010-2014	Calendar	Newborns	All only	Yes
Vermont	Pop-level	2009-2015	Calendar	Newborns	All only	No
Lamoille Valley	Pop-level	2009-2015	Calendar	Newborns	All only	No

Table 6: Low Birth Weight Detailed Notes by Geography

Geography	Notes
General Notes	The race "Native American" was suppressed in the presentation due to small population sizes in most communities.
United States	The race "Black/African American" is non-Hispanic.
California	The California Department of Health has not released statewide 2014 data online and they did not respond to multiple requests to provide this figure. Data from 2010-2013 were sourced to the state's Vital Statistics Query System.
Alameda County	Data from 2010-2013 were sourced to the state's Vital Statistics Query System. The 2014 figures were obtained from the county health office.
Orange County	Data from 2010-2013 were sourced to the state's Vital Statistics Query System. The 2014 figures were obtained from the county health office. Race and ethnicity is coded slightly differently between the 2010-2013 and 2014 data sources, hence individual races/ethnicities do not add up to the total since Unknown and Other are not included in the 2014 data.
Ventura County	*Same note as Alameda*
Florida	The race "White" includes Hispanic and non-Hispanic ethnicity.

Geography	Notes
Palm Beach County	*See Florida note*
Massachusetts	[no notes]
Boston	[no notes]
Vermont	2015 data are considered preliminary.
Lamoille Valley	*See Vermont note*

Table 7: Low Birth Weight Data Sources

Community or State	Data Source
United States	U.S. Centers for Disease Control and Prevention, National Vital Statistics Report, 2014 (www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_12.pdf)
California	State of California, Department of Public Health, Birth Records, 2010-2013 (http://informaticsportal.cdph.ca.gov/CHSI/VSQS/Birth_Weight_Result.aspx)
Alameda County	State of California, Department of Public Health, Birth Records, 2010-2013 (http://informaticsportal.cdph.ca.gov/CHSI/VSQS/Birth_Weight_Result.aspx) Alameda County Public Health Information Systems, 2014 (California Dept of Public Health, Center for Health Statistics, Birth Statistical Master File)
Orange County	State of California, Department of Public Health, Birth Records, 2010-2013 (http://informaticsportal.cdph.ca.gov/CHSI/VSQS/Birth_Weight_Result.aspx) Birth Statistical Master File, Orange County, 2014 (data request)
Ventura County	State of California, Department of Public Health, Birth Records, 2010-2013 (http://informaticsportal.cdph.ca.gov/CHSI/VSQS/Birth_Weight_Result.aspx) Automated Vital Statistics System, AVSS, from Ventura County Public Health, 2014
Florida	Florida Department of Health, Division of Public Health Statistics & Performance Management, Live Births Under 2,500 Grams (retrieved via Florida CHARTS)
Palm Beach County	*Same source as Florida*
Massachusetts	MA Department of Public Health, Massachusetts Births 2014, Table 7 (http://www.mass.gov/eohhs/docs/dph/research-epi/birth-report-2014.pdf) MA Department of Public Health, Massachusetts Births 2013, Table 6 (http://www.mass.gov/eohhs/docs/dph/research-epi/birth-report-2013.pdf) MA Department of Public Health, Massachusetts Births 2011 and 2012, Table 8 (http://www.mass.gov/eohhs/docs/dph/research-epi/birth-report-2011-2012.pdf) MA Department of Public Health, Boston Resident Births 2010-2014 (Table acquired from BPHC Research and Evaluation Office)
Boston	*Same source as Massachusetts*
Vermont	Vermont Department of Health, Maternal Child Surveillance Reports, 2009-2014 (http://vermontinsights.org/low-birth-weight-babies), (http://healthvermont.gov/)
Lamoille Valley	*Same source as Vermont*

RESULTS

Cross-Community

In 2014 (the latest year in which all the communities had data), rates of low birth weight were similar, with a high of 8.9% in Boston to a low of 6.3% in Orange County. The national average in 2014 was 8.0% and the Healthy People 2020 target is 7.8%.[1]

Figure 1: Percentage of Babies Born at Low Birth Weight by Geography, 2014*
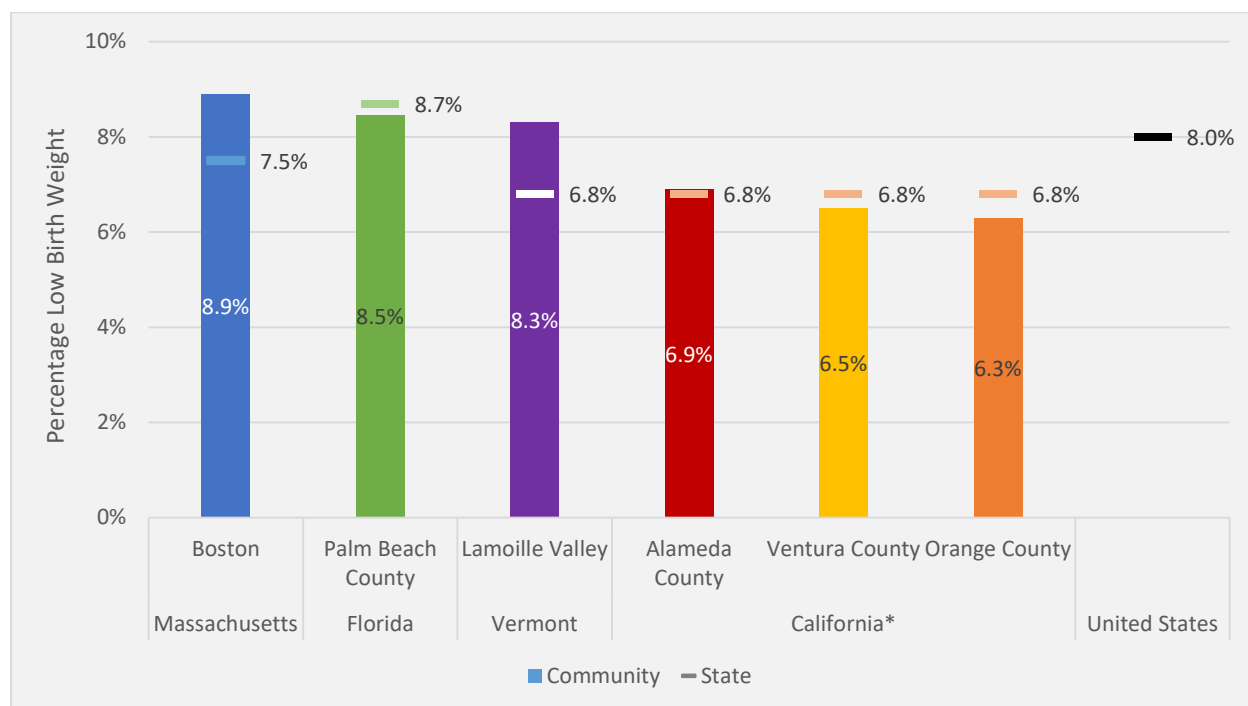
*Data for the California rate are from 2013.

Trend

The figure below demonstrates a slight downward trend in low birth weight in the United States and several communities, including Boston and Palm Beach County. In Florida, Massachusetts, California and Alameda, Orange and Ventura counties, there is no real trend emerging. Data for Lamoille Valley are highly variable, likely due to the small size of the community. Despite the variation, there is a slight upward trend in Lamoille Valley, as well as in Vermont, over the six years of data shown.

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[1] Healthy People 2020 is a national health promotion and disease prevention initiative which establishes mortality or morbidity objectives to improve the health of all Americans, eliminate disparities, and increase the years and quality of healthy life (www.healthypeople.gov).

Figure 2: Percentage of Babies Born at Low Birth Weight by Geography, 2010-2015
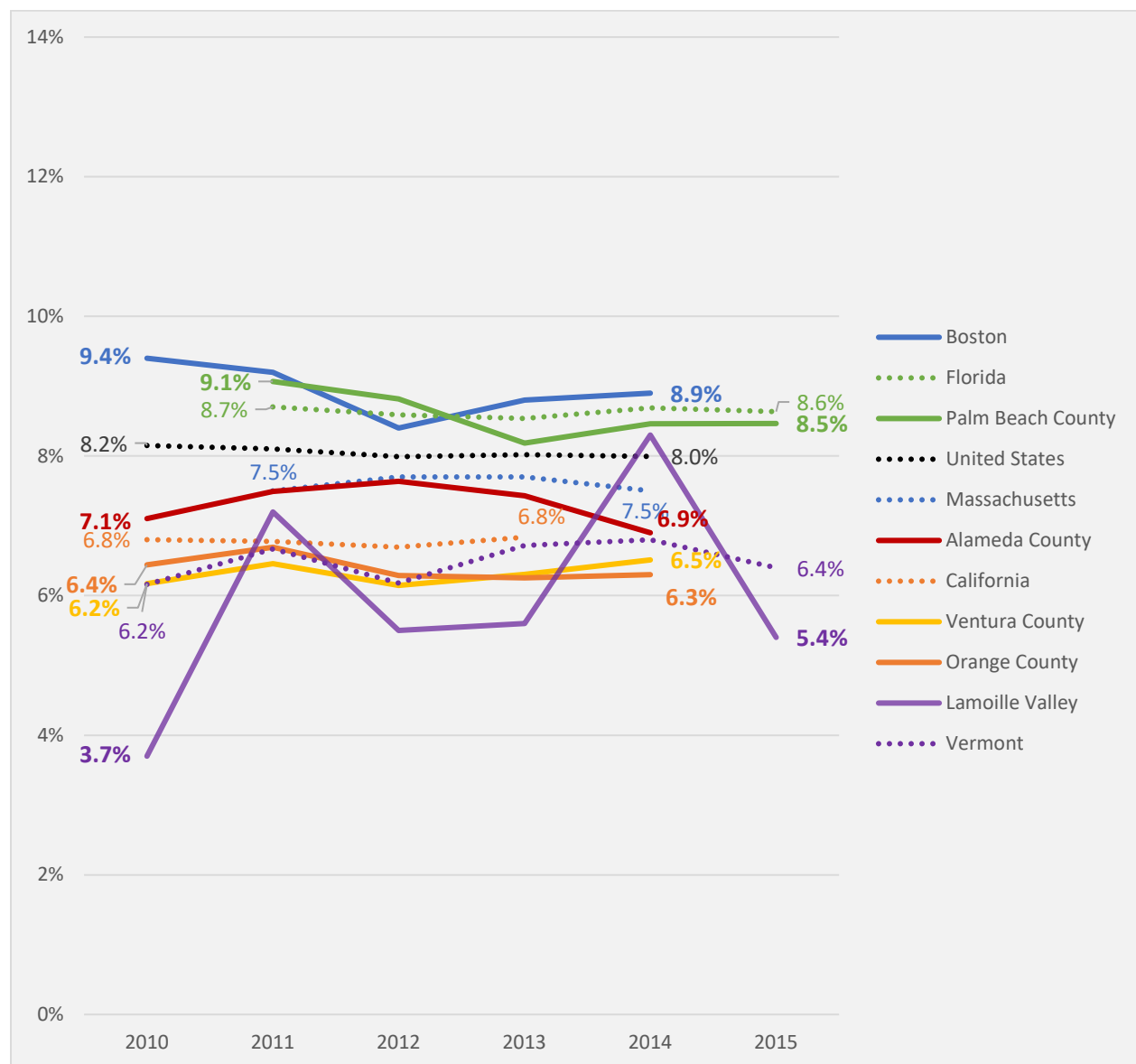
By Race/Ethnicity

The figure below includes the latest year available (2014) for each community with race/ethnicity data. National data by race/ethnicity is provided for context. Across all communities with race/ethnicity data, babies with Black/African American mothers were more likely to be born at low birth weight than any other race or ethnicity, ranging from 12.3% of all live births in Boston to 10.1% in Ventura County. However, all communities had a lower percentage of low birth weight among babies with Black/African American mothers than the national average of babies with Black/African American mothers (13.2%).

The race/ethnic group with the second highest level of low birth weight varied by community, ranging among Asian and/or Pacific Islander (Alameda, Ventura, and the United States), Hispanic/Latina (Palm Beach County and Boston) and Two or More Races (Orange County).

