PRESCHOOL DEVELOPMENT GRANT B-5
SURVEY OF EARLY CHILDHOOD EDUCATION DATA USERS

FINAL REPORT | AUGUST 31, 2019

THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

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Executive Summary

North Carolina recently launched the statewide Early Childhood Action Plan, which outlines a set of ten priorities to change outcomes in early childhood health, safety, and education by 2025. Each goal area of the North Carolina Early Childhood Action Plan is anchored by specific objectives and measurable outcomes. Effectively tracking outcomes requires strong data systems and prepared professionals. A statewide survey of data users was developed to assess the types of data that are currently available and being used in the state. Responses confirm that data is currently being collected in all target areas of the Early Childhood Action Plan; this indicates a strong foundation for monitoring state progress through 2025.

The Preschool Development Grant B-5 (PDG B-5) provides an opportunity for the state of North Carolina to align systems and improve access to high-quality early childhood care and education, one of the goals of the North Carolina Early Childhood Action Plan. Survey respondents expressed enthusiasm about the opportunity to improve the collection and use of early childhood data in the state. Responders also provided detailed feedback on what they need to partner with the state to achieve the shared goals of the Early Childhood Action Plan. These recommendations are synthesized from the survey findings, and informed by the best practices identified in national initiatives to improve use of early childhood data.

Recommendation One: Data quality and management. Build internal capacity in early childhood settings at the community level to collect, manage, and use data.

Recommendation Two: Data sharing. Support the sharing of data between organizations by providing legal, procedural, and policy guidance.

Recommendation Three: Purposeful data use. Provide technical assistance to early childhood organizations to access and leverage existing early childhood data from available public sources.

Recommendation Four: Data transparency at the state level. Provide accessible and timely information to improve access to state administrative data.

Recommendation Five: User-centered system. Better aligning data systems to equitably support the needs of all users.

The next phase of the planning and system building process should include detailed feedback from data users and stakeholders on how to best address these identified needs. Suggestions are provided in this report. Using data effectively can allow early childhood systems to support the healthy development of North Carolina's children with data-informed policies, practices, and programs.

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Introduction

The North Carolina (NC) Early Childhood Action Plan (ECAP) provides a framework for action to measurably improve outcomes for North Carolina children by 2025. [1] The NC Department of Health and Human Services was charged by Governor Roy Cooper through Executive Order No. 49 to spearhead the development of a statewide early childhood strategic plan in coordination with the Early Childhood Advisory Council and other stakeholders from across the state.

Awarded to the NC Division of Child Development and Early Education in 2018, the Preschool Development Grant B-5 (PDG B-5) presents an opportunity for NC to align systems and improve access to high-quality early childhood care and education (ECE).[2] The first phase of the PDG B-5 is for NC to conduct a statewide needs assessment to inform the state's ongoing plans for strengthening the early childhood system.

Professionals working in early childhood systems across the state are increasingly making data-informed decisions to improve services for children and families. However, we know little about how to better support data users as they increasingly measure and track child outcomes. To assess these needs, the evaluation team developed and fielded a statewide survey of key ECE data users to better understand what data is currently available and being used in the state. The survey sampling frame was determined in consultation with state partners to identify appropriate state and local agencies, researchers, policy makers, and other stakeholders to target for the survey. The electronic survey posed questions about primary data currently being collected, secondary data sources currently in use, how these data sources are used to inform practice and policy, and specific initiatives requiring additional data, both locally and statewide.

How Early Childhood Education Data is Used in North Carolina

The survey separately examined three areas of data use: primary data, secondary data, and integrated data systems. Early childhood organizations that provide services to children and families collect information about individual children and families receiving services to aid in tracking and evaluation. In addition to collecting data, organizations also use data from other sources for a variety of reasons, such as community needs assessment. Our survey defined **primary data** as information that you create or generate in your agency or organization and we defined **secondary data** as information about individual children and families that you use and that someone else creates. We also asked survey respondents about **data integration systems**, which we defined as individual data sets from multiple sources that are linked in a central location in order to paint a fuller picture of children's experiences. The Data Supplement at the end of this report details the survey responses in this area.

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[1] https://www.ncdhhs.gov/about/department-initiatives/early-childhood/early-childhood-action-plan
[2] https://ncchildcare.ncdhhs.gov/Whats-New/preschool-development-grant-award

The survey also studied the needs of and barriers to NC's ECE data users who generate primary data and use secondary data. Figure 1 displays the overall average (mean) barrier rating for each significant barrier to generating primary data, using secondary data, and integrating data. The survey employed a 0-5 scale, with 0 indicating "not a barrier at all" and 5 indicating "the greatest barrier we face" for each area; a higher average score indicates a greater barrier to data creation and use. Individual barrier scores ranged from 1.9 (privacy concerns for primary data) to 3.2 (lack of data sharing agreements for integrating data). The domain averages and individual items ranges indicate that most respondents did not consider any of the potential barriers to be extremely high or extremely low.

