Prenatal-to-Three Outcomes Framework

Data Guidebook

National Collaborative for Infants & Toddlers
Powered by the Pritzker Children's Initiative

Child TRENDS

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THE IMPACT OF THE PRENATAL THROUGH THREE YEARS

The developmental period extending from prenatal to age three[1] provides the foundation for children's school readiness, health, and well-being. The experiences and relationships children have in their earliest years hold great potential for shaping their future, but can also create vulnerabilities if they do not receive the care and support that helps them flourish. Ensuring that infants, toddlers, and their families have access to community resources, opportunities for economic security, and intensive services when necessary, including high-quality early care and education, is a sound investment in children's success in school and life.

Communities with effective programs and policies for young children acknowledge the unique and diverse needs of infants and toddlers. Their development is characterized by rapid growth, which occurs at different rates for different children.[i]

Development is directly influenced by families, caregiving environments, and communities, and even the youngest children play an active role in shaping their experiences and interactions. Early and regular screening and assessment can help identify areas of concern and promote the connection of children and families to coordinated services. More intensive supports and positive relationships are especially critical for children who have experienced trauma and other threats to healthy development.

SELECTING CORE INDICATORS FOR THE PRENATAL-TO-THREE OUTCOMES FRAMEWORK

The National Collaborative for Infants and Toddlers (NCIT) aims to support infants, toddlers and their families by changing the national dialogue, as well as shaping state and community policies and investments concerning young children. The Collaborative's vision over the next five years is to reach children whose healthy development is at risk, and ensure they are provided with core supports that help them thrive — physically, socially, emotionally, and cognitively — by age three.

Well-chosen indicators and a strong data infrastructure are critical components of a prenatal-to-three initiative. Indicators chart progress and identify areas of persistent challenge.

The selection and development of the indicators for the Prenatal-to-Three Outcomes Framework prioritized the following criteria:

- Research-based, valid data that can be tracked regularly over time
- Indicators that are comparable and reliable across communities and diverse families
- Indicators that are sensitive to interventions

Additionally, indicators were selected if
- Evidence connects the indicator to school readiness foundations and essential supports
- Valid measures or data are available and/or data collection is feasible
- The indicator is relevant to communities, families, and stakeholders

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1   Children "prenatal to age three" is defined as children up to one day before their third birthday.

NCIT identified a primary goal of children thriving developmentally at age three, as well as the following sub-goals:

- **Healthy Beginnings**: Pregnant women and young children are healthy.

- **Supported Families**: Children live in safe, stable, and nurturing families and communities.

- **Quality Care and Learning**: Children are cared for in high-quality settings that support their social, emotional, and intellectual development.

Within each goal-area, indicators chart progress toward school readiness and well-being for infants and toddlers. In addition to tracking indicators at a national, state, and community level, it is important to disaggregate indicators by population characteristics that may reveal disparities in outcomes. When possible, indicators for the NCIT will be reviewed by:

- Child's race/ethnicity

- Child's immigration status

- Child's language

- Household income, including <50 percent of poverty level, poverty, 200 percent of poverty level, and >200 percent of poverty level

THE DATA GUIDEBOOK

The purpose of the Data Guidebook is to provide additional information on each of the outcomes and indicators that the NCIT and its partners[2] identified as important for supporting families and children from prenatal to three. While there are many important indicators of children's well-being, these have been specifically identified as ones that are critical to assessing children's healthy development at age three. Indicators are typically used to assess population-level well-being, rather than individual well-being. It is important to note that communities may be collecting data and tracking outcomes using a range of indicators in addition to the ones identified here. This guidebook is intended to help support communities interested in tracking outcomes for children by providing recommendations and guidance on how to collect and assess indicator data. The Data Guidebook will be revised and updated on an ongoing basis as new data become available, and to ensure that it is useful in supporting the work of communities.

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2   Partners include Child Trends, Center for the Study of Social Policy (CSSP), StriveTogether, National Institute for Children's Health Quality (NICHQ), National Association of Counties Research Foundation, and National League of Cities Institute

The guidebook is organized according to the three recommended goal areas: Healthy Beginnings, Supported Families, and Quality Care and Learning.

For each of the goal areas, we have identified specific outcomes and indicators for achieving these goals. Additionally, the indicators are grouped by three levels. The initial level includes prenatal-to-three systems indicators, which provide a foundation and infrastructure needed to support young children. The second level includes program-and-policy expansion indicators which identify programs and services families should have access to in a community. The third and top levels present child-and family outcomes indicators focused on specific areas of well-being.

Please note that communities may be engaging in additional activities or using other indicators to achieve these three main goals. However, this Guidebook is intended to provide information specifically on those that the NCIT and its partners have identified as core indicators of school readiness by age three.[3] Each indicator is presented along with the following:

• An operational definition
• A research rationale describing the importance of the indicator in supporting families and children prenatal-to-three
• National and state-level estimates[3] that capture data related to these indicators
• Estimates[4] for other community-level populations, such as organizations (e.g., city or state agencies,

programs) that may already be collecting these data. When community-level data are not available, suggestions are provided for how a community could obtain data on the indicator are provided.

• Suggestions for developmental implementation of the program-and-policy expansion indicators

It is important to note that these indicators cover a range of programs, services, and measures used to support young children and their families. Indicators can be thought of as either "ends" (e.g., child or family well-being), or "means" to those ends (e.g., measures of program outputs or activities). Therefore, while most of the indicators are measured at the child level, some indicators are measured at different levels such as parent, family, teacher/caregiver, or even child care program. Figure 1 depicts the overarching Outcomes Framework that guided the selection of the indicators identified in Tables 1–4. The indicators are organized by the 1) prenatal-to-three system tools necessary to support children's development; 2) the programs and policies necessary to ensure families have access to needed supports; and 3) the child and family outcomes that support healthy development at age three. Supporting this framework is the underlying belief that, with a focus on equity, states and communities can build and sustain locally responsive systems, programs, and policies that meet the needs of infants, toddlers and their families.
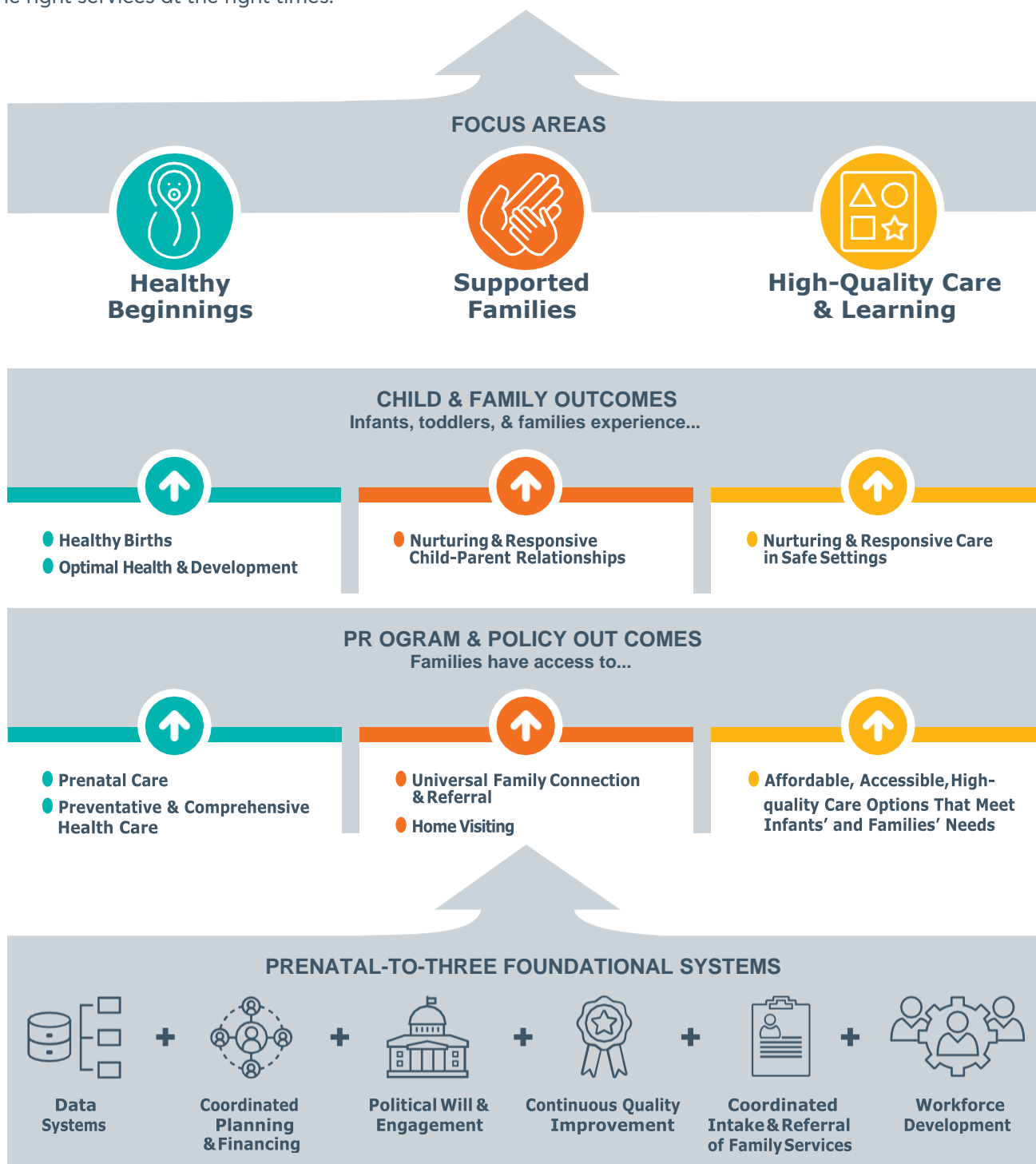
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[3] These sources include national- and state -level estimates that capture data related to these indicators that communities could compare themselves to when applicable. Sources listed here include either original data sources or national organizations that have already compiled national or state level data for others to use.

[4] Community level data sources include datasets, registries, or other resources or agencies that are already collecting the information.

FIGURE 1: MEASURING SUCCESS: HEALTHY CHILD DEVELOPMENT BY AGE THREE

With a focus on equity, states and communities can build and sustain locally responsive programs, policies, and systems that meet the needs of infants, toddlers, and their families. Policy outcomes support child and family outcomes, and prenatal-to-three systems create a sustainable infrastructure to ensure families get the right services at the right times.

FOCUS AREAS

Healthy Beginnings

Supported Families

High-Quality Care & Learning

CHILD & FAMILY OUTCOMES
Infants, toddlers, & families experience...

- Healthy Births
- Optimal Health & Development

- Nurturing & Responsive Child-Parent Relationships

- Nurturing & Responsive Care in Safe Settings

PR OGRAM & POLICY OUT COMES
Families have access to...

- Prenatal Care
- Preventative & Comprehensive Health Care

- Universal Family Connection & Referral
- Home Visiting

- Affordable, Accessible, High-quality Care Options That Meet Infants' and Families' Needs

PRENATAL-TO-THREE FOUNDATIONAL SYSTEMS

Data Systems + **Coordinated Planning & Financing** + **Political Will & Engagement** + **Continuous Quality Improvement** + **Coordinated Intake & Referral of Family Services** + **Workforce Development**

TABLE 1: COMMUNITY PRENATAL TO THREE SYSTEMS: PROGRESS INDICATORS

SYSTEM COMPONENTS	Progress Indicators		
	PLANNING	IN PROCESS	ADVANCED IMPLEMENTATION
Data Systems	Scan existing data sources, potential and process for creating linkages; Develop data governance team or structure	Develop plans for cross-sector data system integration and initial use of data to inform decision making	Invest in an integrated data system that allows for examination of cross- sector service use and outcomes over time
Coordinated Planning and Financing	Conduct community assessment, vision setting, leadership support and capacity building Identify funding gaps and opportunities	Establish prenatal-to-three governance and cross-system metrics Document funding streams and funding shortfalls for child family support services Invest in monitoring and addressing disparities	Secure new and leverage existing funding streams for child and family support services
Political Will and Engagement	Engage prenatal-to-three (PN-3) key stakeholders, champions, and funders	Engage in prenatal-to-three advocacy efforts, marketing and communication	Commit resources to prenatal-to-three priorities Develop plan for sustained investment
Continuous Quality Improvement	Engage stakeholders to identify PN-3 systems strengths and challenges, including issues of equity	Use data to examine challenge(s) and track progress towards improvement	Develop a community wide continuous quality improvement plan, and a plan to sustain improvements
Coordinated Intake and Referral of Family Services	Develop a collaborative network of early childhood services Identify models for coordinated intake	Develop policies, procedures and technology solutions related to data entry and sharing	Launch coordinated intake and referral system
Workforce Development	Engage stakeholders to identify PN-3 workforce needs, strengths, and challenges	Assess strengths and gaps in current workforce policies and practices, (i.e., professional standards, career pathways, articulation, financing, and data availability); Develop specific goals related to the workforce	Implement targeted strategy(ies) to address identified PN-3 workforce development goals and needs