Figure 3: Percentage of Babies Born at Low Birth Weight by Race/Ethnicity of Mother and by Community, 2014
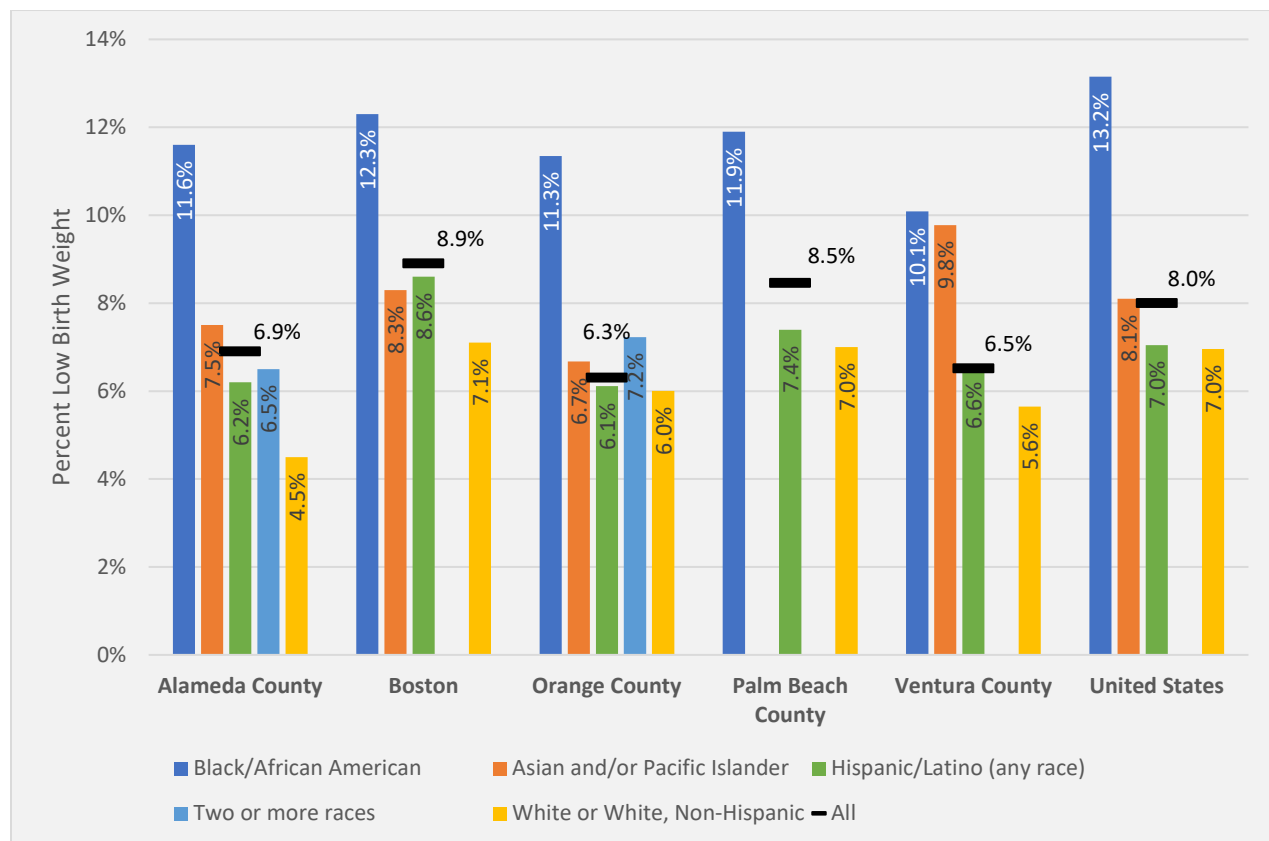
IMPLEMENTATION ASSESSMENT

Assessment

The low birth weight indicator generally scores high in terms of data, communication, and proxy power (please see page 20 for definitions of these terms). All communities felt this indicator was ready for full implementation.

Table 8: Assessment of Low Birth Weight Indicator

	Notes
Data Power	**High:** The data for this indicator are standardized across the country and available at the county level on an annual basis. While there is some variation on how race/ethnicity are defined, these are not substantial barriers to continued measurement. Data are typically easily obtainable from online vital statistics systems.
Communication Power	**High:** This indicator is easily understood by most people.
Proxy Power	**High:** This measure is a commonly used measure of maternal and infant health.

Options for Ongoing Implementation

Based on the assessment above, the recommendation is:

Ready/Retain	Mixed	Drop

Data Development Agenda Objectives:

- None needed

Indicator 1.2: Rate of hospitalization due to asthma

DESCRIPTION

This indicator measures the number of children (age variable) hospitalized due to asthma per 1,000 children. Data are available by race/ethnicity from some communities. No data by income is available.

Table 9: Asthma Hospitalizations Data Characteristics and Availability by Geography

Geography	Data Universe	Data Years	Year Description	Age Range	Income Levels	Race/ Ethnicity
United States	Pop-Level	2009	Calendar	0-4	All only	Yes
California	Pop-level	2010-2014	Calendar	0-4	All only	No
Alameda County	Pop-level	2010-2014	Calendar	0-4	All only	Yes
Orange County	Pop-level	2010-2015	Calendar	0-4; 0-5	All only	Yes
Ventura County	Pop-level	2010-2014	Calendar	0-4	All only	No
Florida	Pop-level	2001-2014	Calendar	1-5	All only	No
Palm Beach County	Pop-level	2001-2014	Calendar	1-5	All only	No
Massachusetts	N/A	N/A	N/A	N/A	N/A	N/A
Boston	Pop-level	2010-2014	Calendar	0-5	All only	Yes
Vermont	N/A	N/A	N/A	N/A	N/A	N/A
Lamoille Valley	N/A	N/A	N/A	N/A	N/A	N/A

[DATA SECTIONS REMOVED]

Table 10: Assessment of Asthma Hospitalization Indicator

	Notes
Data Power	**Medium:** These data are fairly standardized across communities, with some exceptions, as noted above in Table 7. These are population-level data that are based on counts of actual hospitalizations, rather than self-report, as some measures of health care access and utilization may be. Half of respondents considered data power to be strong, while the remainder felt it was moderate-to-weak.
Communication Power	**Medium:** Half of respondents felt this indicator had moderate communication power, while the remainder split between strong and weak communication power. While this indicator is understood by most people, it may take additional explanation as to why it matters (see Proxy Power), especially for a community that does not have a substantial asthma issue.
Proxy Power	**Medium:** Respondents were split in terms of this indicator's strength as a measure of health care access and utilization. The argument in favor is typically that asthma hospitalizations measures whether a child's asthma is under control. Children that have adequate health care, as well as parent engagement in preventing attacks, are more likely to have their asthma under control and not need hospitalization. An argument against is that hospitalizations reflects the

Notes
most severe cases, and of just one condition, and not the general health of the child population.

Options for Ongoing Implementation

Among the three options for future implementation, the recommendation is:

Ready/Retain	Mixed	Drop

Further discussion is required to determine the future of this indicator, whether it should be retained or dropped. If retained, additional work will be required to understand data definitions with an eye toward better cross-community alignment.

Data Development Agenda Objectives:

- **Further research into variation in the data from region to region.** Boston's figures, which are substantially higher than the other regions, may indicate differences among the communities in the parameters that define what is counted as an asthma hospitalization. Further research is needed to determine what may be behind the variation.

Indicator 1.3: Percentage of children who are overweight or obese

DESCRIPTION

This indicator measures the percentage of children who are considered overweight or obese by the standard used within each particular assessment. Initially during this pilot, communities were asked to seek out Women, Infants and Children (WIC) program weight status data for the young child population.[2] Since WIC is a federal program, this recommendation was made in the hopes that a consistent, quality indicator of young child obesity and overweight could be created, following in the footsteps of the retired Pediatric Nutrition Surveillance Survey (PedNSS). PedNSS was based on actual measurements (not parent reported) of children receiving WIC benefits, which meant the results reflected children from low income families. PedNSS used the standard measurement of overweight defined as Body Mass Index (BMI) for age equal to or over the 85th percentile and under 95th percentile, and obese defined as BMI for age equal to or over 95th percentile. In some communities, WIC still collects this data, even though PedNSS is no longer actively collecting and reporting it. However, initial attempts to get current WIC data were not successful. As a result, this indicator has substantial data variation in terms of data definitions/methodologies, age ranges, income levels, and years of data availability. These variations impacted the ability to display the data in a cohesive, consistent manner.

Table 11: Overweight/Obesity Data Characteristics and Availability by Geography

Geography	Data Universe	Data Years	Year Description	Age Range	Income Levels	Race/ Ethnicity
United States	Pop-level	2010 & 2014	4-year pooled	2-5	All Low Not Low	Yes
California	Pop-level	2015 & 2016	School year	10 or 11 (5th grade)	All Low Not low	Yes
Alameda County	Pop-level	2015 & 2016	School year	10 or 11 (5th grade)	All Low Not low	Yes
Orange County	Pop-level	2015 & 2016	School year	10 or 11 (5th grade)	All Low Not low	Yes
Ventura County	Pop-level	2015 & 2016	School year	10 or 11 (5th grade)	All Low Not low	Yes
Florida	Pop-level	2001-2015	As of Sept of given yr	0-4	Low only	No
Palm Beach County	Pop-level	2001-2015	As of Sept of given yr	0-4	Low only	No

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[2] WIC is a federally-funded health and nutrition program for low-income pregnant women and mothers of young children.

Geography	Data Universe	Data Years	Year Description	Age Range	Income Levels	Race/ Ethnicity
Massachusetts	Pop-level	2011	School year	6 or 7 (1st grade)	All only	No
Boston	Pop-level	2011	School year	6 or 7 (1st grade)	All only	No
Vermont	Pop-level	2007-2011	Calendar	2-5	Low only	No
Lamoille Valley	N/A	N/A	N/A	N/A	N/A	N/A

[DATA SECTIONS REMOVED]

IMPLEMENTATION ASSESSMENT

Assessment

Despite extensive public health interest in the issue of childhood obesity, consistent, reliable data remain a challenge. Among the participating communities, there was broad consensus on the assessment of this indicator, with data power consistently rated low and communication and proxy power rated high.

Table 12: Assessment of Overweight/Obesity Indicator

	Notes
Data Power	**Low:** Extensive variability between regions. Consistent, current data for young children is lacking in most regions.
Communication Power	**High:** This indicator is easily understood by most people and is often talked about in the media.
Proxy Power	**High:** This indicator is a strong measure of child health, given the many associated, long-term health impacts of being overweight or obesity.

Options for Ongoing Implementation

Among the three options for future implementation, the recommendation is:

Ready/Retain	**Mixed**	Drop

On the post-implementation survey, most respondents felt this indicator should be retained and pursued, but there was also some interest in dropping this indicator. Since the indicator scored high in terms of communication and proxy power by nearly all respondents, the rationale behind abandoning this indicator likely motivated by poor data quality. Further discussion of this indicator is warranted.

Data Development Agenda Objectives

- **Research variability**. Understand what is behind the variability to facilitate cross-community learning.

- **Advocate for consistent data**. EC-LINC communities can use collective influence to advocate for the development of overweight/obesity data from likely sources. Examples include:
  - State education departments to adopt a Fitnessgram-like assessment in the schools
  - Reinstatement of PedNSS weight assessments of children receiving WIC support
  - Adoption of state-level versions of the National Health Interview Survey, akin to the California Health Interview Survey
  - California Health Interview Survey to modify/improve weight status question and increase sample size for more reliable local results
  - Massachusetts Department of Health and Human Services re-field 2011 screening of 1st grade (and 4th grade) students

Indicator 2.1 Percentage of children assessed as ready for kindergarten

DESCRIPTION

This indicator measures the percentage of children who are assessed as ready for kindergarten within a community or state. Kindergarten readiness assessments vary widely across communities, as well as within communities or states over time. The fact that the specific instruments used to measure kindergarten readiness differ was understood when this indicator was selected. Participating communities agreed that there is sufficient agreement within the early childhood and education community on what constitutes "ready" that defining the indicator as being ready for kindergarten in "all domains tested" enables a working level of consistency.

