

1 Reach

Young children and families receive services and supports to meet universal and identified needs

SYSTEM PERFORMANCE MEASURES FOR REACH

	Measurement	Resources needed	System stakeholder engagement	Data collection requirements	Timeframe
					Level of Effort
1.1 Early Prenatal Care					
	System's ability to meet pregnant women's universal need for prenatal care.	<ul style="list-style-type: none"> Access to vital statistics data at a regional level Data administrator 	<ul style="list-style-type: none"> None, but cross-sector engagement recommended 	<ul style="list-style-type: none"> Extant population-level data 	1 month Low
1.2 Maternal Depression					
1.2.1 Screening	System's ability to ensure all pregnant and/or postpartum mothers are screened for depression.	<ul style="list-style-type: none"> Access to population-level data, if available Access to program data Data administrator 	<ul style="list-style-type: none"> Agencies across the system (leaders, data administrators) 	<ul style="list-style-type: none"> Agency program data 	3-6 months Moderate
1.2.2 Connection to Services	System's ability to connect pregnant and postpartum women to indicated behavioral health services.	<ul style="list-style-type: none"> Access to population-level data, if available Access to program data Data administrator 	<ul style="list-style-type: none"> Agencies across the system (leaders, data administrators) 	<ul style="list-style-type: none"> Agency program data 	3-6 month Moderate to High
1.3 Childhood Development					
1.3.1 Screening	System's ability to universally screen infants and young children for developmental delay.	<ul style="list-style-type: none"> Access to vital statistics data at a regional level Data administrator 	<ul style="list-style-type: none"> Access to vital statistics data at a regional level Data administrator 	<ul style="list-style-type: none"> Access to vital statistics data at a regional level Data administrator 	1 month Low
1.3.2 Connection to Services	System's ability to connect children to indicated developmental services.	<ul style="list-style-type: none"> Access to vital statistics data at a regional level Data administrator 	<ul style="list-style-type: none"> Access to vital statistics data at a regional level Data administrator 	<ul style="list-style-type: none"> Access to vital statistics data at a regional level Data administrator 	1 month Low
1.3.3 Early Identification	System's ability to identify and respond to developmental issues early.	<ul style="list-style-type: none"> Access to early intervention and special education data Data administrator 	<ul style="list-style-type: none"> None, but cross-sector engagement recommended 	<ul style="list-style-type: none"> Population-level education administrative data 	3-6 months; Low to Moderate
1.4 Early Care and Education					
	System's ability to provide early care and education for the general population and for families with lower incomes.	<ul style="list-style-type: none"> Access to population-level data Access to program data Data administrator 	<ul style="list-style-type: none"> None, but cross-sector engagement recommended 	<ul style="list-style-type: none"> Extant population-level data State or local ECE slot data 	1-3 months Low to Moderate
1.5 Home Visiting					
	System's ability to identify the need for family support and, when needed, provide that support.	<ul style="list-style-type: none"> Access to population-level data Access to program data Data administrator 	<ul style="list-style-type: none"> Agencies across the system (leaders, data administrators) 	<ul style="list-style-type: none"> Extant population-level data Agency program data 	1-3 month Low to Moderate

1.1 Early Prenatal Care

Percentage of pregnant women receiving early prenatal care

Purpose

This measure documents how well the service system is meeting the universal need of pregnant women to receive prenatal health care in the first trimester. Collecting data by income, neighborhood, and race/ethnicity (if available) can illuminate disparities and inform policy responses.

Definition

The percentage of pregnant women who received prenatal care in the first trimester, in aggregate and by race/ethnicity, neighborhood, and/or income, when available.

Implementation

Summary of Steps

- 1. Set intention:** Consider community goals, recent efforts, and constraints related to this area as a first step.
- 2. Retrieve local data:** Obtain local aggregate and subgroup calendar year data for a 5-10-year period (smaller geographies may need to use 2- or 3-year pooled data for stability or for sufficient data strength to disaggregate by race, ethnicity, or other important categories).
- 3. Retrieve comparison data:** For comparison, obtain state and national data. Race and ethnic definitions may vary between state and national data sources.
- 4. Analyze and interpret:** Analyze and interpret the data. Consider health equity factors in your analysis if able to access disaggregated data. Consider implications related to sufficiency and adequacy in addition to timeliness if data are available.
- 5. Plan:** Determine what action should be taken as a result of the analysis and record in action planning guide.