TABLE 2: PROGRAM AND POLICY EXPANSION INDICATORS

Families have access to…

OUTCOMES	Prenatal Care	Preventative and Comprehensive Health Care	Universal Family Connection and Referral Home Visiting	Affordable care options that meet infants', toddlers' and families' needs
INDICATORS	Increases in: • People receiving timely prenatal care	Increases in: • Children who have access to a medical home and/or receive regular well child visits • Families with access to mental health services • Children receiving developmental screening and referral	• Implementation of a universal family connection and referral strategy (such as Family Connects), which provide initial screening and referrals for maternal depression, early care and education, and child health and developmental services to all newborns in a community • Increased availability of evidence-based home visiting models that are designed to provide ongoing supports to newborns who have been identified by specific risk factors such as having a first- time teen mother or children who are at-risk for abuse and neglect	• Access to affordable care in settings meeting the recommended guidelines for: – Caregiver: child ratios – Caregiver competencies – Developmentally appropriate activities and curriculum – Health and safety provisions – Linkage to child and family supports and resources • All infant and toddler teachers and caregivers have opportunities to build competencies through education, training, coaching, and other effective forms of professional learning that are appropriate for the setting of care • Financial supports and incentives are provided to increase the viability of infant and toddler caregiving as a career • The family share of care is less than 7% of household income

TABLE 3: CHILD AND FAMILY OUTCOMES

Infants, toddlers, and families experience…

OUTCOMES	Healthy Births	Optimal Health & Development	Nurturing and Responsive Child-Parent Relationships	Nurturing and Responsive Care in Safe Settings
INDICATORS	Reduced incidence of: • Low birth weights • Pre-term births • Prenatal exposure to drugs/alcohol/smoking	Increases in: • Children who have received the appropriate services identified by screening • Children who have a healthy BMI • Children who are reported to be in good or excellent health	Increases in: • Children who receive warm, attentive and responsive caregiving • Children who benefit from regular reading and storytelling Reduced incidence of: • Maternal depression • Parenting stress • Incidence of abuse and neglect	Increases in: • Children who experience interactions with teachers and caregivers who respond to children's individual needs and promote their self-regulatory skills • Children who experience language-rich environments that stimulate their learning and engagement Reduced incidence of: • Children's injuries, death, and health issues

TABLE 4: LONG-TERM GOAL:
HEALTHY CHILD DEVELOPMENT AT AGE THREE

OUTCOMES	**Children are developmentally 'on track' for school readiness**
INDICATORS	Increased reports of children who are on track (i.e., not 'at risk') in a comprehensive assessment of development that includes the following domains: • Cognition and knowledge • Language and literacy • Social-emotional • Gross and fine motor

PROGRAM AND POLICY EXPANSION INDICATORS

INDICATOR	INCREASES IN PARENTS WHO RECEIVE TIMELY PRENATAL CARE
Definition	Late or no prenatal care is defined as care received only in the third trimester of a pregnancy or not at all. This indicator, measured at the parent level, can be calculated as the number of people who report they received prenatal care starting in their first or second trimester, divided by the total number of people who have given birth in the last year in a state/community.
Research Rationale	Prenatal care is important for both the health of the baby and the parent. Receiving late or no prenatal care is more likely to result in health problems for babies. A lack of receipt of prenatal care is linked to a three-fold increase in low birthweight, as well as a five-fold increase in infant death.[i] However, some health researchers have concerns about the value of prenatal care as an indicator. People who seek prenatal care are more likely to have higher incomes and intended pregnancies, which makes it difficult to measure the unique effects of prenatal care.[iii] Prenatal care does not always address, and may not be as effective among, people with specific social and medical risks.[iv] Adequacy of care (defined by the frequency and timing of visits), however, has been correlated with positive outcomes and may also confer benefits such as reduced likelihood of postpartum depression and infant injuries.[v] — *Excerpted and adapted from Child Trends DataBank*
National and State Estimates	Beginning in 2003, states began using a revised version of the standard birth certificate that asks for the date of the first prenatal visit. By 2014, all states had adopted this revised birth certificate. The National Center for Health Statistics collects information about prenatal care using data from birth certificates, which is available to the public. Data available include the date of the first prenatal visit, the total number of prenatal visits for the pregnancy, and a variable that recodes the data to determine in which trimester the prenatal care began. The Kids Count Data Center provides national-, state- and city-level estimates of the number of births to people receiving late to no prenatal care. You can search this online tool to review data in your state. Additionally, the Data Center provides data for the top 50 cities in the United States.
Community Estimates	Population estimates at the community level are available at: • The Kids Count Data Center provides data for the top 50 cities in the United States. • The City Health Dashboard provides data at the city level for a number of indicators, including the percent of individuals who received prenatal care (found under Clinical Care). • For other communities interested in estimates of parents who receive timely prenatal care, it is recommended that they contact their state and/or county vital statistics office to request this information from birth certificate data. Contact information for state and county vital statistics offices can be found on the Center for Disease Control and Prevention's website, as well as through vitalrec.com. States or counties may have restrictions on accessing individual-level birth certificate data. However, a community member could request an aggregate number of children who were born in a given year or other time period, for a specific county, as well as how many of those children received prenatal care before their parent's third trimester of pregnancy.

PROGRAM AND POLICY EXPANSION INDICATORS

INDICATOR	INCREASE IN THE PERCENTAGE OF CHILDREN WHO HAVE ACCESS TO A MEDICAL HOME AND/OR RECEIVE REGULAR WELL-CHILD VISITS
Definition	A medical home is a source of health care where a child has a personal doctor or nurse who is "accessible, family-centered, continuous, comprehensive, coordinated, culturally effective, and compassionate."[vi] A well-child visit is an appointment where a pediatrician provides preventative care by assessing a child's physical, behavioral, developmental, and emotional status. The American Academy of Pediatrics recommends well-child visits for children as a newborn, 3–5 days postpartum, at one, two, four, six, nine, 12, 15, 18, 24, and 30 months, and once a year between the ages of three and 21 years. This indicator, measured at the child-level, can be calculated as the number of infants and toddlers age zero to three years (i.e., one day before their third birthday) who have access to a medical home, divided by the total number of infants and toddlers in a state/community. Alternatively, this indicator could be calculated as the number of infants and toddlers who are up-to-date on their well-child visits (i.e., they had well-child visits at the time points specified by the American Academy of Pediatrics), divided by the total number of infants and toddlers in a state/community.
Research Rationale	Children may receive the best health care when they have access to a "medical home," defined as a source of health care that is "accessible, family-centered, continuous, comprehensive, coordinated, culturally effective, and compassionate."[vii] Quality health care is important because, as the California Childcare Health Program (2006) writes, "[p]hysical health plays an important role in school readiness because children who are not physically healthy may have a difficult time adjusting to school due to frequent absences and distractions, such as pain associated with dental caries. Basic health needs must be met before substantial learning can begin" (p. 1).[viii] The Office of Disease Prevention and Health Promotion (ODPHP) lists four common barriers to medical home access: • High cost of care • Inadequate or no insurance coverage • Lack of availability of services • Lack of culturally competent care[ix] **Promising Efforts** The National Center for Medical Home Implementation (NCMHI) plays a prominent role in efforts to expand access to medical homes. In 2013, NCMHI and the Maternal and Child Health Bureau signed a five-year cooperative agreement, devoting funding to expand access to medical homes for children and youth in "vulnerable and medically underserved populations."[x]

PROGRAM AND POLICY EXPANSION INDICATORS

INDICATOR	INCREASE IN THE PERCENTAGE OF CHILDREN WHO HAVE ACCESS TO A MEDICAL HOME AND/OR RECEIVE REGULAR WELL-CHILD VISITS
National and State Estimates	[T]he federal government has set a goal through the Healthy People 2020 initiative to increase the percentage of children who have access to a medical home from 57.5 percent in 2007 to 63.3 percent by 2020. — *Excerpted from Child Trends DataBank* In 2011–2012, 43 percent of U.S. children with "special health care needs" had access to medical homes.[xi] As of 2013, 91 percent of children under age six with health insurance received a well-child check-up in the past year. For children without health insurance, only 68 percent received a well-child check-up in the past year. — *Excerpted from Child Trends DataBank* The Data Resource Center for Child & Adolescent Health provides state-level NSCH medical home profiles. It also provides state-level data on preventive medical visits for all children under the age of 18. The Children's Health Care Report Card provides state-level information on number of uninsured children.
Community Estimates	Population and sub-population estimates are not available at the community level. However, an individual community may be collecting data for this indicator through a specific program or organization. • It is recommended that the community evaluate how the data are being collected and for whom (i.e., which sub-populations), and then determine how data collection could be expanded to include the larger community population. For example, local health centers may have data available on how many children have received well-child visits or are being served there. • In addition, there should be data at the county level on the number of children, by age group, who are up-to-date on their well-child visits for families receiving Medicaid-related services. Specifically, the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) benefit provides health care services for children enrolled in Medicaid. Data on the number of children who are up-to-date on their well-child visits can be found in the annual state EPSDT report, Form CMS-416. • If it is determined that no data on this indicator are currently being collected, the community could work with local organizations to determine how to collect these data moving forward.

PROGRAM AND POLICY EXPANSION INDICATORS

INDICATOR	INCREASE IN FAMILIES WITH ACCESS TO MENTAL HEALTH SERVICES
Definition	Mental health services include assessments, treatments, and counseling designed to support a person's emotional, psychological, and social well-being.[xii] Increased access to mental health services can include a range of activities from increasing families' awareness of how and where to access services, to working with health care providers and early care and education staff to support families in finding the services they need, to increasing the number of mental health care providers available to families. Mental health providers are "professionals who diagnose mental health conditions and provide treatment." This indicator, measured at the provider level, could be calculated as the ratio of active mental health providers divided by the total population of families with children under age 3 in a state/community.
Research Rationale	Mental health services support children's social and emotional preparedness for school. Mental health services for parents and other family members also affect children's well-being, since mental illness may impair family members' ability to provide the attention and emotional responsiveness necessary for healthy child development. For example, as described in the Child Trends DataBank, "Women who suffer from postpartum depression are less likely to play with, tell stories to, or read books to their children,[xiii] and the children of depressed parents can exhibit symptoms of attention problems within their first year of life."[xiv] — Excerpted from the Child Trends DataBank One common barrier to receipt of mental health services is lack of insurance. However, even people with insurance may face barriers to treatment, such as high co-pays or lack of available providers in geographic proximity.[xv] **Promising Efforts** The National Council Medical Director Institute recommends several evidence-based actions to expand access to mental health services, including increasing the number of mental health providers and increasing the availability of "telepsychiatry." However, the National Council is careful to note that "[t]he solutions cannot rely on a single change in the field such as recruiting more psychiatrists or raising payment and reimbursement rates. Rather, the solutions depend on a combination of interrelated fields that require support from a range of stakeholders" (p. 26).[xvi] Additionally, in June 2017 the U.S. Department of Health and Human Services announced $195 million of new funding to expand substance abuse services and mental health services in the U.S.[xvii]
National and State Estimates	In 2012, more than 8.7 million U.S. adults with mental illness reported unmet treatment need. In the same year, more than 2.4 million U.S. children needed but did not receive mental health services.[xviii]
Community Estimates	Population estimates at the community level are available. County Health Rankings and Roadmaps collects data by county in every state on a range of community health indicators, including the number of active mental health providers in each county, and the ratio of providers to the county population. As a starting point, a community could evaluate how many active mental health providers are in a county or area, and the ratio of providers to population.

PROGRAM AND POLICY EXPANSION INDICATORS

INDICATOR	INCREASE IN CHILDREN RECEIVING DEVELOPMENTAL SCREENING AND REFERRAL
Definition	Developmental **screening** provides "a quick snapshot of a child's health and developmental status and indicates whether further evaluation is needed to identify potential difficulties that might necessitate interventions or special education services".[xix] The screening is done with a formal, validated screening tool. A screening does not establish a diagnosis, but instead is used to determine whether the child needs additional assessment, which may lead to a **referral**. A healthcare or education professional can make a referral for the child to receive an additional assessment to determine whether early intervention services or evaluations are needed. Developmental screenings can be administered by a health care provider, early childhood teacher, or another trained provider. They are typically completed by the child's parent. The American Academy of Pediatrics recommends that developmental screenings be conducted during regular well-child visits at 9, 18, and 24 or 30 months of age, or whenever a concern about development is expressed. The [Compendium of Screening Measures for Young Children](#) provides a list of research-based screening tools; the American Academy of Pediatrics also maintains a list of [screening tools](#). The screening portion of this indicator, measured at the child-level, can be calculated as the percentage of children ages 9 through 35 months, who received a developmental screening using a parent-completed screening tool in the past year. The referral portion of the indicator, measured at the child-level, can be calculated as the percentage of screened infants and toddlers (age 0–3) who received a referral to a comprehensive assessment based on the screening results.