The tables below describe the data characteristics of the kindergarten readiness tools used in participating states and communities. Within participating communities/states, only Florida and Vermont have statewide kindergarten readiness assessment tools.

Table 13: Kindergarten Readiness Data Characteristics and Availability by Geography

Geography	Data Universe	Data Years	Year Description	Age Range	Income Levels	Race/ Ethnicity
California	N/A	N/A	N/A	N/A	N/A	N/A
Alameda County	Pop-level	2016	School	Kindergarten	All only	Yes
Orange County	Pop-level	2015-2016	School	Kindergarten	All Low	Yes
Ventura County	Client-level	2011-2015	School	Pre-kindergarten	All only	No
Florida	Pop-level	2012-2014	School	Kindergarten	All only	Yes
Palm Beach County	Pop-level	2012-2014	School	Kindergarten	All only	Yes
Massachusetts	N/A	N/A	N/A	N/A	N/A	N/A
Boston	Pop-level	2012-2015	School	Kindergarten	All Low Not low	Yes
Vermont	Pop-level	2012-2016	School	Kindergarten	All only	No
Lamoille Valley	Pop-level	2012-2016	School	Kindergarten	All only	No

[DATA SECTIONS REMOVED]

IMPLEMENTATION ASSESSMENT

Assessment

Participants scored this indicator highly on all three criteria. For data power, the positive rating may reflect each communities' satisfaction with their selected assessment; however, the implementation reveals substantial variability between regions which presents challenges to interpretation. As a result, the researchers reduced the survey respondents' assessment from 'high' to 'medium.' Otherwise, this indicator appears to be a good fit for the outcome of 'children are ready to succeed in school.' Kindergarten readiness is a concept that makes sense to most people, and very directly speaks to this outcome.

Table 14: Assessment Kindergarten Readiness

	Notes
Data Power	**Medium:** While each individual assessment used by each community tends to be strong, the indicator presents challenges for cross-community interpretation because of its variability across and within communities. There is no shared definition of kindergarten readiness. Communities and states continue to alter how they assess children by altering the instrument based on new research and promising practices, and some communities have little control over this statewide decisions. However, the kindergarten readiness data remain compelling to analyze within and across communities because of racial/ethnic and income disparities.
Communication Power	**High:** This indicator is easily understood by most people, even if specific definitions of readiness differ. Some general explanation of what "readiness" means would improve communication power.
Proxy Power	**High:** Kindergarten readiness is a commonly used measure of well-being in evaluation work conducted nationally, including through collective impact initiatives.

Options for Ongoing Implementation

Among the three options for future implementation, the recommendation is:

Ready/Retain	Mixed	Drop

Overall, participants believe EC-LINC should retain kindergarten readiness as a population level indicator. Retaining it allows for data from participating communities to be compared with many efforts nationally and internationally, supporting meaningful cross-community learning and sharing.

- **Understand variations and trends.** A deeper understanding of the definitions and differences underlying each communities' tool and each communities' trends would increase the utility of this indicator.
- **Increase standardization.** It would be helpful to have increased standardization of assessment instruments. Some participating states do not have a tool used statewide, which means communities struggle to benchmark themselves against one another and learn from each other. Eventually, there could be a movement to adopt a national assessment instrument.
- **Collect diversity data.** Low income, Hispanic/Latino, Black/African American, and Native American children consistently score lower on kindergarten readiness than their peers in the communities for which these data are available. Increased collection of race/ethnicity and income data associated with kindergarten assessment results would allow for more meaningful analysis and action.

Indicator 2.2 Percentage of early childhood education programs that are high quality

DESCRIPTION

This indicator measures the percentage of early education and care programs that are considered high quality, using a state's or community's Quality Rating Improvement System (QRIS). The numerator is the number of programs considered high quality, which varies based on QRIS rating scale differences. The denominator is the total number of programs participating in the QRIS. QRISs generally share five common elements: 1) program standards (including licensing); 2) supports for programs and practitioners; 3) financial incentives; 4) quality assurance and monitoring; and 5) consumer education. Although similar elements are used, the foundation of each system – licensing – varies from state to state. Requirements for star levels also differ, with some states/communities having more rigorous approaches than others.

Participating communities were in various stages of QRIS development. Statewide QRIS models are in place or being piloted or planned in 47 states.[3] Only three states operate QRISs on the regional, county, or local level: California, Florida, and Kansas. Two of those three (California and Florida) are represented in participating EC-LINC communities. This indicator is focused on providers participating in states'/communities' QRISs, not the children receiving care in these settings. The tables below define the QRIS data characteristics and status in participating communities and their respective states.

Table 15: Quality Early Education and Care Data Characteristics and Availability by Geography

Geography	Data Universe	Data Years	Year Description	Age Range	Income Levels	Race/ Ethnicity
United States	N/A	N/A	N/A	N/A	N/A	N/A
California	N/A	N/A	N/A	N/A	N/A	N/A
Alameda County	Pop-level	2013-2015	School	N/A	N/A	N/A
Orange County	Pop-level	2014-2016	School	N/A	N/A	N/A
Ventura County	Pop-level	2014-2016	School	N/A	N/A	N/A
Florida	N/A	N/A	N/A	N/A	N/A	N/A
Palm Beach County	Pop-level	2015-2016	School	N/A	N/A	N/A
Massachusetts	Pop-level	2015	School	N/A	N/A	N/A
Boston	Pop-level	2015	School	N/A	N/A	N/A
Vermont	Pop-level	2011-2015	School	N/A	N/A	N/A
Lamoille Valley	Pop-level	2011-2015	School	N/A	N/A	N/A

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[3] QRIS National Learning Network, QRIS Map, June 2016. Online. Available: http://qrisnetwork.org/sites/all/files/maps/QRISMap.pdf.

[DATA SECTIONS REMOVED]

Table 16: Assessment of High Quality Early Education and Care

	Notes
Data Power	**Medium:** Although there is variety in QRISs, the data analyzed within the rating scales is somewhat consistent. Similar to indicator 2.1, there may be sufficient agreement within the early childhood and education community on what constitutes "high quality" to allow for variation in the specific instruments.
Communication Power	**Medium:** The concept of high quality early education and care is understandable. Yet, the indicator's focus on site or program quality versus the children being educated and cared for in these sites reduces the communication power. It's a less compelling story when you talk about a provider, versus the children and families being impacted.
Proxy Power	**Medium:** This indicator does a good job of approximating a state of well-being demonstrating that children are cared for in enriching, safe environments. However, children may also be having their needs met in a nurturing, enriching environment that has not been quality rated. Further, the proxy power could be strengthened if the indicator evolves to analyze the numbers of children being served in these sites.

Options for Ongoing Implementation

Among the three options for future implementation, the recommendation is:

Ready/Retain	**Mixed**	Drop

Most participants felt this indicator should be pursued with additional data development work, while some viewed it as ready for ongoing implementation. While work continues to refine this indicator, EC-LINC communities may want to consider investigating the feasibility of the proposed replacement: the percentage of young children who attend early childhood programs that are of high quality.

Data Development Agenda Objectives

- **Analyze variation.** Effective cross-community learning will require a better understanding of the variation between the QRISs of participating communities. Cross-walking licensing requirements, QRIS content and rating processes, and participation requirements and incentives are possible areas of inquiry.
- **Assess level of penetration.** Understanding what proportion of all providers have been rated would help communities track the level of engagement and growth in participation.
- **Increase standardization.** Similar to the previous indicator of kindergarten readiness, increased standardization of QRISs would allow for increased comparability and cross-community learning. The wide variation in results between participating states and communities means that, despite common elements within QRISs, there remain differences, which may be significant.

- **Collect child data from HHS funders.** Child Care Development Fund and Temporary Assistance for Needy Families likely have data on the number of children attending programs with high QRIS rankings. This data would pertain to lower income families only, but would be a start to obtaining person-level versus site-level data.
- **Investigate measure of ECE attendance.** The Outcomes and Metrics Learning Lab participants requested that the ECE quality rating indicator be framed as an interim measure, with the longer-term goal to report the percentage of young children who attend early childhood programs that are of high quality.

Indicator 2.3: Percentage of children read to, had a story told to, and/or sung to daily

DESCRIPTION

This indicator looks at the percentage of children who have caregivers reading to them daily. The language of the indicator was broadened to include storytelling and singing as a way to include caregivers with limited reading proficiency, however, all available data focus on reading. Data are captured through surveys. California has its own statewide survey that collects this information. Other participating states used data collected through the National Survey of Children's Health conducted intermittently by the Census Bureau.

Table 17: Children Read to by Caregiver Data Characteristics and Availability by Geography

Geography	Data Universe	Data Years	Year Description	Age Range	Income Levels	Race/ Ethnicity
United States	Pop-level	2003, 2007, 2011/12	Calendar	0-5	<99% FPL 100-199% FPL 200-399% FPL 400% FPL+	Yes
California	Pop-level	2009, 2011-2014 (CHIS); 2003, 2007, 2011/12 (NSCH)	Calendar	0-5	All, Low, Not low <99% FPL 100-199% FPL 200-399% FPL 400% FPL+	Yes
Alameda County	Pop-level	2009, 2011-2014	Calendar	0-5	All, Low, Not low	No
Orange County	Pop-level	2009, 2011-2014	Calendar	0-5	All, Low, Not Low	No
Ventura County	Pop-level	2009, 2011-2014	Calendar	0-5	All, Low, Not low	No
Florida	Pop-level	2003, 2007, 2011/12	Calendar	0-5	<99% FPL 100-199% FPL 200-399% FPL 400% FPL+	Yes
Palm Beach County	Pop-level	2016	Calendar	0-5	All only	No
Massachusetts	Pop-level	2003, 2007, 2011/12	Calendar	0-5	<99% FPL 100-199% FPL 200-399% FPL 400% FPL+	Yes
Boston	N/A	N/A	N/A	N/A	N/A	N/A
Vermont	Pop-level	2003, 2007, 2011/12	Calendar	0-5	<99% FPL 100-199% FPL 200-399% FPL 400% FPL+	Yes
Lamoille Valley	N/A	N/A	N/A	N/A	N/A	N/A

[DATA SECTIONS REMOVED]

IMPLEMENTATION ASSESSMENT

Assessment

This indicator was added to the 'children are ready to succeed in school' outcome at the September 2016 in-person meeting of EC-LINC participating communities. Overall, the indicator scored high, although there is limited data availability at the local community-level. A semi-regular national source for state-level data makes this indicator more consistent than others.

Table 18: Assessment of Children Read to Daily Indicator

	Notes
Data Power	**Medium:** National data source is available for state-level data disaggregated by race/ethnicity and income level. CHIS data provide county-level data in California. Population-level data at the local level for most communities is lacking.
Communication Power	**High:** Community members generally understand the power of reading to children in terms of preparing them to succeed in school and life.
Proxy Power	**High:** This is strong proxy for family engagement with children as well as kindergarten/school readiness.

Options for Ongoing Implementation

Among the three options for future implementation, the recommendation is:

Ready/Retain	**Mixed**	Drop

While most participants felt this indicator was ready or should continue to be pursued, the lack of data at the local level for most communities may have influenced some participants' preference to drop this indicator. Further discussion is warranted to determine the future of this indicator.

Data Development Agenda Objectives

- **Advocate data development using a standard tool.** The existence of NSCH data for this indicator in an advantage for the common indicators effort since it is available for all U.S. states, and is available by race/ethnicity and income. Participants should consider advocacy to align local data collection efforts to this standardized source to better understand local context and provide input to improve the national measure. CHIS's small sample at the local level or at the subgroup limits its utility at this point in time. Other local data collection efforts on this measure occur intermittently.

Indicator 3.1a Rate of reported cases of child abuse and neglect

DESCRIPTION

This indicator measures the rate of reported cases of child abuse and neglect per 1,000 children for a specified age range.[4] The numerator is the number of child abuse and neglect reports for the specified age range, and the denominator is the number of children for the specified age range. The rate is calculated by dividing the number of reports by the total number of children, multiplied by 1,000.