Stakeholders

This measure can be implemented by a single agency or by a collaborative of early childhood system stakeholders. If results warrant a response, whether through policy changes, service changes, or advocacy, having a collaborative of early childhood stakeholders involved and invested in the measurement may aid the success of those responses. However, single agencies may have the influence and resources to be effective as well.

Data Sources

- ▶ County-level and state-level data are typically sourced from vital statistics databases maintained by state health agencies. In some states, data are freely available in aggregate and for

racial and ethnic subgroups through an online portal. In other states, a special request, and potentially a fee, will be required either through the state directly or through the county public health agency.

- ▶ National-level data are available from the [National Vital Statistics System](#). Early prenatal care is a [National Outcome Measure per the Title V Maternal and Child Health Block Grant](#).
- ▶ Another potential data source is post-partum surveillance survey data. A widely used data source is the Center for Disease Control and Prevention's [Pregnancy Risk Assessment Monitoring System \(PRAMS\)](#), which has data on timeliness and adequacy of prenatal care. PRAMS collects state-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy. PRAMS surveillance currently covers 47 states and about 83% of all U.S. births. While these surveillance data produce similar results as the vital statistics sources, and may include data by mothers' income, vital statistics sources are more common and are more available at the community level.

Tips For Successful Implementation

If data are available by zip code, this would provide a more precise view of areas within a community that may benefit from more focused attention or contribute to a more in-depth assessment of what may be affecting the results for that community.

Limitations

This measure analyzes the timeliness of prenatal care, looking at whether a woman accesses any prenatal care in her first trimester of pregnancy. It is neither a measure of sufficiency of care (number of visits), nor is it a measure of adequacy of prenatal care (appropriate content), which has more variation in measurement approaches and lower data availability. Regions may wish to include sufficiency and/or adequacy for their own assessment purposes.

Opportunities

Additional opportunities include the following:

- ▶ For ongoing work to build adequacy of prenatal care into the measure, users may want to investigate the suitability of the [Kotelchuck Index](#) (also called the Adequacy of Prenatal Care Utilization Index), the American College of Obstetricians and Gynecologists Standards (guidelines to perinatal care has member only access), or the [Kessner Index](#) methodologies for measuring the adequacy of prenatal care for low-risk pregnancies. User may also look at a combination of content and quantity of visits to assess adequacy.

1.2.1 Maternal Depression: Screening

Percentage of pregnant and/or postpartum women screened for depression

Purpose

Maternal depression has demonstrated negative impacts on not only the mother herself but also on her child and the family overall. The identification of this condition through universal screening is a key contribution that the early childhood system can offer beyond what an individual sector can do. In selecting maternal behavioral health with a focus on depression over other mental health conditions, the intent is not to exclude paternal mental health or other serious mental health conditions; rather, the intent is to align the measure to existing practices, which are typically focused maternal depression screening due to the strong link to child outcomes.

Definition

This measure seeks to track whether all pregnant and/or postpartum mothers are screened for depression at least once, but ideally at recommended intervals over time. Data availability is likely to be a challenge for communities. In the absence of the ideal source—unduplicated patient case records documenting prenatal and postpartum depression screening at the local level—this measure offers alternatives for measurement. An acceptable alternative is a representative self-report survey that asks postpartum mothers whether their health care provider asked them if they were experiencing prenatal or postpartum depression symptoms. While there are representative surveys that ask retrospectively about prenatal care depression screens, as of publication, a reliable survey asking about postpartum screens appears elusive.

Given the lack of universal case data and low availability of population-level data, program-level data provide the most likely source of data for early childhood systems, although these data are likely to be limited. A population-level assessment of maternal depression screening coverage will not be possible with program-level data. When program-level data are sourced to several different programs or practices, and may be duplicated, communities can focus on trend analysis instead of coverage rate.

There are a variety of maternal depression screening approaches which may be included in this performance measure. Localities may use: evidence-based screening tools; screening, brief intervention, referral to treatment (SBIRT) processes; a single question on a provider questionnaire; or a question/brief conversation between providers and patients. We encourage communities to work along two axes in making progress in maternal depression screening: 1) increasing the rigor of the screening tool/process; and 2) increasing the reach of the depression screening tool/process. This measure looks specifically at the reach of screening tools/processes.

The Data Sources and Limitations sections provide more information about the varying data sources.

Implementation

Summary of Steps

1. **Set intention:** Consider community goals, recent efforts, and constraints related to this area.
2. **Assess data availability:** Investigate whether there are maternal depression screening population-level data available

in your state or at the local level. If not, consider collecting and pooling data from service providers in your early childhood system. Since duplication is an issue with program-level data from various agencies, data sharing agreements that enable a unique identifier will reduce issues of duplication and greatly improve the value of the results. Since data from private providers or insurance companies are difficult to obtain, the data are likely to be limited to the participating agency's service population. Data may be available from Medicaid.