PROGRAM AND POLICY EXPANSION INDICATORS

INDICATOR	INCREASE IN CHILDREN RECEIVING DEVELOPMENTAL SCREENING AND REFERRAL
Research Rationale	Developmental screening of young children is an efficient, cost-effective way to identify potential health or behavioral problems. Research has found that children who get screenings are more likely to be identified with developmental delays, referred for early intervention, and be determined eligible for early intervention services.[xx] Developmental delays among young children can signal the presence of serious physical or psycho- social problems. Because development during infancy and toddlerhood is rapid and cumulative, the success of early intervention depends on early identification. *— Excerpted from Child Trends DataBank* Studies have found that a significant portion of children with developmental delays do not receive early intervention services.[xxi,xxii] It is critical that children receive follow up services when needed to avoid possible consequences of developmental delays.[xxiii] Individual states' eligibility criteria for early intervention play a significant role in determining what percent of children who need services receive those services.[xxiv] Many barriers to services also play a role, including lack of oversight of referrals, families' reluctance to accept home visitors, families' unwillingness to acknowledge their child's developmental delays, and families' lack of understanding of the importance of early intervention.[xxv] **Promising Efforts** The federal government, through its Healthy People 2020 initiative, has set a goal to increase the proportion of young children with developmental delays who are screened, evaluated, and enrolled in early intervention services as soon as possible. There is also a goal to increase the proportion of parents who have a concern about their children's learning, development, or behavior who receive information from a health care professional. *— Excerpted from Child Trends DataBank* In January 2017, the U.S. Department of Education and the U.S. Department of Health and Human Services announced new collaborative efforts between Part C of the Individuals with Disabilities Education Act (IDEA) programs and the Maternal, Infant, and Child Early Home Visiting Program (MIECHV). Increased coordination may make it easier to ensure that all children receive the services they need.[xxvi]

PROGRAM AND POLICY EXPANSION INDICATORS

INDICATOR	INCREASE IN CHILDREN RECEIVING DEVELOPMENTAL SCREENING AND REFERRAL
National and State Estimates	The rate of developmental screening increased by 10 percentage points between 2007 and 2011–2012, from 19 percent to 29 percent. In 2011– 2012, 11 percent of children ages four months to five years had a high risk for developmental delays; 15 percent had moderate risk, and 14 percent had low risk for delays. Between 2003 (the first time these data were collected) and 2011–2012, there were no significant overall changes in the percentages for these categories.
	Girls and boys are equally likely to receive developmental screenings. However, boys are more likely to be at risk for developmental delays than girls are. In 2011–2012, 13 percent of boys and nine percent of girls had a high risk for delays, while 17 percent of boys and 14 percent of girls had a moderate risk. There was no significant gender difference in the proportion that was at low risk.
	Regardless of family income, children are equally likely to be screened for developmental delays. However, children living at or below the poverty line are more than twice as likely to be at high risk for developmental delays as their peers living at more than twice the poverty line (19 percent and 7 percent, respectively). Those living in families with incomes above but less than twice the poverty line fall in between, with 10 percent having a high risk for delays. Children in low-income households are also more likely than children living at more than twice the poverty line to have a moderate risk for delays. However, this difference is smaller (17 percent and 14 percent, respectively). The proportion of children in low-income households who are at high risk has increased since 2003 (from 14 percent to 19 percent), but the proportion of children living at more than twice the poverty line who were at high risk has remained the same.
	— Excerpted from Child Trends DataBank
	A 2008 study found that only 10 percent of children who were eligible for services through the Program for Infants and Toddlers with Disabilities (Part C of the IDEA) actually received services from that program.[xxvii] Black children eligible for the program were less likely to receive services than children of other races and ethnicities.[xxviii] A 2009 study found that only 45.7 percent of U.S. children with diagnosed or parent-reported delays and disabilities received early intervention services from any source.[xxix] The percent of children who received early intervention services varied significantly by state.[xxx]
	The National Survey of Children's Health (NSCH) provides data by state on the number of children whose parent completed a standardized developmental screening tool during a health care visit in the past year. The NSCH also provides state percentages of children who had problems getting referrals, among those who needed them.
Community Estimates	Population estimates are not available at the community level. Infants and toddlers may receive developmental screenings in a health or education setting. A common developmental screening is the Ages & Stages Questionnaire (ASQ)[xxxi], which is often administered at a pediatrician's office but can be completed in a variety of other early childhood settings. A community can evaluate where these screenings are being conducted and who is receiving them, and then establish a data-sharing partnership to determine the number of children in their community who are receiving developmental screenings at specific ages. Depending on the type of data that the healthcare or educational professional is collecting, there may or may not be data available on whether referrals were made for the child.

PROGRAM AND POLICY EXPANSION INDICATORS

INDICATOR	IMPLEMENTATION OF A UNIVERSAL FAMILY CONNECTION AND REFERRAL STRATEGY (E.G., FAMILY CONNECTS), WHICH PROVIDES INITIAL SCREENING AND REFERRALS FOR PARENTAL DEPRESSION, EARLY CARE AND EDUCATION, AND CHILD HEALTH AND DEVELOPMENTAL SERVICES TO ALL NEWBORNS IN A COMMUNITY
Definition	A universal family connection and referral strategy is a service in which the intervention is available to all families within a community, regardless of income, socioeconomic status, or demographic characteristics. The service is intended to provide initial screenings to assess the mother and newborn child and connect or refer them to services if needed. These services can differ depending on the strategy, but could include, but are not limited to, screenings and referrals for parental depression, early care and education, and child health and developmental services. For example, Family Connects, a universal home visiting program, is delivered to all families within a community with a newborn, providing between one and three nurse home visits beginning at about three weeks of age.

This indicator can be measured initially by examining a set of indicators related to implementation progress. Once implementation is in process, regular monitoring of the annual number of children and families served can be initiated. |
| Research Rationale | Family Connects (formerly Durham Connects) has been evaluated through multiple randomized controlled trials, funded by the National Institutes of Health and the Duke Endowment, and found to have benefits for the mother and child, as well as a return on investment for the community. More recently, the Pew Home Visiting Campaign commissioned evaluations of home visiting models, including a randomized controlled trial of Durham Connects. The evaluation found that mothers and children participating in Durham Connects had more positive parenting behaviors, less maternal depression, improved connections to community resources, improved rates of high-quality child care utilization, and reduced mother-reported use of emergency healthcare at 6 months.[xxxii] For more information, please refer to the full report. |
| Resources | Several national organizations compile information about home visiting in states and territories, including universal home visiting programs in some states:

• The Association of State and Tribal Home Visiting Initiatives (ASTHVI) has fact sheets from 2017-2018 for states and territories, which include each state's home visitation policies.

• The Home Visiting Evidence of Effectiveness (HomVEE) project, funded by the U.S. Department of Health and Human Services, provides a review of the evidence of the effectiveness of home visiting models. The website includes information on each of the models and an assessment of their effectiveness, as well as information on the implementation of each model.

• The National Home Visiting Resource Center has fact sheets from 2016 on evidence-based home visiting services in states and territories.

Some home visiting programs are considered universal models, designed to serve all families in a community. Two of those universal home visiting models are:

• Family Connects: All families within a community are provided with one to three nurse home visits; newborns and mothers are screened and assessed, and referrals for services are made if determined necessary.

• Parents as Teachers: This is designed to provide universal access to services for families in a community, although many affiliates focus on specific high-need populations of families instead. Families receive a minimum of monthly visits, and both a family-centered assessment and child screening are completed to then connect families with resources. |

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Child TRENDS®

PROGRAM AND POLICY EXPANSION INDICATORS

INDICATOR	IMPLEMENTATION OF A UNIVERSAL FAMILY CONNECTION AND REFERRAL STRATEGY (SUCH AS FAMILY CONNECTS), WHICH PROVIDES INITIAL SCREENING AND REFERRALS FOR PARENTAL DEPRESSION, EARLY CARE AND EDUCATION, AND CHILD HEALTH AND DEVELOPMENTAL SERVICES TO ALL NEWBORNS IN A COMMUNITY
STAGES OF IMPLEMENTATION	
Planning	• Review different universal family connection and referral strategies to determine which one is best for your community. • Establish leadership support and capacity building. • Identify funding opportunities and target locations (i.e., health care centers, hospitals, early care and education centers) to start implementing the strategy.
In Process	• Secure funding for universal family connection and referral strategy. • Begin initial implementation in target location(s). • Set short-term targets for number or percent of families to serve initially.
Advanced Implementation	• Develop logic model or approach to move from initial implementation to full implementation. • Set long-term targets for expanding the strategy to make it universal. • Establish a community-wide data system* for tracking the number of families being served, and referrals.

*Note: Please refer to the Data Systems Progress Indicator for more information

PROGRAM AND POLICY EXPANSION INDICATORS

INDICATOR	INCREASED AVAILABILITY OF EVIDENCE-BASED HOME VISITING MODELS THAT ARE DESIGNED TO PROVIDE ONGOING SUPPORTS TO NEWBORNS WHO HAVE BEEN IDENTIFIED BY SPECIFIC RISK FACTORS, SUCH AS HAVING A FIRST-TIME TEEN MOTHER, OR OTHER CHARACTERISTICS ASSOCIATED WITH INCREASED RISK FOR ABUSE AND NEGLECT
Definition	The Health and Human Services department has identified several criteria[xxxiii] to determine whether a home visiting model is "evidence-based." The model must meet one of the following criteria: • At least one high- or moderate-quality impact study of the model finds favorable, statistically significant impacts in two or more of the eight outcome domains. • At least two high- or moderate-quality impact studies of the model using non-overlapping analytic study samples, with one or more favorable, statistically significant impacts in the same domain. Currently, 20 home visiting models meet the specified criteria for an evidence-based model. For more information see HomVEE, which includes a range of home visiting programs both universal and targeted and differing in level of intensity. This indicator can be assessed initially by examining a set of indicators related to implementation progress. Once implementation is in process, regular monitoring of the annual number of children and families served can be initiated.
Research Rationale	In the U.S., home visiting programs are increasingly part of communities' efforts to improve outcomes for the most disadvantaged families. When well implemented, home visiting programs have been shown to reduce rates of infant low birth weight, child maltreatment, and childhood injuries; increase access to health care, and lengthen the interval between a young parent's births; and improve parenting practices and children's learning and behavior.[xxxiv]
Resources	According to the National Home Visiting Resource Center's 2019 Home Visiting Yearbook, [xxxv], there were approximately 286,108 families and 312,365 children served nationwide through evidence-based home visiting in 2018. Several national organizations compile information about home visiting in states and territories: • The Association of State and Tribal Home Visiting Initiatives (ASTHVI) has fact sheets from 2018for states and territories, which include each state's home visitation policies. • The National Home Visiting Resource Center has fact sheets from 2016 on evidence-based home visiting services in states and territories.
STAGES OF IMPLEMENTATION	
Planning	• Conduct landscape review to identify which home visiting models are currently in your community. • Determine which models would best provide ongoing support to newborns and their families (either existing or new models). • Establish leadership support and capacity-building for increased availability. • Secure new and maintain existing funding (e.g., legislative, public-private partnerships, etc.); coordinate with current home visiting models and providers in your community to expand their reach.

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In Process	• Strategic advocacy to highlight the need for increased access to families with specific risk factors; • Determine which sub-populations to target (e.g., families with risk factors such as first-time parents, parents who smoke, drink or use illegal drugs, or children otherwise identified to be at risk for abuse and neglect) or target services to a specific geographic region, or racial/ethnic group(s) that are under served and have been shown to be at risk for certain factors; • Track the number of home visiting models in the community and how many children/families are being served by each model.
Advanced Implementation	Increased access can be defined by the number of new programs implemented in a community, as well as by the number of additional children and families served in current home visiting programs. Depending on how communities are increasing the availability of home visiting services, data can be collected to track the number of children and families being served in the program(s) as well as the number of available models and services. Additionally, communities can set short-and long-term target goals for increasing the availability of home visiting services geared toward families and children who have been identified as having specific risk factors. For instance, data could be collected on the following: • The number of locations/programs that are offering each of the home visiting models in the community, • The number of children and/or families who are receiving home visiting services from each model, • In later stages of implementation, communities can build a community-wide data system* to track the number of eligible families being served by all home visiting models and obtain a count of the number of unique children/families served by one or more home visiting models. Those indicators could then be tracked to ensure access is increasing to serve all targeted children and families.