Table 19: Child Abuse Reports Data Characteristics and Availability by Geography

Geography	Data Universe	Data Years	Year Description	Age Range	Income Levels	Race/ Ethnicity
United States[5]	Pop-level	2010-2014	Calendar	0-17	All only	No
California	Pop-level	2011-2015	Calendar	0-5	All only	Yes
Alameda County	Pop-level	2011-2015	Calendar	0-5	All only	Yes
Orange County	Pop-level	2011-2015	Calendar	0-5	All only	Yes
Ventura County	Pop-level	2011-2015	Calendar	0-5	All only	Yes
Florida	Pop-level	2012-2016	Fiscal Year	0-4	All only	Yes
Palm Beach County	Pop-level	2012-2016	Fiscal Year	0-4	All only	Yes
Massachusetts	Pop-level	2010-2014	Calendar	0-17	All only	Yes
Boston	Pop-level	2009-2010	Calendar	0-17	All only	No
Vermont	Pop-level	2010-2014	Calendar	0-17	All only	No
Lamoille Valley	Pop-level	2010-2014	Calendar	0-17	All only	No

[DATA SECTIONS REMOVED]

IMPLEMENTATION ASSESSMENT

Assessment

Reported child abuse and neglect is widely available across communities, however, the age range and specification (referral versus reported) varies somewhat by location. At the September in-person meeting, there was discussion on whether a Parenting Stress Index measure may provide a better proxy for the "Children live in safe, nurturing, and stable families and

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[4] Referrals to child protective services may be screened in or screened out. Screened-in referrals are called a report.

[5] Special request U.S. data for children 0-5, sourced to the National Data Archive on Child Abuse & Neglect, were received too late for inclusion in this report.

communities" outcome. Supporting the retention of child abuse indicators, Stephanie Putnam-Hornstein's work was noted, which posits that child abuse reports are correlated with child deaths. Others noted that a rise in reports may not be indicative of more child abuse, but other factors such as increased awareness and reporting. Further, with respect to substantiated reports (indicator 3.1b) determinations of substantiated abuse may be impacted by policy or bias. More discussion is warranted on this indicator and its potential replacement. It is possible that parenting stress could be added to the protective factors survey, which was suggested as a new indicator (3.3). This would impact decisions with respect to a potential replacement of child abuse reports and/or substantiations.

Figure 4: Assessment of Reported Child Abuse and Neglect Indicator

	Notes
Data Power	**High:** Although there is variety in the underlying age ranges of children, standardized, public data provides a consistent metric across communities. There is sufficient agreement within the early childhood and education community on how child abuse and neglect is defined to allow for comparability across communities.
Communication Power	**High:** Child abuse and neglect are clear and understandable concepts. The fact that there are two measures (reports and substantiations) may require more explanation for readers to understand the purpose of having two child abuse indicators and the relationship between them.
Proxy Power	**Medium:** This indicator does a good job of communicating the state of intentional physical harm or neglect to children, however, it does not approximate the broader concepts of nurturing and stability within families or communities. Its focus on reported cases of abuse and neglect rather than substantiated cases may inflate the perception of related need, although some research correlates abuse reports with child deaths.

Options for Ongoing Implementation

Among the three options for future implementation, the recommendation is:

Ready/Retain	Mixed	Drop

Despite discussions at the September in-person that resulted in a recommendation to consider replacing this indicator with a Parenting Stress Index, the overarching response on the post-implementation survey was support for the two child abuse related indicators. There was slightly less support for continuing work on 3.1a vs. 3.2b. Based on these results, researchers offer the following implementation options:

- **Consider Selecting either 3.1a or 3.1b.** Indicator 3.1a, reported cases of child abuse and neglect, and 3.1b, which measures substantiated cases of child abuse and neglect, serve similar proxy purposes. Although they provide slightly different information, the degree of nuance is sufficient to suggest a certain level of redundancy. To reduce data collection burden, future implementation efforts should discuss which provides a more informative

measure of intentional physical harm or neglect of children and select one or the other measures of abuse and neglect.

- **Continue dialogue.** Considering discussions at the September in-person meeting, there is sufficient uncertainty with respect to the value of the child abuse indicators that participants may want to continue the dialogue about a potential replacement. The Parenting Stress Index may provide a robust, comprehensive proxy for the intended outcome, and allow communities to better understand the state of children's health and safety in their region. However, given the need for significant data development work to identify and finalize the Parenting Stress Index, a child abuse measure (either 3.1a or 3.1b or both) should be retained for the foreseeable future.

Data Development Agenda Objectives
- **Increase standardization.** If this indicator is retained, increased standardization of underlying age ranges and availability of racial and socioeconomic background data would allow for increased comparability and cross-community learning. Specifically, during the end of this implementation window, there were signs that U.S. data for children ages 0-5 may be obtainable, but there was not sufficient time to pursue this. Additionally, there are sufficient discrepancies in results that further work on definitions behind the data are needed.
- **Identify Parenting Stress Index tool.** Identify a Parenting Stress Index measurement tool that is in use across a diverse range of communities (e.g. PSI-4). Encourage reporting of Parenting Stress Index to include key demographic variables (race, ethnicity, socioeconomic status) to assess variation across subgroups. Promote the adoption and universal reporting of Parenting Stress Index to increase comparability, cross-community learning, and self-reflective benchmarks to track progress over time.

DESCRIPTION

This indicator measures the rate of unduplicated substantiated allegations of child abuse and neglect per 1,000 children for the specified age range. The numerator is the unique count of children with substantiated child abuse and neglect allegations for a specified age range; the denominator is the number of children in the region for the given specified age range. The rate is calculated by dividing the number of children with substantiated reports by the total number of children, multiplied by 1,000.

Figure 5: Substantiated Allegations Data Characteristics and Availability by Geography

Geography	Data Universe	Data Years	Year Description	Age Range	Income Levels	Race/ Ethnicity
United States[6]	Pop-level	2010-2014	Calendar	0-17	All only	No
California	Pop-level	2011-2015	Calendar	0-5	All only	Yes
Alameda County	Pop-level	2011-2015	Calendar	0-5	All only	Yes
Orange County	Pop-level	2011-2015	Calendar	0-5	All only	Yes
Ventura County	Pop-level	2011-2015	Calendar	0-5	All only	Yes
Florida	Pop-level	2012-2016	Fiscal Year	0-4	All only	Yes
Palm Beach County	Pop-level	2012-2016	Fiscal Year	0-4	All only	Yes
Massachusetts	Pop-level	2010-2014	Calendar	0-5;0-17[7]	All only	Yes
Boston	N/A	N/A	N/A	N/A	N/A	N/A
Vermont	Pop-level	2010-2014	Calendar	0-17	All only	No
Lamoille Valley	Pop-level	2011-2015	Calendar	0-17	All only	No

[DATA SECTIONS REMOVED]

IMPLEMENTATION ASSESSMENT

Assessment

Substantiated child abuse and neglect data is widely available across communities; however, the age range varies by location. Like 3.1a, this indicator was rated high in the post-implementation survey of EC-LINC RTA participants. This indicator, 3.2b, was considered slightly more ready for ongoing implementation than 3.1a.

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[6] Special request U.S. data for children 0-5, sourced to the National Data Archive on Child Abuse and Neglect, were received too late for inclusion in this report.
[7] Data for Massachusetts included 0-17 year olds for 2010 and 2011 with race/ethnic detail, and 0-5 year olds for 2011-2014 for all race/ethnicities.

As noted above in the assessment of 3.1a, at the September in-person meeting, participants discussed replacing the child abuse indicators with a Parenting Stress Index measure.

Table 20: Assessment of Substantiated Allegations Indicator

	Notes
Data Power	**High:** Although there is variety in the underlying age ranges of children, standardized, public data provides a fairly consistent metric across communities. There is sufficient agreement within the early childhood and education community on how child abuse and neglect is defined to allow for comparability across communities.
Communication Power	**High:** Child abuse and neglect are clear and understandable concepts. The term "substantiated" may need to be defined or an alternative term used for broad communication, such as "confirmed cases."
Proxy Power	**High:** This indicator does a good job of communicating the state of intentional physical harm or neglect to children; however, it does not approximate the broader concepts of nurturing and stability within families or communities. Substantiated cases may reduce some of the administrative influences on abuse reports, such as efforts to increase awareness and reporting. It measures actual incidences of abuse vs. suspected cases and, as such, could be a stronger metric than reports alone. However, bias and administrative factors may influence when a case is considered substantiated, and there may be cases where the report could not be substantiated for lack of evidence, but abuse did in fact occur.

Options for Ongoing Implementation

Among the three options for future implementation, the recommendation is:

Ready/Retain	Mixed	Drop

Please see the implementation discussion pertaining to 3.1a (pages 74-75), as the same considerations pertain to this indicator.

Data Development Agenda Objectives

- **Increase standardization.** Like 3.1a, if this indicator is retained, increased standardization of underlying age ranges and availability of racial and socioeconomic background data would allow for increased comparability and cross-community learning. Specifically, during the end of this implementation window, there were signs that U.S. data for children ages 0-5 may be obtainable, but there was not sufficient time to pursue this. Additionally, there are sufficient discrepancies in results that further work on definitions behind the data are needed.
- **Identify Parenting Stress Index tool.** Like 3.1b, identify a Parenting Stress Index measurement tool that is in use across a diverse range of communities (e.g. PSI-4). Encourage reporting of Parenting Stress Index to include key demographic variables (race, ethnicity, socioeconomic status) to assess variation across subgroups. Promote the adoption and universal reporting of Parenting Stress Index to increase comparability, cross-community learning, and self-reflective benchmarks to track progress over time.

Indicator 3.2a Percentage of children living in poverty

DESCRIPTION
This indicator measures the percent of children living in poverty. The numerator is the number of children living in poverty and the denominator is the total number of children in the commensurate age range.

Table 21: Poverty Data Characteristics and Availability

Geography	Data Universe	Data Years	Year Description	Age Range	Income Levels	Race/ Ethnicity
All Geographies	Pop-level	2010-2014	5-Year Pooled	0-5	N/A	Yes[8]

Table 22: Poverty Detailed Notes

Geography	Notes
All Geographies	Percentages are provided as a 5-year pooled average of annual poverty data.

Table 23: Poverty Data Sources

Community or State	Data Source
All Geographies	U.S. Census Bureau, American Community Survey, 5-Year Estimates, Tables B17001, including subgroups Tables B17001A through B17001G (http://factfinder.census.gov/)

[DATA SECTIONS REMOVED]

IMPLEMENTATION ASSESSMENT

Assessment
The poverty rate for children is widely available across communities in a consistent and comparable format from the U.S. Census and is associated with the ability to provide safe, nurturing, and stable families and communities. The one feature lacking from the standard poverty rate is cost of living. As noted above, the poverty rate uses a threshold that is uniform across the nation and does not take into account cost of living, which is highly variable from state to state and community to community. This inherent issue with the national poverty rate is part of what motivated the development of the California Poverty Measure, which takes into accounts local costs as well as public benefits. It also is partly behind participants' interest in the Family Financial Stability Index (see proposed indicator 3.2b).

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[8] Data are available by race/ethnicity for all geographies except Lamoille Valley.

Table 24: Assessment of Child Poverty

	Notes
Data Power	**High:** Standardized, publicly available poverty data is consistent across sites and over time. It is readily accessible through the U.S. Census Bureau.
Communication Power	**High:** Child poverty is a clear and understandable concept. It is used widely in a range of research and general publications and thus readers will have high recognition and familiarity with the measure.
Proxy Power	**High:** This indicator is often used as a key proxy for child wellbeing, and poverty status is correlated with numerous negative early childhood outcomes. EC-LINC participants are considering adding additional indicators for this outcome, including the Family Financial Stability Index and a survey of parent protective factors, to more comprehensively assess communities' ability to support children in safe, nurturing, and stable families and communities. Keep in mind that poverty rates do not include cost of living and may not provide as accurate proxy of financial security.

Options for Ongoing Implementation

Among the three options for future implementation, the recommendation is:

Ready/Retain	Mixed	Drop

Data Development Agenda Objectives

- None

3.2b Family Financial Stability Index (Proposed)

DESCRIPTION

The Family Financial Stability Index for Orange County (FFSI-OC) measures the financial stability of families with children 0-17 at the neighborhood level and over time. The FFSI enables users to identify neighborhoods that have a high (or low) concentration of families that are struggling financially. It also enables users to identify neighborhoods that consistently score low (financially unstable) over time. The Index takes into account income, rent burden (percent of income that goes towards rent) and unemployment and, as such, facilitates cross-community analysis since a highly regional variable – housing costs – is embedded in the metric.