3. **Engage stakeholders:** For communities that will be using program-level data to measure system performance, engage with agencies from whom you would like to obtain data. Confirm and refine intentions/goals with stakeholders.
4. **Define parameters:** For communities that will be seeking program-level data from a variety of providers, quality results will depend on collectively determining what will count as a screen (e.g., use of a formal tool or a simple question about symptoms), at what intervals, and how to address potential for duplication.
5. **Retrieve or compile data:** From population-level sources, retrieve data. From program-level sources, request data. Request five years of data to enable a trend analysis.
6. **Interpret:** Analyze and interpret the data, considering data limitations such as duplication. Think about data trends and how they may be impacted by related interventions or landscape factors in your community. Consider health equity factors in your analysis if able to access disaggregated data.
7. **Plan:** Determine what action should be taken as a result of the analysis and record in action planning guide.

Stakeholders

Stakeholder engagement may not be necessary for communities that have easily accessible population-level data. For communities which seek to collect program-level data, outreach to the agencies conducting screens will be needed.

Data Sources

► Population-level

- **PRAMS:** [PRAMS](#) is a CDC sponsored, population-based random sample survey of women who have recently given birth. It provides state-level data on many topics, including maternal depression. The Phase 8 (2016) Standard PRAMS questionnaire asks, "During your postpartum checkup, did a doctor, nurse, or other health care worker talk with you about any of the things listed below?" Options include, "What to do if I feel depressed during my pregnancy or after my baby is born." This question is not on the Core PRAMS questionnaire. Consequently, not all states ask this question. Furthermore, the data are only at the state level and tend to fall short of a screen; this is because PRAMS measures whether a health care worker talked with a mother during a prenatal care visit about what she should do if she feels depressed during or after pregnancy, not whether the health care worker asked if she was

experiencing depression symptoms at the time of the survey (post-partum).

- California’s Maternal and Infant Health Assessment (MIHA) or similar: [MIHA](#)—an annual statewide representative survey of postpartum women in California—asks whether a health care worker ever asked the mother during a prenatal care visit if she felt depressed. This data source stopped asking this question as of 2014 but added it back in the 2018 survey questionnaire, along with questions about connection to services when indicated by screening or assessment. Non-California based early childhood systems can investigate whether their state or region has a similar survey.
- ▶ **Program-level:** Client data from programs, agencies/ organizations, or systems that conduct maternal depression screens. Program-level data will be more readily available for states implementing the U.S. Department of Health and Human Services, Health Resources & Services Administration’s Screening and Treatment for Maternal Depression and Related Behavioral Disorders Program (FL, KS, LA, MT, NC, RI, and VT).

Limitations

While some states will continue to have state-level population-level maternal depression screening data going forward, data at the local level is likely to remain problematic in many states. Current characteristics of data quality include the following:

- ▶ Program-level data is likely to be duplicated.
- ▶ Programs included in program-level data may vary across years due to changes in funding, service delivery, and reporting.
- ▶ Definitions of what constitutes a “depression screen” may vary, from a single question to an entire assessment.
- ▶ Population-level data use slightly different questions and are mostly only available at the state level.
- ▶ Population-level data may not offer reliable results, as mothers surveyed after the birth of their child may forget whether they were asked about mental health during a prenatal care visit.

Opportunities

Additional opportunities include the following:

- ▶ Analyze program data from Screening and Treatment for Maternal Depression and Related Behavioral Disorders Program grantee states.

- ▶ Research recommended intervals (e.g., prenatal, in-hospital, postnatal to 6 months, etc.) and/or intervals for which there are commonly data. Use this research to define the measurement timeframe. The Bright Futures/AAP Periodicity Schedule recommends maternal depression screening during well baby checks by 1 month and at 2, 4, and 6 months (see Resources above).
- ▶ Consider whether prenatal screens should be included in the measure, or if the measure should focus on postpartum screening.
- ▶ In a growing number of states, postpartum maternal depression screening may be conducted and covered under the child’s Medicaid, regardless of the mother’s insurance status; in these states, Medicaid data may provide a rate of screening for mothers, though it would be for lower-income women only.
- ▶ Test adding postpartum depression screening questions to the Ages and Stages Questionnaire (ASQ), or otherwise connect maternal screening to well-baby checks.
- ▶ Advocate for local level depression-screening data, such as adding maternal screens to existing immunization or developmental screening registries.
- ▶ Research which states or localities have maternal and infant health survey’s similar to the MIHA, which ask about depression screening based on PRAMS or similar surveys.