*Note: Please refer to the Data Systems Progress Indicator for more information

PROGRAM AND POLICY EXPANSION INDICATORS

INDICATOR	ACCESS TO AFFORDABLE CARE IN SETTINGS MEETING RECOMMENDED GUIDELINES FOR CAREGIVER: CHILD RATIOS, CAREGIVER COMPETENCIES, DEVELOPMENTALLY APPROPRIATE ACTIVITIES AND CURRICULUM, HEALTH AND SAFETY PROVISIONS, AND LINKAGES TO CHILD AND FAMILY SUPPORTS AND RESOURCES
Definition	High-quality early care and education can be delivered in center-based and home-based settings. Program quality can be designated by a rating from a state or local quality rating and improvement system (QRIS) or by receipt of national accreditation (if a QRIS rating is not available). QRIS standards should be aligned with recommended quality guidelines outlined by the National Association for the Education of Young Children, the Head Start Performance Standards, Caring for our Children, and other sources to ensure that the QRIS covers critical aspects of quality.

This indicator, measured at the program level, can be calculated as the ratio of high-quality slots available for infants and toddlers (age 0–3), divided by the number of infants and toddlers in the state/ community. High-quality slots are defined as those that are in programs rated in the top tiers of the state QRIS, are in nationally accredited, or Head Start programs. |
Research Rationale	Young children who experience high-quality early care and education (ECE) have better outcomes across developmental domains than similar children who do not have such experiences. Research indicates that children with fewer ECE opportunities tend to lag behind their more affluent peers on a range of developmental outcomes, including skills at school entry. This gap in skill development between advantaged and more disadvantaged children emerges as early as nine months of age and is predictive of subsequent academic trajectories. As a result, the benefits of high-quality ECE are greatest for vulnerable children, and there is research-based evidence that suggests greater exposure to high-quality early care and education environments (either by starting at a younger age or receiving more hours of such care) can have a significant impact on developmental outcomes. Ultimately, children who enter formal schooling with stronger school readiness skills tend to maintain their advantage during the elementary school years, while children who enter with weaker skills tend to maintain their relative disadvantage over time.
National and State Estimates	State QRIS data merged with ECE facility data (including licensing databases and Head Start Program Information Reports) can be used to report on the number of high-quality slots. The Race to the Top- Early Learning Challenge annual progress reports include the number of high-quality programs (i.e., the number of programs with a quality rating). This indicator does not capture the capacity of programs.
Community Estimates	Enrollment capacity estimates at the community level are available by reviewing state or local QRIS ratings data and ECE facility data, which can be examined by zip code, city or county. If available, it is preferred to use "desired" capacity for infant and toddler slots rather than the licensed capacity number, because ECE programs tend not to fill slots past desired capacity.

PROGRAM AND POLICY EXPANSION INDICATORS

INDICATOR	ALL INFANT/TODDLER TEACHERS AND CAREGIVERS HAVE OPPORTUNITIES TO BUILD COMPETENCIES THROUGH FORMAL EDUCATION, TRAINING, COACHING, AND OTHER EFFECTIVE FORMS OF PROFESSIONAL LEARNING THAT ARE APPROPRIATE FOR THEIR CARE SETTING
Definition	Professional development for infant-and toddler-teachers and caregivers includes activities such as formal education, training, coaching, mentoring, and professional development advising. The requirements for initial qualifications and ongoing professional development vary by state and by program (e.g., Early Head Start). Some states have approved professional development activities that meet criteria for quality and alignment with professional competencies. This indicator, measured at the teacher/caregiver level, can be calculated as the number of infant-and-toddler teachers and caregivers receiving approved professional development in topics specific to infants and toddler development during a given year, divided by the total number of infant and toddler teachers and caregivers in the state/community.
Research Rationale	Professional development can prepare teachers and caregivers to provide a richer environment for children's learning, and to be more responsive to individual and cultural variation in needs. Multiple studies find that professional development correlates with higher quality in home-based child care.
National and State Estimates	The National Survey of Early Care and Education 2012 provides estimates of the proportion of infant-and-toddler teachers and caregivers who participated in different professional development opportunities. State ECE workforce registries can be used to identify approved professional development opportunities on topics specific to infant and toddler development. However, registries may not cover the full population of teachers and caregivers.
Community Estimates	Estimates of the ECE workforce at the community level are available through examining registry data, which can be analyzed by zip code, city, or county of the individual workforce members. Communities should consult with their state agencies, which oversee workforce registry data systems to request this information.

PROGRAM AND POLICY EXPANSION INDICATORS

INDICATOR	FINANCIAL SUPPORTS AND INCENTIVES ARE PROVIDED TO INCREASE THE VIABILITY OF INFANT-AND-TODDLER CAREGIVING AS A CAREER
Definition	Availability of wage supplements, scholarships, business grants, and/or loans allocated specifically for center-based teachers and home-based providers caring for infants and toddlers can provide critical financial support. This indicator, measured at the teacher/caregiver- or program-levels, can be calculated as the proportion of infant-and-toddler caregivers receiving an incentive during a given year. Alternatively, this indicator could be measured and reported by including the total dollar amount spent on incentives for infant-and-toddler teachers, and the proportion of the available dollars by incentive type during a given year.
Research Rationale	The ECE workforce, and particularly those who care for infants and toddlers, earn significantly lower wages than other workers with comparable education.
National and State Estimates	National and state data on TEACH® scholarships are available from **TEACH® Early Childhood National Center**. An ECE Workforce Registry may be a source of data about incentives for infant-and-toddler teachers and caregivers (note that Registry data may not provide full coverage for all workforce members). Program administrators track incentives provided through Child Care Development Fund (CCDF) or state funds. Aggregate data on numbers served and total dollar amounts could be available through administrative records.
Community Estimates	ECE workforce estimates are available at the community level. Estimates can be obtained through examining workforce registry data that can be analyzed based on zip code, city or county of the individual workforce members. Communities should consult with their state agencies, which oversee workforce registry data systems, to request these data.

PROGRAM AND POLICY EXPANSION INDICATORS

INDICATOR	THE FAMILY SHARE OF THE COST OF CARE IS LESS THAN 7 PERCENT OF HOUSEHOLD INCOME
Definition	Cost burden is the ratio of monthly household spending on ECE, and the reported monthly income of the household in the prior month. The Department of Health and Human Services recently recommended the cost burden standard to be 7 percent, based on findings in the National Academies of Sciences, Engineering and Medicine report "Transforming the Financing of Early Care and Education." This indicator, measured at the family level, can be calculated as the ratio of monthly household spending on of infant-and toddler-care (center- and home-based), divided by the reported monthly income of the household in the prior month.
Research Rationale	Child care costs are a large financial burden for many families. The cost of infant care is greater than the cost of in-state university tuition in 33 states and Washington, D.C. In many regions of the country, families with two children ages 4 and 8 pay more in child care costs than rent. High child care costs may force families to choose lower-quality care settings and strain families' ability to purchase food and other necessities. A region's percentage of families paying more than 7 percent of household income for early care and education is an indication of childcare's cost burden.
National and State Estimates	The National Survey of Early Care and Education 2012 was used to estimate the cost burden of child care (proportion of monthly child care spending /total monthly income for households having at least one regular ECE arrangement and any regular ECE out-of-pocket costs). The average ECE cost burden for families with any child ages zero through 36 months is 20 percent. For families with incomes below the federal poverty level, the average burden is 33 percent. Statewide estimates are available from the Economic Policy Institute. For families receiving child care subsidies: ACF-801 data (monthly case levels) are submitted by states and territories for CCDF reporting requirements. One data element that can be calculated is the average monthly co-payment as a percentage of family income. A copayment is the family share contributed to cover the price of child care. Nationally, in 2016, the Mean Copayment as a Percent of Income was 7 percent (excluding those families with a $0 copayment). The mean including those with a $0 copayment was 6 percent. State averages ranged from 0 to 27 percent (excluding those families with a $0 copayment).
Community Estimates	Estimates of the population with child care expenses are not available at the community level. However, data are available for sub-populations within the community. For instance, ACF-801 data could be reported at the city, county or regional level to estimate the cost burden for families receiving subsidies.

CHILD AND FAMILY INDICATORS

INDICATOR	REDUCED INCIDENCE OF LOW BIRTH WEIGHT
Definition	Low birthweight is defined as an infant weighing less than 5.5 pounds, regardless of gestational age. Very low birth weight is defined as less than 3.5 pounds. This indicator, measured at the child-level, can be calculated as the number of infants born in the last year whose birth weight was less than 5.5 pounds, divided by the total number of infants born that year in a state/community.
Research Rationale	Low birth weight correlates with increased challenges in the realms of motor, social, and intellectual development, including increased risk of long-term disability. Children with lower birthweights tend to have lower IQs and are more likely to be enrolled in special education classes. They are also less likely to complete high school. Children of "very low birth weight" are at the highest risk for the complications described above.
National Estimates	The percentage of infants who had low birth weight declined between 1970 and 1980, from 7.9 to 6.8 percent of all births, but increased slowly but steadily until 2006, when it was at 8.3 percent of births. Since then, the percentage has decreased slightly, to 8 percent of births in 2016. Black infants are more likely than babies of other races to have low birth weight. In 2016, 14 percent of Black infants had low birth weight, compared with 8 percent of both Asian and Pacific Islander, and American Indian and Alaska Native, and 7 percent of White and Hispanic infants. Black infants are also more than twice as likely as other infants to be of very low birth weight (3 percent compared with one percent for infants of other races).
State-Level Estimates	The Kids Count Data Center includes the most recent state-level information on low birth weight babies.
Community-Level Estimates	Population-level estimates are available at the community level. The Center for Disease Control Natality online databases report counts of live births occurring within the United States to U.S. residents and non-residents. Counts can be obtained by state and county, child's sex, and weight.

CHILD AND FAMILY INDICATORS

INDICATOR	REDUCED INCIDENCE OF PRETERM BIRTH
Definition	Preterm is defined as babies born alive before 37 weeks of pregnancy are completed. There are sub-categories of preterm birth, based on gestational age: extremely preterm (less than 28 weeks), very preterm (28 to 32 weeks), and moderate to late preterm (32 to 37 weeks). This indicator, measured at the child level, can be calculated as the number of children born preterm (before 37 weeks of pregnancy) in the last year, divided by the total number of children born in the last year in a state/community.
Research Rationale	The underlying causes of preterm birth are poorly understood, although genetic, social, and environmental factors all likely play a role.[xxxvi] A previous premature birth, a multiple pregnancy (twins, triplets, or more), certain cervical or uterine abnormalities, and a number of medical conditions all increase risk of preterm birth. Lifestyle factors also can elevate risk: these include late or no prenatal care, cigarette smoking, alcohol and illicit drug use, domestic violence, very high stress levels, and prolonged work hours involving standing.[xxxvii] Depression during pregnancy may be another risk factor for preterm birth.[xxxviii] Preterm birth can have significant implications for children's intellectual development. Children born preterm tend to have lower intelligence and poorer school performance than children born full-term, and are at higher risk of intellectual disability, difficulty with complex language functions, and learning and behavioral problems. Quigley et al. (2012) found that the relationship between amount of time born prior to term and extent of decreased cognitive function is "quite linear, with the poorest performance seen in children who had been born before 32 weeks gestation but seen even in children born late preterm (between 34 and 36 weeks)." Pre-term birth is also associated with higher risk of health complications such as cerebral palsy, diabetes, high blood pressure, and heart disease.
National Estimates	The U.S. preterm birth rate rose by more than 20 percent between 1990 and 2006, accounting for nearly one in eight births (12.8 percent) in 2006. Most of this increase was accounted for by the rise in the rate of late preterm births, which rose by 25 percent during this period. However, since then, the preterm birth rate has fallen by 10 percent and was at 11.4 percent in 2013. Black women have the highest rates of preterm births (16.3 percent in 2013), followed by American Indians (13.1 percent), Hispanics (11.3 percent), Whites and Asian/Pacific Islanders (10.2 percent, each). The Healthy People 2020 goal is 11.4 percent.
State-Level Estimates	• National Center for Health Statistics (NCHS) provides state-level data for 2017 by race, ethnicity, plurality, and birth weight. (Table I-19). • Final 2018 data for states (and some counties) are presented in the March of Dimes' 2019 Premature Birth Report Card. • State-level data on late preterm singleton birth rates for 1990–1991 and 2005–2006 are available in an NCHS Data Brief. • Preterm births by state and in major cities for 1990–2017 are available from the Kids Count Data Center.