Table 25: FFSI Data Characteristics and Availability by Geography

Geography	Data Universe	Data Years	Year Description	Age Range	Income Levels	Race/ Ethnicity
United States	N/A	N/A	N/A	N/A	N/A	N/A
California	N/A	N/A	N/A	N/A	N/A	N/A
Alameda County	N/A	N/A	N/A	N/A	N/A	N/A
Orange County	Pop-level	2012-2015	Calendar	Families with children 0-17	embedded in metric	N/A
Ventura County	N/A	N/A	N/A	N/A	N/A	N/A
Florida	N/A	N/A	N/A	N/A	N/A	N/A
Palm Beach County	N/A	N/A	N/A	N/A	N/A	N/A
Massachusetts	N/A	N/A	N/A	N/A	N/A	N/A
Boston	N/A	N/A	N/A	N/A	N/A	N/A
Vermont	N/A	N/A	N/A	N/A	N/A	N/A
Lamoille Valley	N/A	N/A	N/A	N/A	N/A	N/A

Table 26: FFSI Data Sources

Community or State	Data Source
All Geographies	Parsons KP, Coe M, Zimskind L, Lodewick KB. (2014). *Family Financial Stability Index – Orange County,* Prepared for Orange County United Way. The FFSI is based on custom tabulations from the U.S. Census Bureau.

[DATA SECTION REMOVED]

IMPLEMENTATION ASSESSMENT

Assessment

This indicator scored high in the post-implementation participant survey, with most respondents indicating it has strong communication and data power, and may add value to the common

indicators. The FFSI currently scores low in data power due to its present focus on Orange County, California. However, a scale up to encompass communities nationwide is possible.

Table 27: FFSI Assessment of Readiness

	Notes
Data Power	**Low:** At present, the FFSI is limited to Orange County; however, pending securing the necessary resources, the FFSI team is poised to scale up the FFSI to a national level, for all counties and places in the United States. Results at the national level would commence in 2015, but a retrospective analysis is possible.
Communication Power	**High:** Indices that rank values on a 1-10 scale are intuitive and familiar to readers. "Red zones" indicate high concentrations of family financial instability, whereas "green zones" do not.
Proxy Power	**High:** The chief advantage of the FFSI over standard poverty rate measures is that rent, which is a substantial contributor to family cost of living, is embedded in the metric. Un- and underemployment is also factored in through the inclusion of whether an adult family member is looking for work. All three provide a more well-rounded, comparable measure of family economic conditions than poverty alone. Further, the measure can provide a sense of community conditions, as it measures concentrations of financial instability. Finally, it can be overlaid with other geographic information indices (such as the Early Development Index) to assess contributors to success (or failure) in a neighborhood.

Options for Implementation

Data Development Agenda Objectives

- **Brainstorming and networking to support the FFSI scale up.** The FFSI authors (which include members of the Parsons Consulting team that was engaged for this RTA project) are currently investigating funding opportunities and models that would both support the initial scale up work and provide sustainable funding for subsequent annual updates. EC-LINC communities could aid in brainstorming possible opportunities with the FFSI authors.

3.3 Parent Protective Factor Survey (Proposed)

At the September in-person meeting, participants proposed a new indicator be added to the outcome 'Children live in safe, nurturing, and stable families and communities.' What is being referred to as the Parent Protective Factor Survey, this measure would use existing tools (like CSSP's Parents' Assessment of Protective Factors, or Lamoille Valley's protective factor survey) or develop a new instrument that would assess parents' attitudes and practices with respect to parenting. The measure would likely start as client-level data, fielded to current service recipients, but the long-term goal would be population-level data. Advocacy around adding the PPFS to an existing population-level survey, such as the California Health Interview Survey, would be part of the effort to develop this indicator.

IMPLEMENTATION ASSESSMENT

Assessment

While this indicator was not implemented during this pilot, participants were asked to assess their current feelings about the measure in the post-implementation survey. Most indicated that the Parent Protective Factor Survey would add critical value, followed by "may add value," while one respondent needed more information to assess. It scored low for data power, but strongly for communication and proxy power.

Table 28: Parent Protective Factor Survey Assessment of Readiness

	Notes
Data Power	**Low:** Since data are neither regular or widespread for an indicator of this kind, it scores low currently for data power. However, there are tools that exist already that could be reviewed, adopted, and scaled up over time.
Communication Power	**High:** While the term "protective factors" could be jargon in some settings, the idea of "good parenting" is commonly understood and the indicator could be easily described to appeal to broad community audiences.
Proxy Power	**High:** This indicator is nearly a direct measure of "safe, nurturing, and stable families."

Options for Implementation

Data Development Agenda Objectives
- **Research existing tools and select.** Participants may want to begin data development by understanding the content, assets and limitations of current tools that measure parenting attitudes and practices, and select one to pursue.
- **Identify implementation opportunities.** Participants may have several different opportunities to field a survey among their clients in different program and settings. Discussion and activity can progress to opportunities for population-level fielding. Resources to support either survey administration will need to be discussed.

Common Indicators Implementation Assessment

Assessment of Common Indicators

This section summarizes the collective assessment of strength of each indicator and its readiness for full implementation. The assessments of each indicator are based on the input received from the post-implementation survey completed by the six participating communities and the leadership at CSSP.[9] The assessments are informed by the experiences of the participants during this pilot implementation process, as well as by the results themselves, which were provided to the participants in draft format in conjunction with the survey. Overall, it is the researchers' conclusion that the concept of common indicators of early childhood wellbeing can be successful despite challenges uncovered during implementation (see Lessons Learned below).

Assessment of Indicator Strength by Criteria

Table 41 on the following page summarizes participant and researcher feedback on the strength of each underlined implemented indicator based on the criteria of data, communication and proxy power (see page 20 for definitions of these criteria).

In addition, to provide a single visual assessment of the indicators, the "Readiness" column in Table 41 represents a summary of survey responses to the question of indicator readiness for full implementation, which is described on page 9 below and summarized in Figure 62.

Finally, Table 41 also includes an assessment of the underlined proposed new indicators. The survey did not directly ask respondents for an assessment of these indicators according to the criteria of data, communication and proxy power, or according to readiness for implementation. However, respondents were asked whether they thought the proposed new indicators added value. Therefore, the designations in this table are the researchers' interpretation of those responses, as well as the researchers' assessments based on what is known about these indicators (e.g. whether or not data are available). It should be noted that during a facilitated discussion at the in-person meeting in September, these proposed new indicators all scored high for communication and proxy power, and from high-to-low for data power.

The red and yellow designations (low or medium) in "data power" signal the need for additional data development work. Indicators that received a yellow designation (medium) for "communication proxy" or "proxy power" suggest the need for further conversation about the utility of the indicator. The overall assessment of "mixed" points to possible weakness or disagreement on the indicator's value.

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[9] There were eight respondents to the survey: one from CSSP and seven from the six participating communities. To equalize the response weight of each community, the responses from the community with two respondents were weighted as one. When responses differed, each response was given 0.5 weight, which accounts for decimal response frequencies in some figures. Frequencies may total to more than seven in cases where respondents could select more than one answer.

Table 29: Summary of Assessment of Indicator Strength

Key to Assessment of Data, Communication or Proxy Power

LOW
e.g. little to no data currently, or not a strong indicator
🔴 (red)

MEDIUM
e.g. Partial data available, or poor data alignment, or an alternative measure may be stronger
🟡 (yellow)

HIGH
e.g. Good data availability, or ready/near ready, for full implementation
🟢 (green)

Implemented	Data	Comm	Proxy	Readi-ness
1.1 Percentage of babies born below 2,500 grams or 5.5 pounds	🟢 green	🟢 green	🟢 green	Ready
1.2 Percentage of children 0-5 hospitalized due to asthma	🟡 yellow	🟡 yellow	🟡 yellow	Mixed
1.3 Percentage of children who are overweight or obese	🔴 red	🟢 green	🟢 green	Mixed
2.1 Percentage of children assessed as ready for kindergarten	🟡 yellow	🟢 green	🟢 green	Ready
2.2 Percentage of early childhood education programs that are high quality	🟡 yellow	🟡 yellow	🟡 yellow	Mixed
2.3 Percentage of children read to or had a story told to them daily	🟡 yellow	🟢 green	🟢 green	Mixed
3.1a Rate of reported cases of abuse and neglect	🟢 green	🟢 green	🟡 yellow	Ready
3.1b Rate of substantiated cases of abuse and neglect	🟢 green	🟢 green	🟢 green	Ready
3.2a Percentage of children living in poverty	🟢 green	🟢 green	🟢 green	Ready
Proposed	**Data**	**Comm**	**Proxy**	**Overall**
3.1 Parenting Stress Index (to replace current 3.1a & b)	🔴 red	🟡 yellow	🟡 yellow	Mixed
3.2b Percentage of neighborhoods with low Family Financial Stability	🔴 red	🟢 green	🟢 green	Adds value
3.3 Parent protective factor survey	🔴 red	🟢 green	🟢 green	Adds value

Assessment of Indicator Readiness for Full Implementation

Based on the results of the collective indicator data, as well as their experience with data collection, representatives from each community provided the following assessments on the indicators' stage of readiness. Respondents were asked if the indicator was ready for implementation, not ready but should continue to be pursued, or not ready and should be dropped. Their responses are summarized narratively below and in Figure 62.

- **Low birthweight (1.1):** All respondents felt that this indicator was ready for implementation.
- **Asthma (1.2):** Three respondents felt that this indicator should be dropped, three felt this indicator should be pursued with further data development and two felt it was ready for implementation.
- **Obesity (1.3):** Two respondents felt that this indicator should be dropped, and four felt it should be pursued through further data development.
- **Kindergarten readiness (2.1):** All respondents indicated that this metric was ready for implementation, while some additionally selected that it should be pursued with further development.
- **ECE quality (2.2):** Slightly less than half of the respondents felt this was ready for implementation, and the remainder felt it should be pursued for further development.
- **Children are read to daily (2.3):** Two respondents suggested dropping this indicator, three suggest pursuing it for further data development, and three respondents considered the indicator ready for implementation. This difference in assessment may reflect underlying variation in existing data availability across sites.
- **Reported incidence of child abuse and neglect (3.1a):** Most respondents felt that this indicator is ready for implementation, and a few suggested further work.
- **Substantiated incidence of child abuse and neglect (3.1b):** Six respondents assessed 3.1b as ready for implementation with one suggesting further work.
- **Poverty (3.2):** Most respondents considered this indicator ready for implementation, while a few recommended further work.