Resources

- ▶ [Screening for Perinatal Depression](#), the American College of Obstetricians and Gynecologists
- ▶ [Patient Health Questionnaire \(PHQ-9\)](#), Substance Abuse and Mental Health Services Administration
- ▶ [Bright Futures/AAP Recommendations for Preventative Pediatric Health Care \(Periodicity Schedule\)](#), which includes recommended intervals for maternal depression screening.
- ▶ Incorporating Recognition and Management of Perinatal and Postpartum Depression Into Pediatric Practice, Earls, MF. and The Committee on Psychosocial Aspects of Child and Family Health. Pediatrics, November 2010, volume 216, issue 5.

1.2.2 Maternal Depression: Connection to Services

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

Purpose

While screening is a necessary first step, its value can only be realized if mothers with an indicated need are successfully connected to services that can help them and, by extension, their children. This measure provides communities an opportunity to look at how frequently pregnant and postpartum women access needed behavioral health services once the need has been identified. This can open up important conversations about how care is coordinated when screenings and assessments indicate the need for behavioral health care, how data are shared between provider types/systems, whether there are variations in access to care in particular geographic areas or among population groups, and the impact on women's and children's outcomes.

Definition

Maternal connection to mental health services is defined by dividing the number of pregnant or postpartum women with young children who are connected to services for depression (the numerator) by the number of women with identified needs for such services (the denominator). *Indication of need* is defined as those who score at-risk for depression on a screening tool or are recommended by a health care professional to seek care. What is considered "at risk" will vary by screening tool. *Connected to services* is defined as the completion of the initial in-person contact that includes the completion of intake and written consent of services.

Limitations

Most of the data limitations discussed in the previous maternal depression screening measure apply to this measure as well. Data are generally only available at the program level and may be duplicated. In 2018, California's Maternal and Infant Health Assessment ([MIHA](#)) survey added questions to assess connection to behavioral health services for pregnant and postpartum women. Similar statewide surveys may increase the availability of population-level data for this measure.

Opportunities

Additional opportunities include the following:

- ▶ Analyze program data from [Screening and Treatment for Maternal Depression and Related Behavioral Disorders Program](#) grantee states.
- ▶ Strengthen definition of what qualifies as connection to services, including the timeframe and whether the verification of connection to services will be more passive (some level of confirmation from client) or more active (confirmation with a service provider).
- ▶ Analyze the full process of screening, referral to treatment, connection to services, and completion of services to better understand system performance.
- ▶ Investigate opportunities with state-level surveys to collect population-level data for this measure.

1.3.1 Child Development: Screening

Percentage of young children who have received a standardized developmental screening

Purpose

Early identification of developmental delays through universal screening at recommended intervals is a key contribution that the early childhood system can offer.

Definition

This measure is the count of children who have received a developmental screening at a determined age, divided by the number of children that age to provide a rate of screening coverage. Similar to maternal depression screening, the ideal source would be unduplicated patient case records for all children documenting developmental screening at the appropriate intervals. Since this source is not available in many communities, this measure offers alternatives for measurement. First, communities may want to investigate the availability of Medicaid data; this would not offer a universal assessment, but it would be a strong source for screening rates among lower income children.⁵ Second, population-level survey data that measure whether a child has ever been screened is an option for communities that have this type of survey (see next paragraph). Finally, program-level data are an option. Program-level data are generally limited to counts (there is no denominator to calculate a rate) and they can be sourced to several different programs or practices. As a result, if the agencies do not have data sharing or alignment agreements, the counts may be duplicated. Where an unduplicated rate is not possible, communities can measure change in the number of screenings administered (rather than the number of children screened).

Population-level data are based on survey data, presented as rates of children screened, and reflect varying age ranges and universes of children. For example, the denominator for the National Survey of Children's Health, which is the source for the Title V Child and Maternal Health National Performance Measures, is "Children age 10 months through 71 months who had a health care visit in the past 12 months." The California Health Interview Survey asks parents of children ages 1 year or older (with the ability to retrieve data limited to children ages 1-5) whether the child's "doctor, other health providers, teachers or school counselors" ever asked the parent to fill out a checklist.