CHILD AND FAMILY INDICATORS

INDICATOR	REDUCED INCIDENCE OF PRETERM BIRTH
Community-Level Estimates	Population-level estimates are available at the community level. The Centers for Disease Control and Prevention's natality data documents live births occurring within the United States to U.S. residents and non-residents. Counts can be obtained by state and county by a child's gestational period.

CHILD AND FAMILY INDICATORS

INDICATOR	REDUCED INCIDENCE OF PRENATAL EXPOSURE TO DRUGS/ALCOHOL/SMOKING
Definition	Prenatal exposure to drugs, alcohol, or smoking occurs when a fetus is exposed to maternal use of drugs, alcohol, or tobacco at any time during pregnancy. This indicator, measured at the child level, can be calculated as the number of children born with exposure to drugs, alcohol, or smoking in the last year, divided by the total number of children born in that same year in a state/community.
Research Rationale	Each year, an estimated 15 percent of infants are affected by prenatal alcohol or illicit drug exposure. Prenatal exposure to alcohol, tobacco, and illicit drugs has the potential to cause a wide spectrum of physical and developmental challenges for these infants. There is also potential for ongoing challenges in the stability and well-being of infants who have been prenatally exposed, and their families, if substance use disorders are not addressed with appropriate treatment and long-term recovery support. If a person smokes during pregnancy, or is exposed to "second-hand" (environmental) cigarette smoke while pregnant, the harmful effects of smoking extend to the developing infant in-utero.[xxxix] According to the National Institute on Alcohol Abuse and Alcoholism, binge drinking for women (i.e., drinking four or more drinks per occasion, and regular heavy drinking) "puts a fetus at the greatest risk for severe problems." However, there is not currently a defined safe level of drinking for people who are pregnant. Coordinated services and early intervention for pregnant people with substance use disorders and their infants are critical in preparing families for optimal bonding, health, and well-being.[xl]
National Estimates	**Exposure to smoking:** The annual average rate of reported past-month cigarette use in 2012 and 2013 among pregnant women aged 15 to 44 was 15.4 percent. The rate of reported current cigarette use among pregnant women aged 15 to 44 was lower than that among non-pregnant women (24.0 percent). This pattern was also evident among women aged 18 to 25 (21.0 vs. 26.2 percent for pregnant and non-pregnant women, respectively) and among women aged 26 to 44 (11.8 vs. 25.4 percent, respectively). Rates of current cigarette use in 2012–2013 among pregnant women aged 15 to 44 were 19.9 percent in the first trimester, 13.4 percent in the second trimester, and 12.8 percent in the third trimester. The annual average rates of reported current cigarette use among non-pregnant women aged 15 to 44 decreased from 30.7 percent in 2002–2003 to 24.0 percent in 2012–2013. However, the prevalence of reported cigarette use among pregnant women in this age range did not change significantly during the same period (18.0 percent in 2002–2003 and 15.4 percent in 2012–2013). **Exposure to drugs:** Among pregnant women aged 15 to 44, 5.4 percent reported they were current illicit drug users, based on data averaged across 2012 and 2013.[xli] This was lower than the rate among non-pregnant women in this age group (11.4 percent). Among pregnant women aged 15 to 44, the average rate of reported current illicit drug use in 2012–2013 (5.4 percent) was not significantly different from the rate averaged across 2010–2011 (5.0 percent). Current illicit drug use in 2012–2013 was lower among pregnant women aged 15 to 44 during the third trimester than during the first and second trimesters (2.4 percent vs. 9.0 and 4.8 percent). The rate of current illicit drug use in the combined 2012– 2013 data was 14.6 percent among pregnant women aged 15 to 17, 8.6 percent among women aged 18 to 25, and 3.2 percent among women aged 26 to 44. These rates were not significantly different from those in the combined 2010–2011 data (20.9 percent among pregnant women aged 15 to 17, 8.2 percent among pregnant women aged 18 to 25, and 2.2 percent among pregnant women aged 26 to 44).[xlii] **Exposure to Alcohol:** Among pregnant women aged 15 to 44 in 2012–2013, an annual average of 9.4 percent reported current alcohol use, 2.3 percent reported binge drinking, and 0.4 percent reported heavy drinking. These rates were lower than the rates for non-pregnant women in the same age group (55.4, 24.6, and 5.3 percent, respectively). Current alcohol use in 2012–2013 was lower among pregnant women aged 15 to 44 during the second and third trimesters than during the first trimester (5.0 and 4.4 percent vs. 19.0 percent).[xliii]

CHILD AND FAMILY INDICATORS

INDICATOR	REDUCED INCIDENCE OF PRENATAL EXPOSURE TO DRUGS/ALCOHOL/SMOKING
State-Level Estimates	• The Center for Disease Control Natality online databases report counts of live births occurring within the United States to U.S. residents and non-residents. Counts can be obtained by state and county and include data on mothers' medical and tobacco-use risk factors. • PeriStats provides estimates of smoking, alcohol and drug use during pregnancy at the state level for years 2001–2017. • The 2016 Health of Women and Children Report provides state percentages of women aged 18–44 who reported that they smoked or consumed alcohol during pregnancy.
Community-Level Estimates	Population-level estimates are available at the community level. • The Center for Disease Control Natality online databases report counts of live births occurring within the United States to U.S. residents and non-residents. Counts can be obtained by county and report on mothers' medical and tobacco use risk factors. • Estimates are also available at PeriStats, which provides estimates of smoking, alcohol and drug use during pregnancy in select cities and counties from years 2001–2017. • For those communities whose data are not available through these online sources, this information may already be collected by a local organization, such as health care centers. These organizations might be able to share aggregate, community-level data on the number of children who experienced prenatal exposure to drugs, alcohol, or smoking. • Alternatively, a community might have access to hospital data on tobacco, drug, or alcohol use during pregnancy. • If no data currently exist, it is recommended that the community work with their local hospitals or health care centers to set up a system to collect this information in a way that could be tracked over time.

CHILD AND FAMILY INDICATORS

INDICATOR	INCREASE IN CHILDREN IDENTIFIED BY SCREENING WHO HAVE RECEIVED THE APPROPRIATE SERVICES
Definition	Ensuring that children receive appropriate services includes screening and assessing children and then following up to make sure services are received for those with identified needs. This includes children who were assigned to specific programs to receive services (e.g., Early Intervention IDEA-Part C, home visiting programs, etc.). This indicator, measured at the child level, can be calculated as the number of infants and toddlers (age 0–3 years) in a state/community with identified needs who were referred to and received services, divided by the total number of children screened who had an identified need.
Research Rationale	Studies have found that a significant portion of children with developmental delays do not receive early intervention services.[xliv,xlv] As Begley (2016) writes, "It doesn't help a child to be identified as developmentally delayed unless he or she then receives interventions that avert or diminish learning difficulties and other common consequences of developmental delays."[xlvi] Ensuring that children receive the appropriate services involves: 1) the identification of families in need of additional supports, screening and further assessment to understand children's developmental status and identify potential delays; 2) referral and follow-up to ensure linkages to needed services; and 3) efforts to support families if they are unable to receive additional services due to eligibility requirements or capacity issues.[xlvii] While most children develop in a predictable fashion, the development of some infants and toddlers may be atypical. Children with even mild developmental delays in language, cognition, and learning tend to have poorer health and academic outcomes, in the absence of early and effective intervention.[xlviii] When developmental concerns are identified early, intervention services can provide supports to promote the best possible developmental outcomes for the child. In general, the goals of early intervention are to: 1) enhance the development of infants and toddlers with disabilities; 2) reduce educational costs by minimizing the need for special education through early intervention; 3) minimize the likelihood of institutionalization and maximize independent living; and 4) enhance the capacity of families to meet their child's needs.[xlix]
National Estimates	According to the CDC, 13 percent of children in the United States had developmental or behavioral disabilities in 2016.[l] However, according to the U.S. Department of Education, fewer than half of children who have developmental delays are identified prior to starting school.[li] It has been reported that for 60 to 90 percent of children with developmental delays, physicians fail to identify and refer in a timely manner.[lii] An implementation study of the American Academy of Pediatrics (AAP) recommendations for developmental screening and referrals found that referral rates among children with failed screens were low, averaging 61 percent over the course of the study, with high variability in practice-specific referral rates, which ranged from 27 percent to 100 percent.[liii] Further, the mean time between identification of a developmental delay and referral for follow-up services has been reported to be more than five months.[liv,lv] A 2008 study found that only 10 percent of children eligible for services through the Program for Infants and Toddlers with Disabilities (Part C of the IDEA) actually received services from that program.[lvi] Black children eligible for the program were less likely to receive services than children of other tabulated races and ethnicities.[lvii] A 2009 study found that only 45.7 percent of U.S. children with diagnosed or parent- reported delays and disabilities received early intervention services from any source.[lviii] The percentage of children who received early intervention services varied significantly by state.[lix]

National Collaborative for Infants & Toddlers™
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Child TRENDS

CHILD AND FAMILY INDICATORS

INDICATOR	INCREASE IN CHILDREN IDENTIFIED BY SCREENING WHO HAVE RECEIVED THE APPROPRIATE SERVICES
State-Level Estimates	• The National Survey of Children's Health (2016) provides state percentages of children who receive special services for developmental needs. • The U.S. Department of Education produces static tables at the state level for IDEA Part C of the number of children ages 0–3 who have received services.
Community-Level Estimates	Population-level and sub-population estimates are not available at the community level. • A community could request county-level, aggregate data through their state Early Intervention IDEA Part C office. This office should have the number of infants and toddlers, by county, who have had or are currently receiving services through an Individualized Family Services Plan (IFSP). Communities could also work with their local health or educational settings where infants and toddlers may receive a developmental screening such as the Ages and Stages Questionnaire, which is primarily completed at a pediatrician's office. A community can evaluate where these screenings are being conducted, and who is receiving them, and then establish a data-sharing partnership to access the number of children in their community who are receiving developmental screenings at specific ages. These data can then serve as a baseline denominator to better understand how many of this group had identified needs, and then, of that number, how many received services.

CHILD AND FAMILY INDICATORS

INDICATOR	INCREASE IN CHILDREN WHO HAVE A HEALTHY BODY MASS INDEX (BMI)
Definition	According to the American Heart Association, a body mass index (BMI) is an indicator of body fat presence, and is calculated using weight and height measurements. Children are considered to have a healthy weight when their BMI is between the 5th and 85th percentiles for their sex and age. In children, overweight is defined as having a BMI at or above the sex- and age-specific 85th percentile, and obesity is defined as being above the 95th percentile. Underweight is defined as having a BMI at or below the sex- and age-specific 5th percentile. —Excerpted from the Child Trends DataBank BMI is calculated by taking the child's weight (in pounds) divided by height squared (in inches), all multiplied by 703. For example, an adult who is six feet, two inches tall and weighs 200 pounds has a BMI of 25.7, which standard weight tables list as overweight. Current BMI age-for-growth charts for the United States are available here. This indicator, measured at the child-level, can be calculated as the number of infants and toddlers (ages 0–3 years), who have a healthy BMI (i.e., between the 5th and 85th percentile for their sex and age) divided by the total number of infants and toddlers in a state/community.
Research Rationale	Children who are overweight or obese are at increased risk for health and socio-emotional problems, and overweight in the preschool years is highly predictive of being overweight later in childhood. Overweight children are more likely than their peers to develop cardiovascular disease, Type 2 diabetes, liver disease, sleep apnea, high cholesterol, and asthma. There is increasing evidence that the problem of overweight in our population may begin in the earliest years of life. —Excerpted from "The Youngest Americans: A Statistical Portrait of Infants and Toddlers in the United States"[lx]
National Estimates	The CDC Growth Charts, which refer to nationally representative samples of children between 1963 and 1994, provide data on males and females between the ages of 2 and 20 years. They are not intended to represent ideal development.[lxi] According to 2011–2012 data from the CDC's National Health and Nutrition Examination Survey (NHANES), 22.8 percent of children ages 2 to 5 are overweight and 8.4 percent in that age range are obese. Boys in this age group are slightly more likely to be overweight than girls in this age group (23.9 percent and 21.7 percent, respectively) and obese (9.5 percent and 7.2percent, respectively). Additionally, Hispanic children in this age group are more likely to be overweight or obese than their non-Hispanic peers—approximately 29.8 percent of Hispanic children in this age group are overweight and approximately 16.6 percent are obese. Asian, non-Hispanic children in this age group are less likely to be overweight and obese than their peers, with approximately 9 percent overweight and approximately 3.3 percent obese.[lxii]
State-Level Estimates	• State-level data from the National Survey of Children's Health in 2016 include the percentage of parents concerned about the weight of their children ages 0–5, available from the Data Resource Center for Child & Adolescent Health. • Also, 2008–2011 estimates by state for low-income, preschool-aged children are available from the Centers for Disease Control and Prevention.