Figure 6: Assessment of Indicator Readiness for Full Implementation, Participant Survey Results, Response Frequency Summary
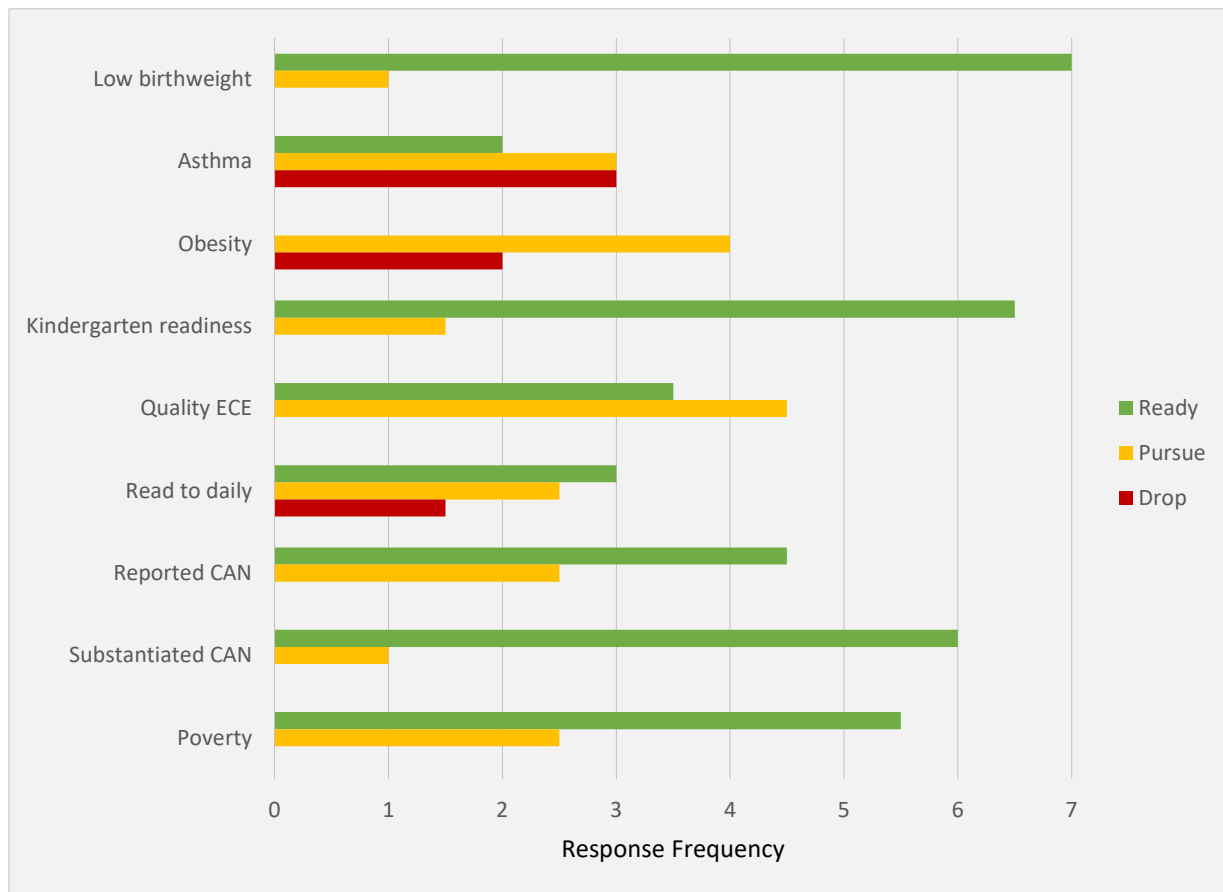
Value of Proposed New Population-Level Indicators

At the September in-person meeting, participants proposed several new indicators that would either add to the existing indicators or replace certain indicators. The post-implementation survey requested participants' current assessment of these proposals. Their input on the three proposals is summarized below and in Figure 63:

- Most felt that the proposal to "**replace child abuse and neglect with Parenting Stress Index measure**" may add value, but several did not feel they had sufficient information to assess, and one respondent did not feel this would add value.

- There was consensus that "**adding Family Financial Stability Index (3.2b)**" may either add additional value or was critical to understanding early childhood wellbeing.

- Of the three proposed new indicators, the proposal to **"add Parent Protective Factor Survey"** indicator received the most support as an indicator that would add critical value. Two respondents felt in the indicator may add additional value, while one respondent did not have enough information on this prospective indicator to assess.

Figure 7: Value of Proposed New Population-Level Indicators, Participant Survey Results
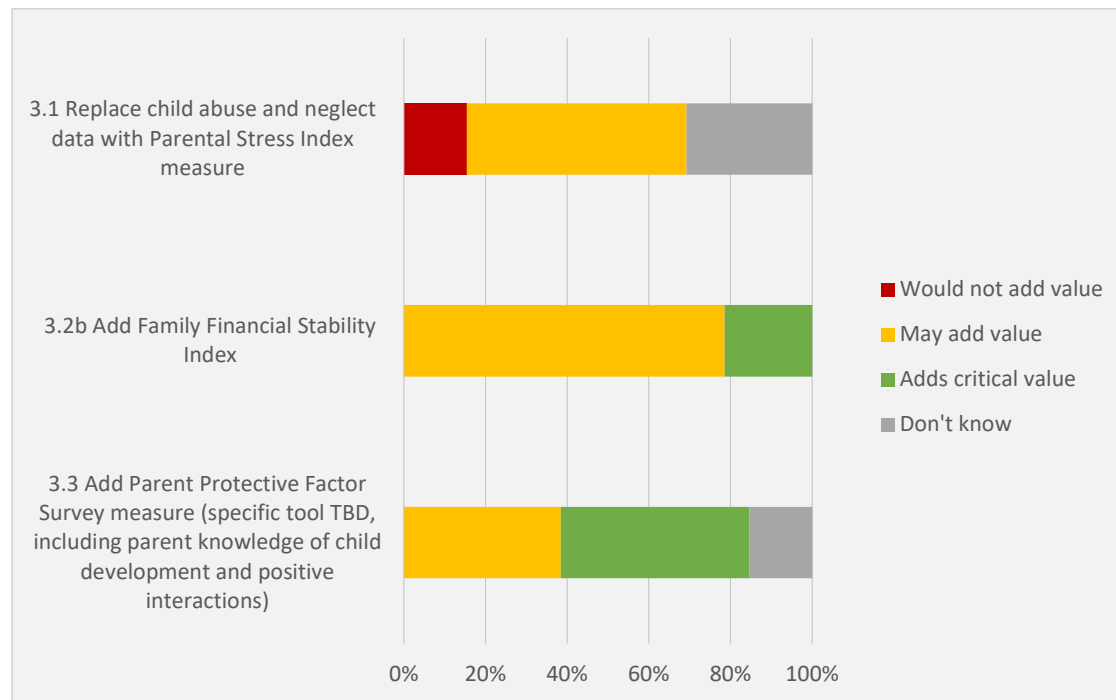
Financial and Administrative Investments and Sustainability

Respondents were asked to assess how much in-kind support they committed to the pilot implementation and whether they considered their in-kind and financial investments sustainable:

- **Estimate of In-kind hours committed to the pilot:** between 20 to 80 hours, with an average of 41. This level of commitment was about what was expected for most communities, and slightly more than anticipated for one community.
- **Assessment of anticipated level of effort for future work:** two respondents felt the effort would be significantly more effort, two felt it would significantly less effort, and the remainder fell in the middle.
- **Assessment of financial commitment:** most communities did not commit financially to the pilot implementation and were therefore unable to assess.
- **Sustainability of future work:**
  - Not sustainable without additional outside resources: 0 respondents
  - Maybe sustainable: 1 respondent
  - Sustainable at same level of effort/resources: 3 respondents
  - Sustainable and we may be able to commit more effort/resources: 2 respondents

Common Indicators Implementation Lessons Learned

With this RTA project, the EC-LINC communities sought to test whether a set of common, cross-national indicators of early childhood wellbeing could be reported on an annual basis. The chief premise to be tested during the pilot implementation is whether data from disparate communities, often with variable sources, can be shown together in a meaningful way. **While results varied by indicator, the overarching conclusion is that the concept of common indicators can be successful.** Table 42 summarizes the detailed narrative below that describes the challenges encountered during the implementation, and opportunities for potentially addressing these challenges moving forward. These lessons learned will not only inform ongoing implementation work for the common indicators, but also for efforts to implement the system performance measures.

Table 30: Common Indicators Implementation Summary of Lessons Learned

Challenge	Possible Solutions
Lack of data alignment	• Select alternative indicators/system performance measures where alignment exists • Continue local efforts to obtain data that align with the plurality of participating communities • Focus on trends vs. actual rates
Lack of data or poor quality data	• Pursue efforts to develop or improve local data for both indicators and system performance measures • Select alternative indicators/system performance measures where data exist or are of higher quality
Lack of consensus on the strength of a particular indicator or measure	• Review troublesome indicators or system performance measures to determine whether the issues identified are surmountable
Need for context and story behind the data to facilitate cross-community interpretation	• Select indicators with context built in • Provide community socioeconomic profile data along with indicators • Construct a measure of relative burden to assess an indicator's variable impact on different groups • Research and share what may be behind trends or variability among sites
Quality control	• Refine data collection processes, including investigation into feasibility of a single entity collecting all data • Improve documentation of variations between sites' data, including better race/ethnicity definitions.
Overwhelming data presentation with six or more geographies participating	• Investigate online user interfaces that enable users to select as many or as few variables as desired • Engage a professional designer to streamline chart presentations
Advocacy goals limited by reporting challenges	• Continue data development work • Start a dedicated report or online interface development process which identifies key data points, data visualizations, and explanations of trends.

	• Engage professional designer and/or communications expert to message indicators/measures effectively • Develop a communication and dissemination plan that identifies what products or messages are key to move policy
Resources for continuing work	• Pursue investigation into funding availability and in-kind contributions for ongoing work

Challenges

The challenges encountered through this pilot implementation of the Common Indicators included:

1. **Lack of alignment**: When there is a national data source, such as the U.S. Census, or already very well-defined data collection and reporting protocols, such as hospitalizations or child abuse reports (although, less so), the indicators can be shown in a consistent manner. When the data sources are variable, assessing meaning becomes more challenging.

2. **Need for context**: Even when data sources are fully aligned, communities have different economic and demographic characteristics which can make interpreting results difficult. For example, poverty data are consistently collected and reported through the U.S. Census Bureau. However, while poverty in California looks low compared to other regions, this is likely an artifact of California's higher relative income and cost of living than many other regions.[10]

3. **Lack of data/poor data quality:** For several indicators, there is simply no data currently to populate the indicator, or the data available is of poor quality.

4. **Quality control:** The model used during this pilot was for the participating communities to provide the data themselves. To support this, communities were given a detailed Implementation Plan for each indicator, which provided guidance on the data sources to use or pursue, as well as data definitions. An Excel spreadsheet was provided that included data validation to restrict user inputs to acceptable entries. And regular technical assistance calls and email communication between the consultant team and the community representatives supported the data collection period. Despite these structures, there was sufficient ambiguity in data definitions, challenges with respect to finding available data, and technical problems, that there was substantial effort needed on the back end to clean and populate the Excel spreadsheet. The dropdown menus and data validations included in the Excel sheet were prone to glitches, so for this reason or

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[10] The Distressed Communities Index is a resource for each county in the nation, providing an assessment of distress and comparable regional context information: http://eig.org/dci/interactive-maps/state-counties

others, some participants were compelled to remove the validations, requiring the need to align entries when the data were compiled.

5. **Variability in race/ethnicity:** The nature of the task – compiling disparate data – necessarily resulted in race and ethnicity definitions that did not align among the communities, or they may have aligned but the researchers did not have sufficient information to note this in the pilot results. The data collection shell provided commonly used race/ethnicity breakdowns with space provided in the "notes" column to indicate where the race/ethnicity categories or definitions may vary from these common breakdowns. The scale of the task to input large amounts of data likely contributed to the fact that few opted to provide this level definitional detail.

6. **Overwhelming data presentation:** The figures containing the results could become overwhelmed with data points and difficult to interpret, especially if more communities eventually join the effort. Discrete data dashboards for each indicator would be challenging to create and decipher with the current level of data variability between participating communities and the number of communities participating.

7. **No story behind the data:** Without the story behind the data in each community, results can be difficult to interpret or misinterpreted.

8. **Lack of consensus on the strength of a particular indicator (or measure**): Post-implementation survey results showed that there is a of lack consensus on the value or strength of particular indicators (or measures).

9. **Advocacy goals limited by reporting challenges:** Some indicators may be ready for public consumption, facilitating the sharing of key messages with decision makers, but the current challenges (such as the lack of data alignment, needing to better understand the story behind the data in each community, and simply having a large quantity of information to convey) make reporting out difficult at this stage in development. As such, the data remain internal until some of these challenges can be addressed.

10. **Sustainability:** The project's long-term sustainability depends on the ongoing commitment of the participants (including existing or new), strong leadership, and stable funding. At this stage in the project's development, the project appears adequately supported, but as progress continues on the action items and desired outcomes, these needs will need to be addressed.

Possible Solutions

Opportunities to address these challenges going forward include:
1. **Select alternative indicators:** Selecting indicators that have more data alignment is a possible solution, however, selecting indicators based on data availability may have the

impact of selecting "second tier" indicators that do not have the same level of communication or proxy power as the originally selected indicators.