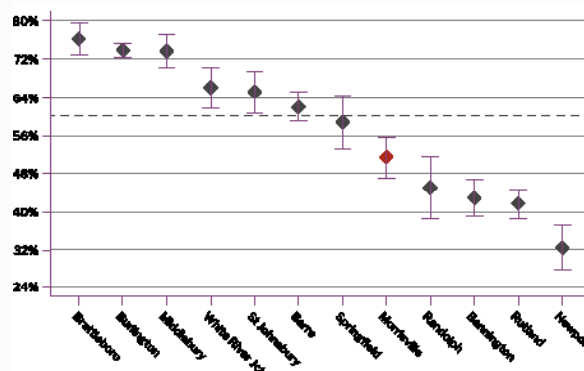
There are a variety of developmental screening approaches which may be included in this performance measure. Communities may use: evidence-based screening tools (which may be used with some provider types and not others); a single question on a provider questionnaire; or a question/brief conversation between providers and families. We encourage communities to work along two axes in making progress in children's developmental screening: 1) increasing the rigor of the screening tool/process; and 2) increasing the reach of the developmental screening tool/process. This measure looks specifically at the reach of screening tools/processes from the perspective of children screened.

Data are generally not available by race/ethnicity or income but may be available in some communities.

Example from the Field

In Vermont, community health profiles are built from health insurance claims from all public insurers and the state's major commercial insurers. This enables the state to track what proportion of continuously enrolled children are screened for risk of developmental, behavioral, and social delays using a standardized screening tool in each of the first three years of life. The hot linked thumbnail of the chart below provides the data for each of the state's hospital service areas; the blue dashed line indicates the statewide average. More information can be found at [Vermont Blueprint for Health](#).

Developmental Screening in the First Three Years of Life, by Hospital Service Area, Vermont, 2016/17



Additionally, the **Universal Developmental Screening (UDS) Registry**, which was added to the Vermont department of health's immunization registry, provides a statewide, cross-sector data collection system and communication tool for early care, health, and education to share results and connect families to the resources and services they need for optimal early development. Early care providers enter screening results and pediatricians are compensated to review the results, which leads to improved connection to services and reduces duplication.

Implementation

Summary of Steps

- 1. Set intention:** Set intention: Consider community goals, recent efforts, and constraints related to this area as a first step.
- 2. Assess data availability:** Investigate whether your state or region has universal developmental screening patient case level data or, barring that, population-level data through a survey. If neither, consider collecting and pooling data from

⁵ This data source was not researched or piloted by this initiative.

service providers in your early childhood system. This may be medical providers, or it may include other entities that conduct screenings, such as home visitors or early childhood education providers. Since duplication is an issue with program-level data from various agencies, data sharing agreements that enable a unique identifier will reduce issues of duplication and greatly improve the value of the results. Since data from private providers or insurance companies are difficult to obtain, the data are likely to be limited to each provider's service population. Medicaid data may be available.

3. **Engage stakeholders:** For communities that will be using program-level data to measure system performance, engage with agencies from whom you would like to obtain data. Confirm and refine intentions/goals with stakeholders.
4. **Define parameters:** For communities that will be seeking program-level data from a variety of providers, quality results will depend on collectively determining what will count as a screen, intervals, how to address duplication, etc.
5. **Retrieve or compile data:** From population-level sources, retrieve data. From program-level sources, request data. Request five years of data to enable a trend analysis.
6. **Interpret:** Analyze and interpret the data, considering data limitations such as duplication. Think about data trends and how they may be impacted by related interventions or landscape factors in your community. Consider health equity factors in your analysis if able to access disaggregated data.
7. **Plan:** Determine what action should be taken as a result of the analysis and record in action planning guide.

Stakeholders

Stakeholder engagement may not be necessary for communities that have easily accessible population-level data. For communities which seek to collect program-level data, outreach to the agencies conducting screens will be needed.

Data Sources

- ▶ Population-level data: Health assessment surveys may include questions about developmental screening, such as the National Survey of Children's Health and the California Health Interview Survey, although the questions vary and data may not be available at the local level.
- ▶ Program-level: Client data from programs or agencies that conduct developmental screens.

Limitations

Data quality is limited by several issues:

- ▶ Program-level counts may be of screens conducted, not of children screened, and therefore may be duplicated.
- ▶ Data may not be consistently available across all regions for the same year.

- ▶ Programs included in program-level data may vary across years.
- ▶ The age range and timeframe may vary depending on the data source.