CHILD AND FAMILY INDICATORS

INDICATOR	INCREASE IN CHILDREN WHO HAVE A HEALTHY BODY MASS INDEX (BMI)
Community Level Estimates	Population-level and sub-population estimates are not available at the community level. However, an individual community may be collecting data for this indicator through a specific program or organization for sub-populations. Additionally, local pediatricians' offices and health care centers should have these data. It is recommended that a community first evaluate how the data are being collected, where, and for whom (i.e., which sub-populations), and work with those organizations to obtain aggregate, community-level data for children ages 0–3 years. Alternatively, if these data are only being collected with certain sub-populations within the community, the community should look to see how the data collection efforts might be able to be expanded to the larger community population.

CHILD AND FAMILY INDICATORS

INDICATOR	INCREASE IN PERCENTAGE OF CHILDREN WHO ARE REPORTED TO BE IN GOOD OR EXCELLENT HEALTH
Definition	There are some measures where a parent or guardian reports whether they perceive their child to be in good or excellent health (e.g., the National Survey of Children's Health). This indicator, measured at the child level, could be calculated as the number of infants and toddlers (ages 0–3 years) whose parents report that they are in good or excellent health, divided by the total number of infants and toddlers in a state/community.
Research Rationale	The first few years of life involve rapid physical and mental development. Children who are in good health—including physical, mental, and emotional health—during early childhood tend to grow up not only to be healthier adults, but health in early childhood is also associated with positive educational and economic outcomes.[lxiii] Despite limitations of self-report or proxy (e.g., parent, guardian, doctor) reporting, surveys of child health often rely on proxy reporting because infants and toddlers are too young to self-report. Additionally, many indicators of health in young children cannot be observed in a standard medical exam (e.g., sleep behaviors) and, therefore, parental reports are used for a more holistic view.[lxiv]
National Estimates	According to the National Survey of Children's Health in 2016, 92.8 percent of U.S. children ages 0–5 years were reported to be in very good or excellent health.[lxv]
State-Level Estimates	State-level data from the National Survey of Children's Health in 2016 on the number and percentage of U.S. children ages 0–5 years old who are in very good or excellent health are available from the Data Resource Center for Child & Adolescent Health.[lxvi]
Community-Level Estimates	Population-level and sub-population estimates are not available at the community level. • A community may be collecting similar types of data for this indicator through a specific program or organization. It is recommended that the community first evaluate whether the data are being collected and for whom (i.e., which sub-populations), and work with those organizations to get access to aggregate- level data on the number of parents or guardians who report their children are in good or excellent health. Next, a community could work with local organizations to see how this data collection might be expanded to the larger community population. • If it is determined that no data on this indicator are currently being collected, the community could work with local organizations (e.g., healthcare centers or pediatricians' offices) to consider administering a community- wide survey to parents/guardians of infants and toddlers. Survey items related to tracking data on children being in good or excellent health could be adapted from the National Survey of Children's Health.

CHILD AND FAMILY INDICATORS

INDICATOR	INCREASE IN CHILDREN WHO RECEIVE WARM, ATTENTIVE AND RESPONSIVE CAREGIVING
Definition	The Panel Study of Income Dynamics–Child Development Supplement includes one definition of warm caregiving. Parents of children ages 12 and younger who are living with their children were asked to report how often, in the past month, they: 1) hugged or showed physical affection to their child; 2) told their child that they loved him/her; and 3) told their child that they appreciated something he/she did.[lxvii] Responsive caregiving can be defined as behavior that is prompt, contingent on the child's behavior, and appropriate to a child's needs and developmental state. It is usually conceptualized as a three-step process that includes: 1) caregiver observation of the child's cues, such as movements and vocalizations; 2) the caregiver's interpretation, of these signals; and 3) action, when the caregiver acts swiftly, consistently, and efficiently to meet the child's needs.[lxviii] This indicator, measured at the child-level, can be calculated as the number of infants and toddlers (age 0–3) whose parents/guardians report providing warm and responsive caregiving, divided by the total number of infants and toddlers in the state/community.
Research Rationale	Parental warmth and affection is also positively related to adolescent academic competence, and negatively related to teen pregnancy and associations with deviant peers.[lxix] Parental warmth is even found to encourage children's use of social support and proactive, problem-focused coping styles.[lxx] In industrialized countries, maternal responsiveness was most often associated with language, cognitive, and psychosocial development. Maternal responsiveness in early childhood is associated with social competence and fewer behavioral problems at three years, and increased intelligence quotient and cognitive growth at four-and-a-half years. Conversely, a lack of maternal responsiveness is often associated with behavioral problems and delayed cognitive development.[lxxi]
National Estimates	To measure responsive behavior, researchers observe the child and caregiver in their natural environment and note what proportion of the child's cues bring about a prompt, contingent, and appropriate response. A commonly used inventory is the Infant/Toddler Home Observation for Measurement of the Environment.[lxxii] Another observation tool, the Quality of Caregiver-Child Interactions for Infants and Toddlers (Q-CCIIT), was developed to measure the quality of caregiver interactions with infants and toddlers in non-parental care settings. Currently, there is not a national estimate of warm, attentive and responsive caregiving.
State-Level Estimates	Population estimates are not available at the state level. However, a state may be collecting relevant data through a specific program or organization, such as a home visiting program. It is recommended that the state evaluate whether these data are being collected, how, and for whom (i.e., which sub-populations). For instance, home visiting programs that are already collecting survey data on parents in their program, might be able to add questions about warm, attentive, and responsive caregiving using the definition above.
Community-Level Estimates	Population and sub-population estimates are not available at the community level. However, an individual community may be collecting relevant data through a specific program or organization, such as a home visiting program. It is recommended that the community evaluate whether these data are being collected, how, and for whom (i.e., which sub-populations). If it is determined that no data on this indicator are currently being collected, the community could work with local organizations to determine how to collect these data moving forward. For instance, home visiting programs that are already collecting survey data on parents in their program, might be able to add questions about warm, attentive, and responsive caregiving using the definition above. Then, once that is implemented, a community could evaluate if there are other locations, such as pediatricians' offices, where these data could be collected on other mothers of infants and toddlers in the community.

CHILD AND FAMILY INDICATORS

INDICATOR	INCREASE IN CHILDREN WHO BENEFIT FROM REGULAR READING AND STORY TELLING
Definition	Through 2007, the National Household Education Survey measured the percentage of pre-kindergarten children ages 3–5 who were read to by a family member every day in the week prior to the interview, as reported by an adult in the household. Other choices included "not at all," "once or twice," and "3 or more times." In 2012, the criterion for this indicator was changed to children who had a family member read to them at least seven times in the past week to reflect new response options in the National Household Education Survey.[lxxiii] This indicator, measured at the child-level, can be calculated as the number of infants and toddlers (age 0–3) who had a family member read to them/tell stories at least seven times in the past week, divided by the total number of infants and toddlers in the state/community.
Research Rationale	Children develop literacy skills and an awareness of language long before they are able to read.[lxxiv] Since language development is fundamental to all areas of learning, skills developed early in life can help set the stage for later school success. By reading aloud to their young children, parents help them acquire the skills they will need to be ready for school.[lxxv,lxxvi] Children who lack a strong foundation of language awareness and literacy skills early in life are more likely to fall behind in school,[lxxvii] and are more likely to drop out.[lxxviii] Shared parent-child book reading during children's preschool years leads to higher reading achievement in elementary school,[lxxix] as well as greater enthusiasm for reading and learning.[lxxx] Young children who are regularly read to have a larger vocabulary, higher levels of phonological, letter name, and sound awareness, and better success at decoding words.[lxxxi] The number of words in a child's vocabulary can be an important indicator of later academic success. Children's vocabulary used at age three is a strong predictor of language skill and reading comprehension at age 9–10.[lxxxii] Further, vocabulary use in first grade can predict more than 30 percent of 11th-grade reading comprehension.[lxxxiii,lxxxiv]
National Estimates	Just under half of children ages birth–2 (46 percent) were read to by a family member every day during the past week. Children in families with higher levels of income are more likely to be read to regularly: about 3 in 10 young children living in poverty are read to every day, compared with 6 in 10 who live in families with higher incomes. White children are about twice as likely as Latinos to have family members read to them frequently; Black children fall in between. About two-thirds of infants and toddlers experience [singing songs or telling stories] every day, according to their parents. Young children who live in low-income households are less likely than their peers in wealthier families to be sung to or told stories every day. Black and Latino infants and toddlers are less likely than their White counterparts to have this experience. — *Excerpted from "The Youngest Americans: A Statistical Portrait of Infants and Toddlers in the United States"*[lxxxv]
State-Level Estimates	The [Data Resource Center for Child and Adolescent Health](#) provides state estimates from 2016 for children ages 0–5 through the National Survey of Children's Health. Data are collected on family health and activities including: family reading to children, and family singing and telling stories to children. Subgroup breakdowns are available by child race/ethnicity, household income, family structure, health care needs, and by rural, urban or commuter areas. The [Kids Count Data Center](#) also provides state estimates for the number and percent of children under age 6 whose family members read to them less than four days per week.

CHILD AND FAMILY INDICATORS

INDICATOR	INCREASE IN CHILDREN WHO BENEFIT FROM REGULAR READING AND STORY TELLING
Community-Level Estimates	Population and sub-population estimates are not available at the community level. However, an individual community may be collecting data for this indicator through a specific program or organization, such as a home visiting program. It is recommended that the community evaluate whether relevant data are being collected, how, and for whom (i.e., which sub-populations). If it is determined that no data on this indicator are currently being collected, the community could work with local organizations to determine how to collect these data moving forward. For instance, home visiting programs that are already collecting survey data from parents in their program might be able to add questions about how often they read to their children using the wording above. Then, once that is implemented, a community could evaluate if there are other locations, such as a pediatrician's office, where these data could be collected on other parents of infants and toddlers in the community.

CHILD AND FAMILY INDICATORS

INDICATOR	REDUCED INCIDENCE OF DEPRESSION
Definition	In the National Health Interview Survey, parents are considered to exhibit symptoms of depression if they respond, "all of the time" or "most of the time" to at least two of the following questions:[lxxxvi] *During the past 30 days, how often did you feel…* • So sad that nothing could cheer you up; • Nervous; • Restless or fidgety; • Hopeless; • That everything was an effort; • Worthless This indicator, measured at the mother-level, can be calculated as the number of mothers with infants and toddlers (age 0–3) who report symptoms of depression, divided by the total number of mothers with infants and toddlers in a state/community.
Research Rationale	Children of depressed mothers are more likely than other children to have behavior problems, academic difficulties, and health problems (including psychiatric illness).[lxxxvii,lxxxviii,lxxxix] Maternal depression has also been linked to delays in cognitive and motor development among children ages 28- to 50- months old.[xc] Long- term, severe maternal depression has been found to have especially adverse consequences for child development and behavior.[xci,xcii] Five-year-old children whose mothers experienced frequent and/or severe depression were more likely to have behavioral problems and lower vocabulary scores than those whose mothers had less chronic and/or severe depression.[xciii] Among families receiving welfare, children of depressed mothers had lower average scores on math achievement tests than do other children. *—Excerpted from the Child Trends DataBank*
National Estimates	The National Survey of Children's Health asks about the general status of the mother's mental and emotional health, and found 76.7 percent of mothers reported excellent or very good health, 18 percent reported being in good health, and 5.3 percent reported having fair or poor health. Data collected from recent mothers in a 22-state area showed that, in 2006–2008, about 1 in 7 reported symptoms of postpartum depression in the two-to-nine months following their child's birth. The prevalence of postpartum depression was especially high (more than 1 in 5) among mothers with less than 12 years' education, and among American Indian/Alaska Native, Black, and multiple-race mothers.[xciv] The prevalence of depressive symptoms among parents of infants and toddlers is disproportionately high among single parents. Within two-parent families, the prevalence of depressive symptoms among parents with incomes below the poverty level is also high; among both these groups, it approaches 1 in 10. *—Excerpted from "The Youngest Americans: A Statistical Portrait of Infants and Toddlers in the United States"*[xcv]
State-Level Estimates	2016 data from the National Survey of Children's Health reports on parents' current mental and emotional health (reported by one parent, by state), is available from the Data Resource Center for Child and Adolescent Health.