2. **Add context:**
   a. Add community profile data to help provide context and scale for the indicators. By providing population size data and detail by race/ethnicity and income, users would be better able to interpret the calculated rates provided in the indicator results.
   b. A measure of relative burden, where context is built into the measure itself by assessing to what extent one group (such as race/ethnicity or income status) is disproportionately impacted by the indicator, could be a helpful way to analyze and interpret the data.[11]
   c. When possible, select indicators that have context built into them. (e.g., the Family Financial Stability Index, which layers income, cost of living, and employment status to gain a more complete picture of economic security for families, or the Distressed Community Index[12])

3. **Focus on trends:** To address the lack of alignment, a focus on trend analysis could provide a useful lens for cross-community learning. This allows agencies to look past actual rates and focus instead on whether the communities are seeing progress. This kind of trend analysis can be revealing at the level of community-wide averages, but can be even more illuminating when looking at detail by race or ethnicity, or by income.

4. **Add the story behind the data:** Whether part of an eventual public reporting of the common indicators or part of a small group joint quality improvement effort, knowing the story behind the data would aid interpretation.

5. **Refine or revise data collection processes:** To reduce the quality control issues that arise from communities researching and populating their own data, future work should consider whether a single person or agency should be responsible for all data identification and collection, with support from participating communities to facilitate connections with local data providers. If this is prohibitive for cost or other reasons, an interim (or long-term) solution could be to more explicitly define data to reduce variability in reporting, as well as provide a data collection shell that does not allow overrides, but is also reliable and not prone to glitches (like Excel).

6. **Improve race/ethnicity presentation:** Since race/ethnicity definitions tend to vary for each indicator and community, and full alignment is unlikely to occur in the short run, better definitions of the race/ethnicity categories are needed. Further, a percentage threshold

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[11] The Florida Department of Juvenile Justice offers a possible model for measuring disproportionate burden: http://www.djj.state.fl.us/research/reports/research-reports/DMCReports/dmc-red-profile-fy-2014-15

[12] http://eig.org/dci/interactive-maps/state-counties

should be established for omitting certain race/ethnicity populations from the data presentation. Finally, whether to show unstable race/ethnicity data should also be considered.

7. **Pursue online user interfaces:** As more communities participate in the common indicators and wish to have their data included, how to successfully show data for an expanding set of agencies will need to be addressed. Using "big data" interfaces such as Tableau, whether launched online or through desktop access, could provide some flexibility for users in how to consume the data. These interfaces allow users to select the variables they want to see displayed, which could reduce clutter on charts and allow users to focus in on key results. However, the data variability across communities that is inherent in many of the Common Indicators could prove a barrier. For these kinds of interfaces to work, strong data alignment is key.

8. **Professional design:** Professional designers can advise on how to present the information in a concise, high-utility format. Participants can identify the key data presentations to help guide the design process.

9. **Data development agenda:** For indicators that do not have data or have poor data quality, a data development agenda will help move efforts forward to research the feasibility of developing the desired data, at minimum, or to facilitate the creation of a new data set, at maximum.

10. **Review indicators with mixed assessments:** Review troublesome indicators or system performance measures to determine whether the issues identified are surmountable.

11. **Develop a communications and dissemination plan:** A communication and dissemination plan is a critical feature of any effort to move policy. Such a plan could grow out of work to identify a home for the indicators. Planning should determine what products and messages are needed to advance advocacy goals.

12. **Strategize around sustainability:** The substantial advantage of this effort in terms of sustainability is the enduring interest of the participating EC-LINC communities and the potential to bring in additional partners. While progress may be a step-wise endeavor and the vision of success evolving, participants can continue to have conversations to ensure that the project is supported in the short-term and to keep the potential for long-term support is on the horizon. Confirming commitment by participants and CSSP is critical to ongoing sustainability.

System Performance Measures Assessment

Value Propositions and System Performance Measures

The Common Measures of Early Childhood System Performance (system performance measures) identified during the RTA project were designed to align with three "value propositions" identified during the Outcomes and Metrics Learning Lab. The value propositions are vision statements related to direct service provision, system integration, and community and family supports and attitudes.

The value propositions and proposed system performance measures are presented below. Participants may be interested in further revising the wording of the value propositions, although the idea expressed by each was affirmed during this project. Additionally, participants recognize that additional work will be required to further define many of the system performance measures.

Table 31: Value Propositions and System Performance Measures

Value Proposition 1: Young children and families receive services and supports to meet universal and identified needs*

1.1 Percentage of pregnant women receiving early prenatal care

1.2 Percentage of young children that have received a standardized developmental screening
Subsequent addition: Percentage of young children with identified concerns connected to services
Subsequent addition: Percentage of children that complete the services to which they were referred

1.3 Percentage of postpartum and pregnant women screened for depression
Subsequent addition: Percentage of postpartum and pregnant women connected to mental health services when indicated

Value Proposition 2: Systems are integrated to improve quality and avoid duplication

2.1 Early Childhood System Performance Standards

2.2 Social network density among providers (may be a component of 2.1)**

2.3 Percentage of children entering school with an unidentified/untreated developmental issue (exploratory measure informed by Campaign for Grade Level Reading efforts)

Value Proposition 3: People support and understand the importance of early childhood health, learning, and well-being
3.1 Change public norms/public opinion about early childhood
3.2 Communities and neighborhoods are child and family friendly
3.3 Assessment of community leadership engagement in early childhood

* This value proposition aims to encompass the essential services <u>every</u> child and parent should receive AND the services <u>some</u> children and families should receive.
** There was not full consensus on whether this should be a stand-alone measure or a component of measure 2.1.

ASSESSMENT

Participants in the RTA project were asked for their current assessment of the proposed system performance measures in the post-implementation survey. The results of that assessment are presented in this section.

Proxy Power and Value

Respondents' overall assessment of system performance measures varied across measures and may provide guidance for the focus of next steps and data development. The system performance measures that most respondents considered <u>good proxies</u> for their underlying value proposition AND were <u>valuable measures</u> of early childhood wellbeing were all measures under the *Value Proposition 1: Young children and families receive services and supports to meet universal and identified needs*:

- **Percentage of postpartum and pregnant women screened for depression (1.3):** Seven respondents considered 1.3 to be a good proxy for the value proposition and six considered it a valuable measure of early childhood wellbeing.
- **Percent of pregnant women receiving prenatal care (1.1):** Six respondents indicated both that 1.1 was a good proxy for the underlying value proposition and that is was a valuable measure.
- **Percentage of young children that have received a standardized developmental screening (1.2).:** Five respondents felt this was a good proxy and six felt it was a valuable measure.

These measures were followed by indicators that received five positive responses for both proxy power and value:

- **Percentage of young children with identified concerns connected to services (subsequent addition 1.2)**
- **Percentage of postpartum and pregnant women connected to mental health services when indicated (1.3)**

Several measures did not elicit a consensus. These measures that scored in the middle, such as **Early Childhood System Performance Standards (2.1)** or with mixed results, such as **Children entering school with unidentified concerns (2.3)** or **Safe and family friendly community (3.2)** warrant further discussion. With respect to 2.1, this rating may be because several respondents indicated they needed more information (see Figure 66).

The following measures received the least amount of support in terms of proxy power and value:

- **Social network density among providers (2.2):** Only two respondents felt this was a good proxy and no one felt it would add value. However, this measure elicited the most confusion, with four out of seven respondents indicating they didn't have enough information to assess.
- **Changing public norms (3.1):** Only three felt this was a good proxy for its associated value proposition, while two felt it would add value. Two respondents wanted more information on this measure to assess.

Figure 8: Assessment of System Performance Measures' Utility and Value
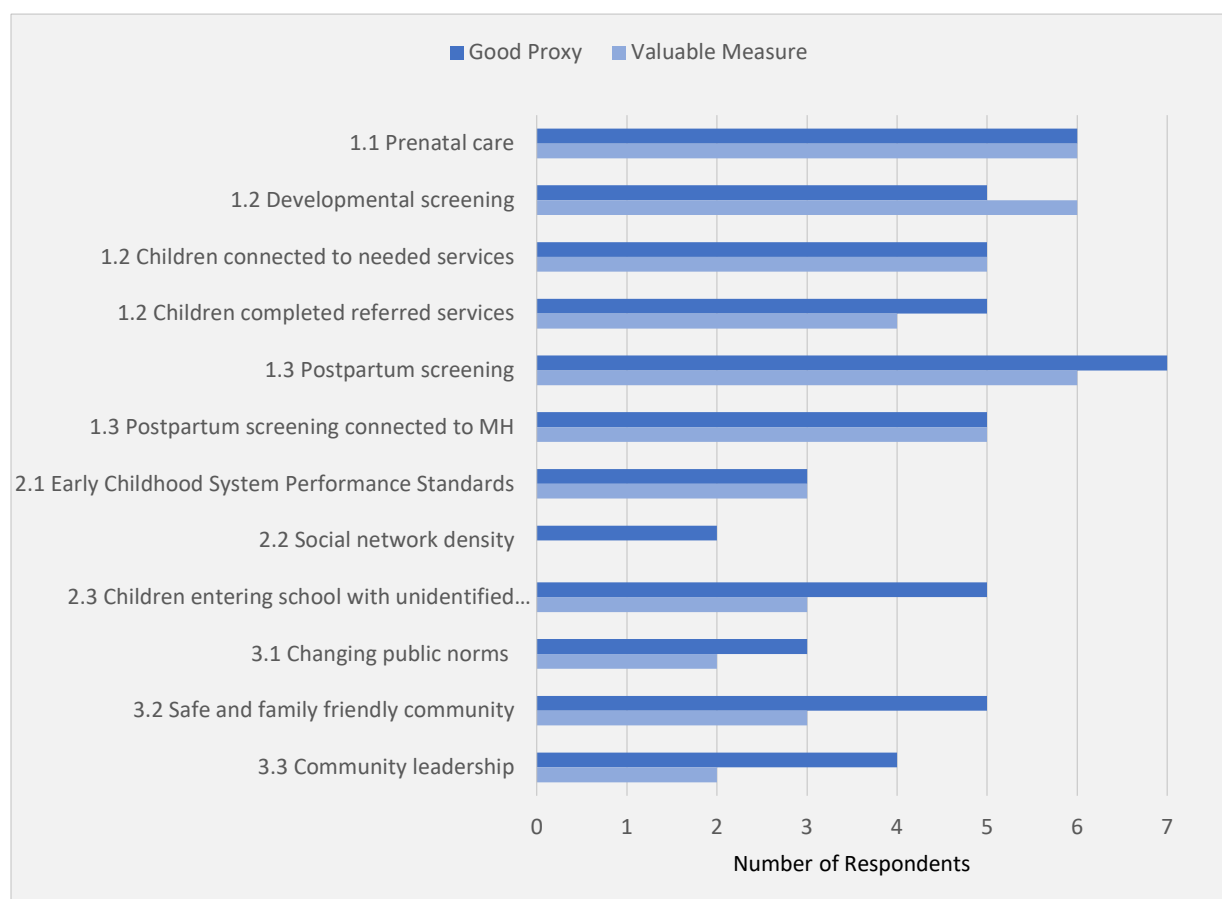
Data Availability

Among the proposed system performance measures, the only two were considered to have available data by more than half of the respondents, and one in which respondents were split on data available and worth pursuing:

- Percent of pregnant women receiving prenatal care (1.1);
- Percentage of young children that have received a standardized developmental screening (1.2); and
- Percentage of postpartum and pregnant women screened for depression (1.3)

Two indicators may not have data available currently, but were viewed as worth pursuing by most respondents:

- Communities and neighborhoods are child and family friendly (3.2);[13] and
- Percentage of young children with identified concerns connected to services (1.2 subsequent addition).

One respondent noted, however, that data available for 1.2 and 1.3 are currently client-level not population-level.