Opportunities

Additional opportunities include the following:

- ▶ The Medicaid and CHIP Child Core Health Care Quality Measurement Set includes a measure for a child developmental screening within the first three years of life, which could provide a population-level measure for lower-income children.
- ▶ The age intervals for screenings are currently undefined in this measure. For communities with the data to support measurement at age intervals, the Bright Futures/American Academy of Pediatrics Periodicity Schedule is a commonly used schedule. It recommends screenings at 9, 18, and 30 months with autism-spectrum screening recommended at 18 and 24 months.
- ▶ Communities pursuing this measure using program-level data should consider setting parameters like age range, timeframe, what qualifies as a screen, and so on to improve the quality of results.
- ▶ Local client data sharing or a unique identifier would improve quality of program-level data by addressing duplication issues.
- ▶ The addition of developmental screening questions to local surveillance surveys, following a national model like the National Survey of Children's Health, would improve data availability and cross-community learning.

Resources

- ▶ [Help Me Grow National](#)—The Help Me Grow system is designed to help states and communities leverage existing resources to ensure communities identify vulnerable children through the use of valid developmental screening tools, link families to community-based services, and empower families to support their children's healthy development.
- ▶ [Project LAUNCH](#) (Linking Actions for Unmet Needs in Children's Health) is an example of an initiative increasing the use of valid developmental screening tools and protocols. Communities implementing Project LAUNCH are working in a range of child-serving settings to universally screen children birth through age 8 for developmental and behavioral needs, using consistent, evidence-based screening tools and processes at regular intervals. LAUNCH is also focused on ensuring screening is followed by appropriate referrals, follow-up, and ongoing care coordination.
- ▶ [Ages and Stages Questionnaires](#)

1.3.2 Child Development: Connection to Services

Percentage of young children with identified concerns who are connected to services

Purpose

As important as screening is to identify developmental needs or delays, its value can only be realized if children with identified needs are successfully connected to services that help meet those needs. Measuring connection to services can open up opportunities for important conversations about: how children access needed developmental and behavioral health services, particularly in underserved areas; how care is coordinated when screenings and assessments indicate the need for early intervention services; how data are shared between provider types/systems; and the impact on children's outcomes.

Definition

Children's connection to developmental services is defined as the percentage of children with identified developmental concerns that were referred to and connected with related supports. (Count of young children connected to supports divided by the total number of children identified with developmental concerns.) Indication of need will vary by screening tool. Connected to services is defined as the completion of the initial in-person contact that includes the completion of intake and written consent for services.

Many of the data limitations discussed in the children's developmental screening measure apply to this measure too. Data in most places are available only at the program level and may be duplicated. To get good

data at the program-level, programs need to be able to track clients after a developmental screening. A unique identifier and/or data sharing would facilitate this tracking. Communities with a referral infrastructure, such as a data system that tracks referrals across different types of providers in the early childhood system, will be most successful at using this measure.

In the absence of a universal identifier linking case records, the workgroup expressed a preference for population-level data, which could be attained through state-level surveys asking parents about developmental screening, referrals, and connections to services. These data are generally not available at this point.

Opportunities

Additional opportunities include the following:

- ▶ Analyze program data from Health Resources and Services Administration's [Pediatric Mental Health Care Access Program](#) grantee states.
- ▶ Clarify ambiguity around distinctions between referrals, connection, and uptake of services.
- ▶ Analyze the full process of screening, referral to treatment, and connection to services to better understand system performance.
- ▶ Investigate opportunities with state-level surveys to collect population-level data for this measure.

1.3.3 Child Development: Early Identification

Percentage of children needing selected special education services in kindergarten who were not identified and connected to services prior to kindergarten⁶

Purpose

This measure provides insight into how well the service system identifies and responds to children's developmental needs. Children's developmental delays can be addressed best when they are discovered early. Identifying and addressing developmental needs prior to school entry leads to children being more likely to enter school ready to learn and succeed.

Definition

This measure estimates the percentage of five-year-olds (kindergarteners, up to age six) receiving special education services who were not receiving special education/early intervention services at age three.⁶ Because many systems do not have unique identifiers for students spanning early childhood and school age databases, this measure proposes the use of cohort-level data. A cohort is a group of students that can be tracked as they advance through school. For example, five-year old kindergarten students in 2018 are the same cohort as three-year-old preschool students in 2016. When using cohort-level data, the data will include "noise," including: children who moved in or out of the cohort; children who received services at age three but no longer needed them at age five; or children who received services at age three and age five but who moved into the cohort at age four and so would appear unidentified. Since pilot results revealed a significant proportion of children receiving special education services in kindergarten who were not identified at age three, this noise is unlikely to be significant enough to create issues with interpretation. As the proportion shrinks, higher quality, student-level data may be necessary. Movements toward unique student identifiers by state departments of education and early care and education data systems could provide the opportunity for student-level data in the future.