CHILD AND FAMILY INDICATORS

INDICATOR	REDUCED INCIDENCE OF MATERNAL DEPRESSION
Community-Level Estimates	Population and sub-population estimates are not available at the community level. However, an individual community may be collecting relevant data for this indicator through a specific program or organization, such as a home visiting program. It is recommended that the community evaluate if the data are being collected, how, and for whom (i.e., which sub-populations). If it is determined that no data on this indicator are currently being collected, the community could work with local organizations to determine how to collect these data moving forward. For instance, home visiting programs that are already collecting survey data on mothers in their program, might be able to add questions about exhibiting depression symptoms using the definition above. Then, once that is implemented, a community could evaluate if there are other locations, such as a pediatrician's office, where these data could be collected on other mothers of infants and toddlers in the community.

CHILD AND FAMILY INDICATORS

INDICATOR	REDUCED INCIDENCE OF PARENTING STRESS
Definition	As measured by the National Survey of Children's Health,[xcvi] parents are considered to be stressed if they respond "usually" or "always" to one or more of three questions about how they felt during the past 30 days: • Their child was much harder to care for than other children; • They were often bothered a lot by their child's behavior; • They were angry with their child; This indicator, measured at the parent-level, can be calculated as the number of parents with infants and toddlers (ages 0–3) who are considered to have parenting stress using the definition above, divided by the total number of parents with infants and toddlers [surveyed] in a state/community.
Research Rationale	Parents who experience inordinate stress in meeting the demands of their role may be at risk for poor health, and may be more likely to use coercive discipline, putting their children at increased risk for maltreatment and behavior problems.[xcvii]
National Estimates	Parents of toddlers (age one or older) are more likely to report stress compared to parents of infants. Parents of young children with special health care needs are also more likely to report stress than parents of children without such needs. Parents of infants and toddlers living in poverty are more than three times as likely as their counterparts in more economically secure families to report stress. Latino parents of infants and toddlers are more likely to report stress than their Black peers, who in turn are more likely to do so than parents of white infants. *—Excerpted and adapted from "The Youngest Americans: A Statistical Portrait of Infants and Toddlers in the United States"[xcviii]* Data from the 2016 National Survey of Children's Health

State-Level Estimates	The [Data Resource Center for Child & Adolescent Health's](#) interactive Data Query includes state-level data from the National Survey of Children's Health which asks survey questions on parenting stress such as:
	
	• Whether a parent receives emotional help with parenting
	
	• Parental aggravation, which includes:
	
	  – Parent felt child is difficult to care for
	
	  – Parent felt child does things that bother them
	
	  – Parent felt angry with child

Community-Level Estimates	Population and sub-population estimates are not available at the community level. However, an individual community may be collecting data relevant for this indicator through a specific program or organization, such as a home visiting program. It is recommended that the community evaluate if the data are being collected, how, and for whom (i.e., which sub-populations). If it is determined that no data on this indicator are currently being collected, the community could work with local organizations to determine how to collect these data moving forward. For instance, home visiting programs that are already collecting survey data on parents in their program might be able to add questions about parenting stress using the definition above. Then, once that is implemented, a community could evaluate if there are other locations, such as a pediatrician's office, where these data could be collected on other parents of infants and toddlers in the community.

CHILD AND FAMILY INDICATORS

INDICATOR	REDUCED INCIDENCE OF ABUSE AND NEGLECT
Definition	Child maltreatment, a term that encompasses both abuse and neglect, is defined as behavior toward another person, which (a) is outside the norms of conduct and (b) entails a substantial risk of causing physical or emotional harm. The behaviors included consist of actions and omissions, ones that are intentional and ones that are unintentional. They can have severe, mild, or no immediate adverse consequences. This indicator, measured at the child-level, can be calculated as the number of infants and toddlers (ages 0–3) with substantiated cases (see definition below) of child maltreatment, divided by the total number of infants and toddlers in a state/community.
Research Rationale	Children who have experienced maltreatment are more likely to develop problems with physical and mental health and academic performance than those who haven't.[xcix] Effects can be lifelong; the experience of maltreatment has been linked with chronic disease in older adulthood—even mortality.[c] In extreme cases, child abuse and neglect can lead to death. However, its effect can vary depending on the type, timing, chronicity, and severity of maltreatment that a child experiences, as well as the relationship of the perpetrator to the child. For example, effects are typically most harmful in infancy and toddlerhood; neglect—the most common type of maltreatment—is particularly harmful for brain development in very young children. The effects of maltreatment—and the likelihood of maltreatment occurring—can also vary depending on the presence, absence, or strength of child, parent, family, and community risk and protective factors.[ci] In order to be counted as a maltreatment victim, someone must contact a state central registry or "hotline" and allege that one or more children has been maltreated, and the child welfare agency must decide whether the report is valid. Children with substantiated or indicated reports are considered to be victims of maltreatment. Substantiated cases are those in which an allegation of maltreatment or risk of maltreatment was supported or founded according to state law or policy. Indicated cases are those in which an allegation of maltreatment or risk of maltreatment could not be substantiated, but there was reason to suspect maltreatment or the risk of maltreatment. In some cases, if the level of risk for a child is deemed high, child welfare agencies place them in foster care. It is important to note that such separation from their parents is traumatic, regardless of whether maltreatment has occurred within the family.[cii] However, it is difficult to know how closely substantiated and indicated maltreatment reports reflect the actual incidence of maltreatment, for several reasons.[ciii] First, not all actual maltreatment is reported. Second, even when maltreatment is reported, reports may be inaccurately substantiated or unsubstantiated.[civ] Further, both reporting and substantiation may vary depending on child, family, community, or system factors unrelated to the actual incidence of maltreatment. Determining whether child fatalities are due to maltreatment is difficult; officially reported numbers are underestimates.[cv] Although communities must keep in mind the limitations of substantiated and indicated maltreatment reports as an indicator, tracking maltreatment is important because of the serious consequences it can have for children and families.

CHILD AND FAMILY INDICATORS

INDICATOR	REDUCED INCIDENCE OF ABUSE AND NEGLECT
National Estimates	Between 1990 and 1994, the number of cases of child abuse or neglect that were either substantiated or indicated rose from 861,000 to 1,032,000—representing a rate of 15.2 per thousand children under age 18 in 1994. Between 1994 and 1999, the trend reversed, and the number of cases dropped to 829,000—a rate of 11.8 per thousand. Cases increased slightly between 1999 and 2001, then leveled off until 2006, although the rate stayed constant throughout that time. After a sharp drop in both rate and number of maltreated children between 2006 and 2007, the number and rate of maltreated children continued to decline until 2012, when it began to rise again. In 2014, there were approximately 672,000 maltreated children in the United States, a rate of 9.1 per thousand. In 2016, children 3 years and younger had a maltreatment rate of 15 per thousand, higher than that of all other age groups. —*Excerpted from the Child Trends DataBank*
State-Level Estimates	State child welfare agencies collect information on the number of substantiated cases of child abuse and neglect for children in its state. States are required to report data to a federal data archive; state-level estimates are provided annually in the Child Maltreatment Report, prepared by the Administration on Children, Youth, and Families. Specifically, see tables 3-1 through 3-8 and 3-11 through 3-15. Kids Count Data Center also includes state level indicators of child abuse and neglect (see Safety and Risky Behaviors Indicators–Child Abuse and Neglect).
Community-Level Estimates	Population estimates are not available at the community level. A state's child welfare office collects information on the number of substantiated and indicated cases of child abuse and neglect. A community could work with its state agency to develop a data-sharing agreement to obtain aggregate-level data on the number of infants and toddlers in their county that had substantiated cases of child maltreatment in the last year. County-level data are also available in the National Child Abuse and Neglect Data System, available from the National Data Archive n Child Abuse and Neglect, but only for counties with more than 1,000 records in a given fiscal year.

CHILD AND FAMILY INDICATORS

INDICATOR	INCREASE IN PERCENTAGE OF CHILDREN WHO EXPERIENCE INTERACTIONS WHERE TEACHERS AND CAREGIVERS RESPOND TO CHILDREN'S INDIVIDUAL NEEDS AND PROMOTE THEIR SELF-REGULATORY SKILLS
Definition	High-quality interactions are characterized by: 1) warmth, respect, and enjoyment in both verbal and nonverbal interactions between child and caregiver; 2) the extent to which a caregiver can provide comfort, reassurance, and encouragement when necessary; 3) caregiver interactions that emphasize children's interests, motivations, and points of view and encourage independence; and 4) caregivers' proactive approaches to supporting positive behaviors and minimizing problem behavior.[cvi] This indicator, measured at the child-level, can be calculated as the number of infants and toddlers (ages 0–3) who are regularly cared for in settings with a high-quality rating, divided by the total number of infants and toddlers in the state/community (See State-Level Estimates for detail about this indicator).
Research Rationale	Children's early development provides a foundation for school readiness. The period from birth to age 8 is a span critical for a child's physical well-being and motor development, language and literacy development, cognitive development (including early math and science skills), social-emotional development, and motivational and regulatory skills, which are associated with school readiness and later life success.[cvii] "Interactions between young children and caregivers are the primary mechanism of child development and learning."[cviii, cix,cx, cxi,cxii,cxiii] Further, "children with secure attachments to a teacher tend to explore their environment more fully, try new things, exhibit higher levels of play, and develop a sense of independence or autonomy.[cxiv] Toddlers' relationships with teachers and caregivers provide them with a secure base from which to explore all facets of their world, and these emotional bonds play a prominent role in toddlers' language and cognitive development."[cxv]
National Estimates	The [Classroom Assessment Scoring System](#) (CLASS) is an observation instrument used to assess the quality of teacher-child interactions in educational settings. There is an Infant-Toddler CLASS as well as a Pre-K CLASS. The CLASS is made up of three domains, Classroom Organization, Instructional Support and Emotional Support. According to a study of Head Start programs between fiscal years 2012–2015, average scores on the CLASS Emotional Support domain (which assesses the degree to which a teacher establishes and promotes a positive classroom climate) were 6.0, the highest across all domains.[cxvi] The CLASS can be used in home-based settings, but it will be important for continued research to investigate the extent to which the CLASS or other observational tools are capturing dimensions of quality in home-based care.
State-Level Estimates	To collect data for this indicator, it is important to assess the components of a state's QRIS to ensure that it measures support for children's social-emotional development using a tool such as the CLASS. If the QRIS covers this domain, then "high-quality" can be operationalized in a way that makes sense for the particular QRIS. This may be the top or the top two rating levels, depending on how support for social-emotional development is measured. The [QRIS Compendium](#) has data on which states use the CLASS assessment to measure quality, as well as how many providers participate in the QRIS. Additionally, the Race to the Top–Early Learning Challenge [annual progress reports](#) include the number of children with high needs served in programs with high ratings for states awarded this grant.

CHILD AND FAMILY INDICATORS

INDICATOR	INCREASE IN PERCENTAGE OF CHILDREN WHO EXPERIENCE INTERACTIONS WHERE TEACHERS AND CAREGIVERS RESPOND TO CHILDREN'S INDIVIDUAL NEEDS AND PROMOTE THEIR SELF-REGULATORY SKILLS
Community-Level Estimates	Population estimates are not available at the community level. However, data are available for sub-populations at the community level for those children in a QRIS-rated program. QRIS data can be used by zip code, city or county to identify programs with high ratings in a local area. In voluntary QRIS, ratings are only available for participating programs. Contact the state agency or entity overseeing the QRIS to determine availability of data.

CHILD AND FAMILY INDICATORS

INDICATOR	INCREASE IN PERCENTAGE OF CHILDREN WHO EXPERIENCE LANGUAGE-RICH ENVIRONMENTS THAT STIMULATE THEIR LEARNING AND ENGAGEMENT
Definition	High-quality ECE environments are characterized by: 1) activities that support learning and development; 2) learning that is integrated into activities; 3) caregiver feedback to children that supports their learning and development; 4) and the use of language stimulation and language facilitation techniques.[cxvii] This indicator, measured at the child-level, can be calculated as the number of infants and toddlers (ages 0–3) who are regularly cared for in settings with a high-quality rating on this dimension, divided by the total number of infants and toddlers in the state/community (See State Estimates for detail about this indicator).
Research Rationale	The first three years of life are an especially critical period for speech and language acquisition.[cxviii] "Interactions between adults and children are the key means through which learning and development are supported in the early years. These interactions not only advance children's thinking, reasoning, and verbal skills but also impart knowledge about the world, as well as promote capacities such as persistence, attention, and motivation."[cxix]
National Estimates	According to a study of Head Start programs between fiscal years 2012–2015, the average score on the CLASS Pre-K Instructional Support domain (e.g., how well teachers implement curriculum to effectively promote cognitive and language development) was 2.9, the lowest across all domains.[cxx]
State-Level Estimates	To collect data for this indicator, it is important to assess the components of the state QRIS to ensure that it measures support for children's language development through the use of a language-rich curriculum or learning plan for classrooms and home-based settings serving infants and toddlers. If the QRIS covers this domain, then "high quality" can be operationalized in a way that makes sense for the particular QRIS. This may be the top or the top two rating levels, depending on how curriculum implementation is measured. The QRIS Compendium has data on which states/local areas include the use of a curriculum in their QRIS. State QRIS data are typically collected by a state agency or contractor. ACF-801 monthly case level data include the age of the child and the quality rating of the program that is paid for with a child care subsidy. The Race to the Top–Early Learning Challenge annual progress reports include the number of children with high needs served in programs with high ratings.
Community-Level Estimates	Population estimates are not available at the community level. However, data are available for sub-populations at the community level for those children in a QRIS-rated program. QRIS data can be used by zip code, city, or county to identify programs with high ratings in a local area. In voluntary QRIS, ratings are only available for participating programs. Contact the state agency or entity overseeing the QRIS to determine availability of data.