Figure 9: Assessment of System Performance Measures' Data Availability

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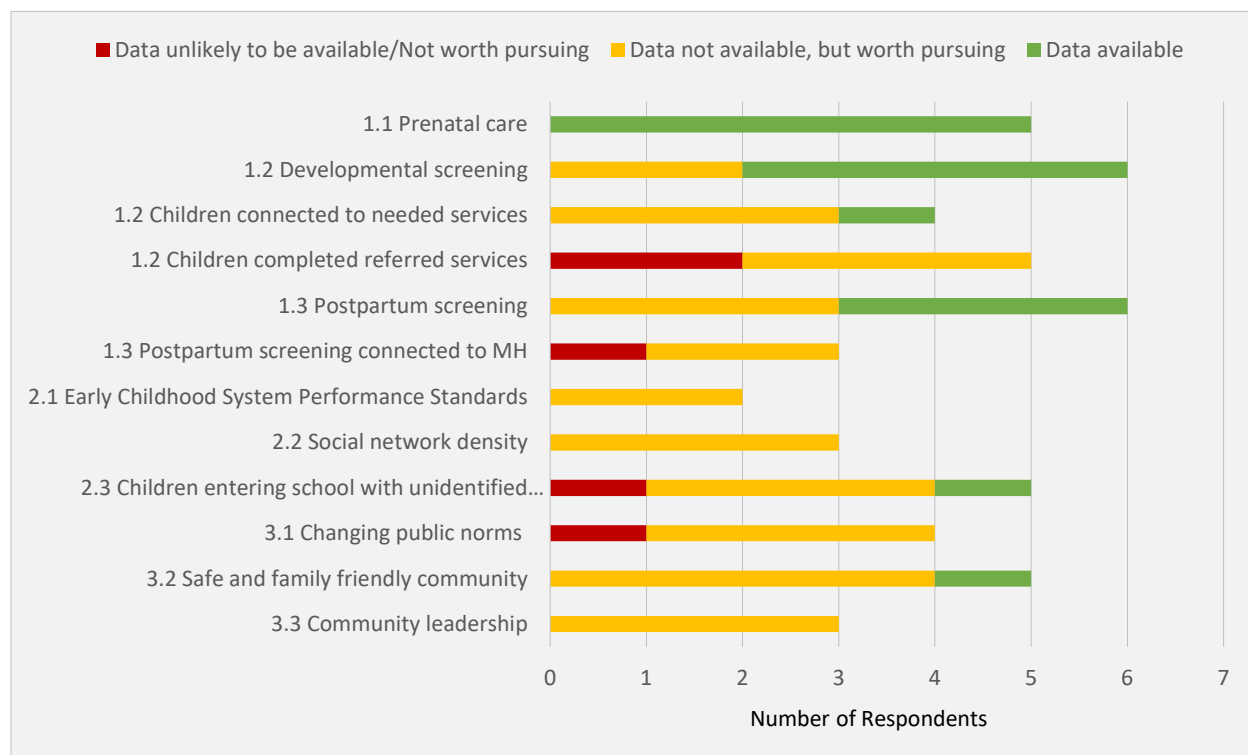
[13] Unicef has a tool for measuring child friendly communities: http://childfriendlycities.org/research/final-toolkit-2011/

Need More Information

The survey question asking for respondent's assessment of utility, value and data availability also gave them the option to select "Don't have enough information to assess." The system performance measures that need more clarity for most or many participants included:

- Social network density among providers (2.2);
- Percentage of postpartum and pregnant women connected to mental health services when indicated (subsequent addition 1.3); and
- Early Childhood System Performance Standards (2.1).

The lack of clarity on these measures, or the desire for the measure to be more defined, suggests a need to revisit them prior to making decisions with respect to which system performance measures to pursue or drop.

Figure 10: Respondents Indicating "Don't have enough information to assess" by System Performance Measure
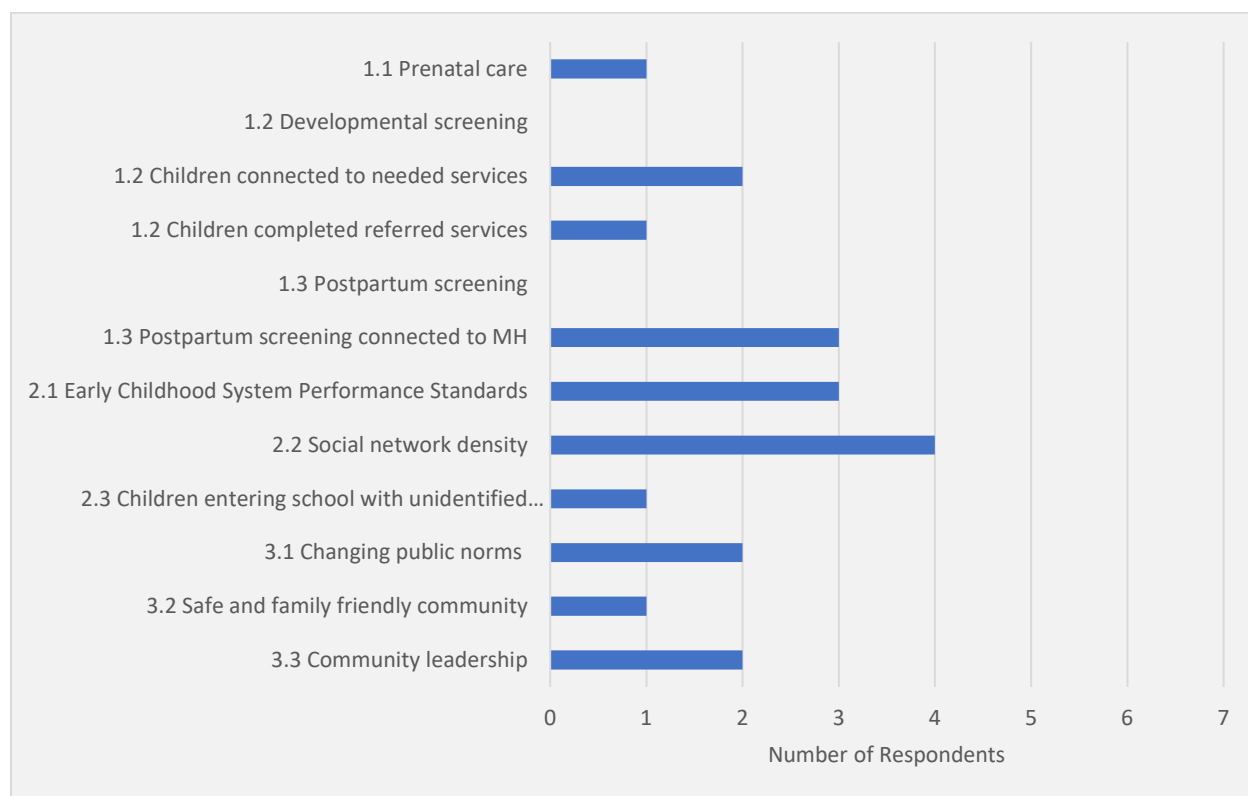
Overall System Performance Measure Assessment

When considering respondents' overall assessment of proposed system performance measures for which they felt they had sufficient information to assess, three appear strongest in terms of utility, value and data availability:

- o **1.1 Percent of pregnant women receiving prenatal care;**
- o **1.2 Percentage of young children that have received a standardized developmental screening;** and
- o **1.3 Percentage of postpartum and pregnant women screened for depression**.

However, these measures are all measures of the first value proposition, "young children and families receive services and supports to meet universal and identified needs." To ensure that all value propositions are addressed, data development efforts may be best directed at measures within the remaining value propositions of system integration (value proposition 2) and public support for early childhood (value proposition 3).

Within value proposition 2, the most promising measures, or those that required more information were:

- **Children entering school with unidentified concerns (2.3)**; and
- **Early Childhood System Performance Standards (2.1).** One respondent indicated that may be a place to think about developing measures that get at leadership, norms, social network density, etc.

Within value proposition 3, the most promising measure, or that required more information was:

- **Communities and neighborhoods are child and family friendly (3.2)**

Next Steps for Continued Progress

The RTA participants' commitment to the goal of data-driven, cross-community quality improvement bodes well for continued progress. The researchers heard from participants that they valued their participation in the RTA effort. Most, if not all, would like to continue the work. Participants communicated that the pilot results were illuminating and, in some cases, surprising. There was optimism that even results that may challenge perceptions (e.g. that a community is doing well relative to other communities, but in actuality may not be) could lead to some valuable, intentional conversations and collaboration with other communities.

In terms of continued progress, participating communities identified the following **key needs**:

- Dialogue to discuss and interpret the results with the participating communities.
- A strong understanding of what is attainable and sustainable.
- Focus on launching what we have developed to date.
- Have a clear vision for how data will be used and demonstrate that, with expectation that once this is established, support will follow.
- Continued commitment and buy-in from current sites and expanded engagement to new sites, which would be a sign of project success.
- Additional resources (human, technology, financial)

These needs reflect back on the goals and strategies of cross-community learning, public dissemination, engagement, and sustainability that were articulated at the September in-person meeting:

Project Goals
- Drive the development and use of common indicators and measures.
- Inspire public advocacy for early childhood.
- Use data to learn from other communities, share best practices, and understand outliers.
- Leverage data to show effectiveness of interventions and inform decision making.

Key Strategies
- Conduct internal data collection and quality control.
- Engage stakeholders.
- Develop a high utility dissemination plan.
- Develop customized communication products.
- Secure staff, time, and financial resources.

The table on the following page presents options for ongoing work based on the project's goals, the input of the participants, and the identified challenges and opportunities.[14]

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[14] Refer to the assessment discussion provided with each indicator's results presentation, or the assessment summary sections for specific data development recommendations, or implementation options, related to individual indicators or measures.

Figure 11: Action Items and Decision Points for Ongoing Progress on Common Indicators and Measures

Action	Decision Points
Review indicators that received mixed reviews and determine next actions	What is post-pilot consensus on which should be retained for data development or dropped? What action is needed? What resources are needed?
• Asthma Hospitalizations	(Scored lower in indicator strength and recommended for deletion by several respondents.)
• Obesity	(Scored high in indicator strength but lack of data led some to recommend deletion.)
• Quality ECE	(Scored lower in indicator strength but high for data development, perhaps suggesting momentum to pursue aspirational 2.2.)
• Read to	(Scored high in strength, low in data power, and mixed on whether it should be pursued or dropped.)
• Child Abuse Reports/Substantiated Reports	(Scored high in all areas and ready for implementation, but researchers recommend selecting one.)
• Parenting Stress Index	(More information needed about this measure as a potential replacement or addition to child abuse.)
Determine short-term data development goals and pursue	What indicators (implemented or proposed) or measures should be pursued for data development? Who will participate? What is needed? What actions are needed to develop data? Who will do them? How will progress be tracked?
Determine short-term continuous quality improvement/cross-community learning goals and pursue[15]	What is our common understanding of joint CQI? Which indicator(s) should be pursued for joint CQI? Who will participate? What is needed?
Research online platforms for potential indicators' long-term home	What are technical, human, and financial resource requirements?
Develop work plan summarizing key short-term actions (above) **and long-term actions** (potential items below)	What can be done in the coming year? What is longer-term vision and steps to achieve that vision?
• Outreach to new early learning communities	What new organizations should participate?
• Determine reporting goals	What products are needed to communicate effectively to decision makers? What messages are key? What is the vision for the indicator and measures? (e.g. Updated annually? Continuously? Printed? Online? Both?) What timeline?
• Develop communication plan	How can this collaborative engage stakeholders?
• Dialogue on sustainability	Who is champion? How will it be resourced? What are the needs?

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[15] A review of the literature on joint CQI will support this effort.

Conclusion

With this RTA project, the EC-LINC communities sought to test whether a set of common, cross-national indicators of early childhood wellbeing could be reported on an annual basis. The chief premise to be tested during the pilot implementation is whether data from disparate communities, often with variable sources, can be shown together in a meaningful way. **While results varied by indicator, the overarching conclusion is that the concept of common indicators can be successful.** Attention to lessons learned, data development objectives, and proposed next steps will increase the future success of a fully implemented common indicators project.

The participating EC-LINC communities were also successful in their effort to define system performance measures. The experimental nature of many of the system performance measures, and the concept itself, will necessitate further work to define the measures and prioritize implementation activities, but significant progress was made during this RTA project.

As data development continues, progress toward full implementation of the common indicators and system performance measures will be incremental, but important accomplishments towards improving early childhood services and outcomes can be achieved along the way. Namely, participant engagement in joint continuous quality improvement work will inform the emerging knowledge base on how common data and targeted cross-community dialogue can impact policy, systems, and services, with the end goal of improving outcomes for children and families.