For this measure, it is recommended that communities choose to look specifically at receipt of services for *Speech and Language Impairment* and *Autism* because we expect these two disabilities to be identified in children by age three. However, diagnoses selected for inclusion may vary by location. For example, age may vary, and disability categories used may vary, and communities with smaller populations may show very little data for privacy reasons.

Numerator: Number of three-year-olds receiving special education services for Autism or Speech and Language Impairment

Denominator: Number of six-year-olds receiving special education services for Autism or Speech and Language Impairment

Numerator/Denominator: Equals the percentage of three-year-olds receiving services at age five; to calculate unidentified/untreated, we subtract the percentage from one

Formula: $1 - (\text{numerator}/\text{denominator})$

Data Notes: Communities should use a "cohort comparison" to look at roughly the same group of children over time. For instance, for school year 2016/17, pull 2016/17 data on five-year-olds and 2013/14 data on three-year-olds.

Implementation

Summary of Steps

- ▶ **Set intention:** Consider community goals, recent efforts, and constraints related to this area as a first step.

Alternative Definition for Communities with Kindergarten Readiness Surveys

Percentage of kindergartners whose teacher believes they have developmental needs but they do not have an individualized education program (IEP).

Numerator: Number of children with an IEP

Denominator: Number of children whose teacher believes have a developmental need

Numerator/Denominator: Equals the percentage of children with a teacher-identified developmental need who have an IEP.

Formula: $1 - (\text{numerator}/\text{denominator})$

- ▶ **Obtain data:** Depending on data availability by state, these data may be readily available, or they may require a special request from the state department of education. While data availability by type of disability may vary by community, at minimum, communities should strive to include data on children receiving special education services for Autism or Speech and Language Impairment since children should be identified by age three for these disabilities. Request or obtain data that enables a "cohort comparison" (e.g., for school year 2017/18, pull 2017/18 data on the number of six-year-olds and 2014/15 data on the number of three-year-olds).
- ▶ **Interpret:** Analyze and interpret the data, considering data limitations such as duplication. Think about data trends and how they may be affected by related interventions or landscape factors in your community. If the gap is large or small, consider what is contributing to this—what are your screening rates, and what other data can be used to make

⁶ While most measures in the toolkit are intentionally framed in positive terms, in this instance we have made an exception; our pilot showed that the measure was more easily understood when framed as the proportion of children the system missed prior to Kindergarten, as opposed as the proportion of children the system identified early, before kindergarten.

sense of these results? Consider equity factors in your analysis if able to access disaggregated data.

- ▶ **Plan:** Determine what action should be taken as a result of the analysis, and record in action planning guide. Use this assessment as an entrée to a larger conversation to support system building between providers serving very young children and school-age educators/providers.

Stakeholders

This measure uses secondary, existing data sources, so does not require primary data collection. Stakeholder involvement to implement the measure is limited to the data analyst in the investigating agency. However, because data sources vary by state, there may be a need to request data from a state department of education on special education enrollment by age and disability.

Interpreting and responding to the results could involve a variety of stakeholders, including early intervention programs, health departments, early education and care providers, education departments, early childhood collaboratives, parent advisory groups, and others.

Example from the Field

The table below provides an example of the components that go into the measure and how the results are presented as a calculated percent.

Percentage of Kindergarteners Unidentified, 2012/13-2016/17

	# 3YO	# 6YO	% Unidentified
2012/13	559	1077	48.1%
2013/14	494	1116	55.7%
2014/15	529	981	46.1%
2015/16	548	939	41.6%
2016/17	571	954	40.1%

Data Sources

The data source is the state department of education, or kindergarten readiness survey for those using the alternative measure.

Limitations

There are considerations associated with this measure:

- ▶ State department of education data do not include: 1) children who are receiving private services only; 2) children who need but don't qualify for services; and 3) children who were in the district at age three but not age five (and vice versa).
- ▶ Without unique student identifiers, "noise" in the cohort data will limit a community's ability to see where the system succeeded by addressing identified developmental issues early, such that the children do not need special education services by the time they reach school.
- ▶ States may differ in terms of what agency is responsible for early intervention services. If this agency is not the department of education, or is not linked to the department of education, data for children at age three may not be available.

Opportunities

Additional opportunities include the following:

- ▶ Movements toward unique student identifiers by state departments of education and early care and education databases could provide the opportunity for student-level data in the future.
- ▶ Expansion of the use of kindergarten readiness surveys would offer more opportunities to use the alternative measure based on a kindergarten readiness survey.