CHILD AND FAMILY INDICATORS

INDICATOR	REDUCED INCIDENCE OF CHILD INJURIES, DEATH, AND HEALTH ISSUES
Definition	The Child Care Development Fund (CCDF) identifies and defines health and safety standards, and the causes and/or factors protective against child injuries, death, and health problems. This includes infectious diseases, sudden infant death syndrome (SIDS), administration of medications, food and other allergic reactions, safety of the physical premises, shaken baby syndrome, abusive head trauma, child maltreatment, emergency preparedness, handling of hazardous materials, first aid and CPR, and child abuse and neglect. This indicator, measured at the child-level, can be calculated as the number of infants and toddlers (ages 0–3 years) with reported injuries, health issues, or death in a given year, divided by the total number of infants and toddlers in a state/community.
Research Rationale	According to the CDC, accidental injuries and deaths among children are one of the greatest public health problems in the United States.[cxxi] Unintentional injuries account for nearly 40 percent of all deaths among children ages 0–19.[cxxii] While child death rates continue to fall, death during the infancy period is much more likely than any other time period, with the death rate for children under age 1 being 11 times higher than the rate for teenagers (ages 15-19 years).
National Estimates	The National Child Abuse and Neglect Data System (NCANDS) reported an estimated 1,750 children died from abuse and neglect in 2016. Of those child fatalities, 76.9 percent were children under age three, and children under age one accounted for 44.4 percent of those deaths. In 2016, infant mortality was 583 deaths per 100,000 compared to 1980 when it was 1,288 per 100,000. The CDC/NSCH reported that an estimated 3.6 million children ages 0–4 had injury-related emergency department visits in 2009–2010.
State-Level Estimates	CCDF reauthorization requires states to make available, easily accessible provider- specific information showing results of monitoring and inspection reports, as well as the number of deaths, serious injuries, and instances of substantiated child abuse that occur in child care settings each year by electronic means. To find your state's child care licensing site, visit Child Care Aware.
Community-Level Estimates	Population estimates are available at the community-level for some components of this indicator. • The County Health Rankings and Roadmaps website has data on the number of infant deaths and the infant mortality rate, by county and, when available, the infant mortality rate by race/ethnicity. • There are no population estimates at the community-level for injuries or health issues for infants and toddlers. Some states, such as California, may have these data available by county. For communities with no population estimates available, it is recommended that the community first evaluate if there are relevant data being collected and for whom (i.e., which sub-populations), and work with those organizations to get access to aggregate level data on the number of child injuries or children with defined health problems. Next, a community could work with local organizations to determine how this data collection might be able to be expanded to the larger community population. If it is determined that no data on this indicator are currently being collected, the community could work with local organizations, such as health care centers or pediatrician offices to consider collecting these data in a systematized manner that could be tracked over time.

SURVEYING THE DATA LANDSCAPE

Every community is different, as are the needs of the people who live there, the services and programs available, and the types of data collected. When trying to gather data and other information about infants, toddlers and their families in your community, where do you begin? Below are recommendations for steps you can take to more fully understand how to access this type of information.

Step 1: Make a list of the indicators you are interested in for your community.

Step 2: For each indicator, assess what data are already being collected. Sometimes, a community or state agency or organization may already be collecting this information. If so, determine who has the data and how you can access it. For example, you could establish a data-sharing partnership with the agency/organization, either to have access to specific data, or to receive a report with the needed data on a regular basis. A data sharing partnership typically includes some formal documentation (e.g., data sharing agreement, memorandum of understanding) that clarifies what will and will not be shared, who will have access to the data, and how the data will be used. Here are some considerations when using data that other agencies and organizations are collecting:

• From whom are the data collected? Are there data you are interested in, but they are collected only for certain populations, or groups of people who are enrolled in specific services or programs? For example, the Women, Infants, and Children (WIC) program may collect data on children's BMI, but it is only for those children who are in families receiving WIC services.

• Are the data in a format that will provide the information you need? Since agencies and organizations collect data typically for their own reporting purposes, data can sometimes be in a format that is not exactly what you need. You could work with the agency to see whether you are able to get the data you need to answer your question.

Step 3: For indicators that you determine your community does not collect data for, consider alternative options for gathering information. For example:

• Work with a local agency or organization that can help collect new data. For example, hospitals, local health centers, or pediatricians' offices could be places that could collect information about children's early experiences. You could work with these agencies to see what data they are already collecting, and whether they could include additional questions or measures to provide the data you would like.

• Develop a survey or set of surveys. This could be done with a partner organization to help determine which data you are interested in collecting, the survey items to develop, and how to implement the survey. Please note that surveys are often the most difficult of all the strategies to implement and ensure that you are obtaining a representative sample of the population.

For help with data sharing, language about data, and alternative data uses, see the tools generated by Child Trends on the NCIT website. See example in box below.

Let's take L'Enfant County, for example. L'Enfant County provides many community programs and services to support infants, toddlers, and their families. County staff are interested in learning more about which children are being served, by which programs, and the impact of these services. What programs, services, and investments are supporting young children's school readiness and overall health and development? How can L'Enfant County better understand the impact of early childhood programs over time?

To answer these questions and inform their decision making, communities like L'Enfant County must first scan their data landscape. As an initial step, the county brought together a group of key stakeholders and created a list of the indicators they were interested in measuring over time. This included knowing how many infants and toddlers were born preterm, and how many parents of infants and toddlers received timely prenatal care. Their goals were to reduce the number of preterm births and increase the number of parents receiving timely prenatal care.

As a second step, for each of these indicators the county assessed what data were already being collected. L'Enfant County determined that, while their state's vital records office would have birth records with information on children born preterm and parents receiving timely prenatal care, they themselves did not have access to these data. Therefore, as a third step, the county reached out to the vital records office in their state health department to discuss creating a data-sharing agreement to access aggregate, county-level data on an annually.

FOCUSING ON EQUITY

When collecting, assessing, and using data, it is always important to focus on equity and consider how population subgroups may have different needs and outcomes, or be affected by unique systemic barriers. At its heart, equity is about sharing power to move forward decision making together. Data can be a powerful tool for identifying inequities; it can also be a tool for unintentionally reinforcing inequities. Therefore, throughout the data collection and analysis processes it is important to take the following steps:

- Is demographic information available in the data being collected? For instance, is there information available on the child and family's race/ethnicity, income or socioeconomic status, home language, parental education, marital status, or family composition? Consider disability status, gender identity, and other factors that intersect with race and ethnicity.

- When analyzing the data, it is important not just to report community-wide statistics. In addition, consider breaking down those data to determine whether there are differences among sub-group populations, such as those defined by race/ethnicity, income level, parental education, etc. It may be that certain sub- groups are faring better or worse than others, and this information can help a community more effectively use its resources and support. Sometimes, data can mask these inequalities. For example, your community may notice that overall infant mortality is decreasing each year at the county-level. However, when disaggregating these data by race/ethnicity, you notice that there are great disparities. For example, while infant mortality is decreasing for White children, it has slightly increased in the last three years for Black children. Note that, depending on the size and composition of your community, one or more sub-group breakdowns may not be feasible, because the numbers involved may be too small to indicate reliable trends, and could compromise anonymity.

- When setting goals or targets for indicators, determine if you need to adapt your targeted approaches or develop different strategies for different sub-populations to achieve a universal goal. For example, your community may have a goal of having 80 percent of third graders reading at grade level. However, to reach that goal, you may need to use different, targeted approaches with different groups of children, such as dual-language learners versus native English-speaking children.

- Consider contextual factors, including current and historical policies and systems that may account for differences in sub-group populations. Are there characteristics of policies or programs that may be causing disparities for some sub-groups? It is critical to understand that inequities reflect contextual or systems issues in your community or state, not perceived failings of individuals or their associated cultural group. In short, always ask, "Why does this disparity exist?"

- Equity also requires balancing measurement of risks with measurement of assets or supports. Consider how you can measure community assets, strengths, or access, and disaggregate those data by subpopulation.

- When analyzing and using data pertaining to subgroups, interpret findings in partnership with at least one representative from that group.

- When communicating about data, say what you mean; avoid non-specific terms like "diverse" and "low income." Consider using person first, characteristic second language (e.g. children who have experienced foster care). Include context on structural inequality early and be aware of attributing value and stigma to a group or finding.

FOCUSING ON ACCESS

The NCIT Outcomes Framework identifies a set of outcomes and indicators focused on access to policies, programs, services and supports. This includes: 1) having access to prenatal and preventative and comprehensive health care to support healthy beginnings; 2) universal family connection and referral programs and home visiting services to support families; and 3) access to affordable, high-quality care options that meet children's and families' needs. Having access to these policies and programs is more than just determining if specific services are available in a geographic area. Recent efforts to define access in a family-centered way focus on articulating multiple, inter-related dimensions that provide a more complete picture of access from a family's perspective. Four primary dimensions of access are relevant to the NCIT Outcomes Framework:[cxxiii]

- **Requires only reasonable effort**: There is an adequate supply or availability of the program or service within a particular geographic location, with sufficient information available to parents to identify services and make decisions.

- **Is affordable**: The costs of the program or service are feasible both for the family as well as for the provider.

- **Supports the child's development**: The services are designated as high quality; supportive or specialized services are available for children with disabilities or vulnerable children; services are coordinated; and, there is a stability of services offered.

- **Meets the parents' needs**: Programs and services take into account the preferences and context of families including their location, language, ages of children, employment schedules and transportation needs.

CONSIDERING SOCIAL DETERMINANTS OF HEALTH

In addition to the outcomes and indicators noted in the NCIT Outcomes Framework, it is important to consider contextual factors that also have an impact on children and families. Social determinants of health are, "the conditions in which people are born, grow, live, work, and age that shape health."[cxxiv] These factors can influence, but are not absolute determinants, of the economic, social, and physical contexts that affect development and health and overall quality-of-life outcomes. Addressing these factors is critical for improving health outcomes and reducing inequities in child and family well-being.

There are both social and physical determinants of health that affect people's well-being. Social determinants of health include access to health care services, or educational opportunities, as well as discrimination or racism. Physical determinants of health include the conditions of buildings, housing and neighborhoods, or exposure to toxic substances. Placing an emphasis on the systemic nature of these determinants emphasizes the magnitude of the barriers they create and reinforce. For example, an individual's racial identity alone does not determine health outcomes; it is the context of systemic racism that does.

Social and physical determinants of health can usually be grouped into five main areas. According to Healthy People 2020, the five areas are:[cxxv]

- Health and Health Care (e.g., access to and quality of health care, health literacy)

- Social and Community Context (e.g., discrimination, civic participation, social cohesion)

- Education: (e.g., early childhood education and development, high school graduation)

- Economic Stability (e.g., employment, food insecurity, housing instability, poverty)

- Neighborhood and Built Environment (e.g., housing quality, environmental conditions, crime and violence)

There are several organizations that have developed frameworks and identified outcomes and indicators associated with social determinants of health:

- Healthy People 2020: In addition to developing an organizing framework identifying the areas of social determinants of health, Healthy People 2020 also has an online, interactive data tool that provides state-level data on each of the indicators when available.

- World Health Organization: The World Health Organization's page on social determinants of health discusses systems at the global, national, and local levels. It includes evidence reports for each domain, key publications, tools for learning, and action steps for addressing health disparities globally.

- Kaiser Permanente: The Kaiser Family Foundation's brief on social determinants of health includes an overview, as well as descriptions of specific initiatives aimed at addressing health disparities.

- Centers for Disease Control and Prevention: Sources for data, research publication, and tools and policy resources are included on the CDC's comprehensive website on social determinants of health. Data sources include the Social Vulnerability Index, National Environmental Public Health Tracking Network, and Atlas of Heart Disease and Stroke.

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