Resources

- ▶ [California Department of Education DataQuest](#)—Communities that would like to see how data are presented by one state can examine the California Department of Education data portal, DataQuest. Select a geography (from statewide to individual schools), and then select Special Education from the Subject dropdown menu. Data can be presented by age, disability, grade, and race and ethnicity. Early intervention data are integrated with K-12 data, enabling the comparison presented in this measure.

1.4 Early Care And Education

Percentage of infants, toddlers, and preschool age children with access to early childhood care and education services

Purpose

This measure looks at the ability of families to access early childhood care and education (ECE) for their children across a variety of options. Communities may choose to focus specifically on underserved children as defined locally, income-eligible children, infants and toddlers, or children of working parents. The goal of this measure is not to have capacity for 100 percent of children to be served or for all children to attend formal, high-quality childcare centers, but rather it is to have the capacity throughout the system to meet families' needs and preferences.

Definition

This measure looks at the overall capacity of the early childhood care and education system to serve children birth through five years old or kindergarten entry. The numerator is the ECE system capacity, which can be calculated as the total number of licensed spaces in a community. The denominator is the number of children birth through age five in the community, which can be determined using population-level census data or live births from vital statistics data.

Communities may choose to focus on specific populations or areas of interest, including:

- ▶ **Infant/toddler capacity vs. preschool capacity:** Data can be broken down by age, such as the number of infant licensed slots divided by the number of live births in one year, or the number infant/toddler slots divided by the number of live births over three years.
- ▶ **Child care subsidy capacity:** This can be measured by the number of families receiving a child care subsidy divided either by the number of families falling within local income guidelines (often 200 percent of the Federal Poverty Level) or by the number of families on a waiting list for a subsidized slot.

- ▶ **ECE capacity for working families:** This would use overall ECE capacity as the numerator and the number of families with working parents (one or two depending on family structure) as the denominator.
- ▶ **High-quality capacity:** In addition to overall capacity, communities may choose to assess the availability of high-quality childcare by only including quality-rated slots in the numerator.

Most communities will not be able to include unlicensed/unregulated providers such as family, friends, neighbors, and nannies in their calculation, though some may have data from other sources about how many families are using this type of care. The extent to which ECE providers are unlicensed/unregulated varies based on child care statutes, regulations, and policies. In some states, this may comprise over half the ECE delivery system capacity.

Communities may also be interested in looking at use of ECE versus the capacity of the system. One approach to calculating this for low-income children is to calculate the gap between the number of children using child care subsidies compared to the number of income eligible children. If looking at care use or waiting lists across the mixed delivery system, program-level data may include duplication when children receive care in multiple settings, unless using unique identifiers. Some states have developed ECE data systems, use evaluators to de-duplicate data, or use K-12 longitudinal data systems to track children attending child care.

Opportunities

Additional opportunities include the following:

- ▶ Movements toward unique child identifiers by state departments of education and ECE databases could provide the opportunity for individual-level data in the future.
- ▶ Correlating data associated with ECE access, the quality of the ECE providers, and children's outcomes as measured in kindergarten transition domains can help to show the relationship of interventions to child outcomes.

1.5 Home Visiting

Percentage of families with young children with access to home visiting services

Purpose

The ability to identify and support families in need is a key contribution of an early childhood system. Ideally, this measure would gauge how well the system is identifying the need for family support and, when indicated, providing that support. While data limitations may not make that particular analysis possible at this time, many systems can track the availability of home visiting services, which research has demonstrated positively impact outcomes for families and children. The goal of this measure is to understand a community's capacity to deliver home visiting services. These data can be compared with the community-defined need or demand for home visiting services, which may be based on risk factors or results of bedside screens following the birth of a child.

Definition

This measure compares the availability of home visiting services in a community compared to the number of live births. The numerator

is the number of maternal and infant home visiting slots, and the denominator is live births. While some home visiting programs offer services to families with toddlers or older children, the majority of home visiting is offered to pregnant women and families with newborns or infants, making the number of live births a reasonable estimate of the number of families potentially eligible for home visiting services. In communities that do universal bedside screens, the denominator can be the number of families screened as eligible and/or in need of home visitation.

As with ECE capacity, the goal is not universal services. The need or demand for home visiting services will be defined differently by communities. Some may define risk factors through indicators such as poverty, education level, or native language, and use population-level data (e.g., birth records) to calculate the population for which home visiting services may be targeted. Others may conduct infant or maternal risk screenings to determine who would benefit from home visiting. Others may want to broaden this to capture additional parent support services.