We also calculated the average score of barriers to primary data, secondary data, and data integration, indicated by the black bolded bars in Figure 1. The mean barrier rating was 2.3 for secondary data, 2.4 for primary data, and 2.8 for data integration was 2.8. As expected, we found that data integration barriers were higher than barriers to creating and accessing primary or secondary data.
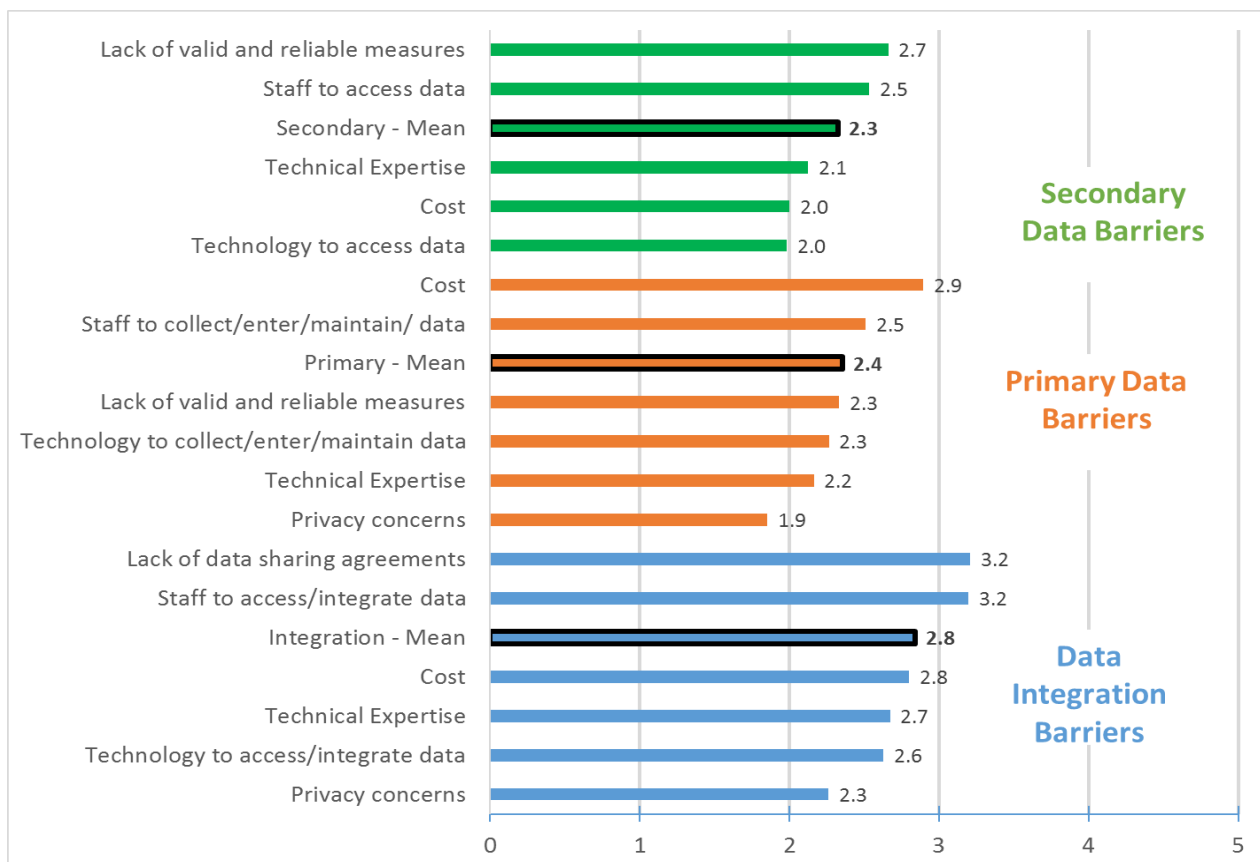

Figure 1. Average barriers to primary data, secondary data, and data integration among survey respondents. Higher values indicate perceptions of a greater barrier.

Barriers to Generating Primary Data

The highest perceived barrier to generating primary data was "cost" (M = 2.90) and the lowest was "privacy concerns" (M = 1.85). Respondents also had an opportunity to provide open-ended responses to describe these barriers. Seven respondents identified additional barriers, including a lack of user-friendly software for collecting data, HIPAA regulations (Health Insurance Portability and Accountability Act), and workload/capacity.

Barriers to Using Secondary Data

The highest perceived barrier rating was a "lack of valid and reliable measures" (M = 2.66) and the lowest was "technology to access data" (M = 1.98). Additional barriers to secondary data use identified in open-ended responses included a lack of time and human resources, a lack of knowledge, a lack of online data availability, and a need for data governance.

Barriers to Integrating Data

The highest perceived barrier to integrating data was a "lack of data sharing agreements" (M = 3.21) and the lowest was "privacy concerns" (M = 2.26). Additional barriers to data integration identified in open-ended responses included: difficulty identifying the appropriate "gatekeepers" of data, data is not collected at the same level, agencies not wanting to give up control of data despite legal requirement for data sharing, and misunderstanding of confidentiality and HIPAA regulations.

Differences in Barriers by Early Childhood Service Sector

The early childhood system operates across numerous service sectors. Although efforts are underway to align and integrate these sectors into a comprehensive system of care, professionals across sectors have varying resources and requirements regarding data use. We examined whether there were differences in perceived barriers between survey respondents in different sectors identified in the survey (i.e., early education, child care, social services, health care, home visiting, housing, government, and intellectual-developmental disabilities). Average barrier scores were compared using independent t-tests between respondents who identified as a specific organization focus compared to all other sectors. As an exploratory analysis, differences with a statistical significance of $p < .20$ were identified.

Several valuable insights emerge from this cross-sector comparison of barriers. Respondents from home-visiting organizations reported several lower barriers in primary, secondary, and data integration compared to respondents from other service sectors. Figure 2 displays these differences and additional analyses are provided in the data supplement. Although further studies are needed, we assume that the reason home-visiting respondents reported lower

barriers to data use stems from the long traditions of data collection and evidence-building in the home-visiting field.
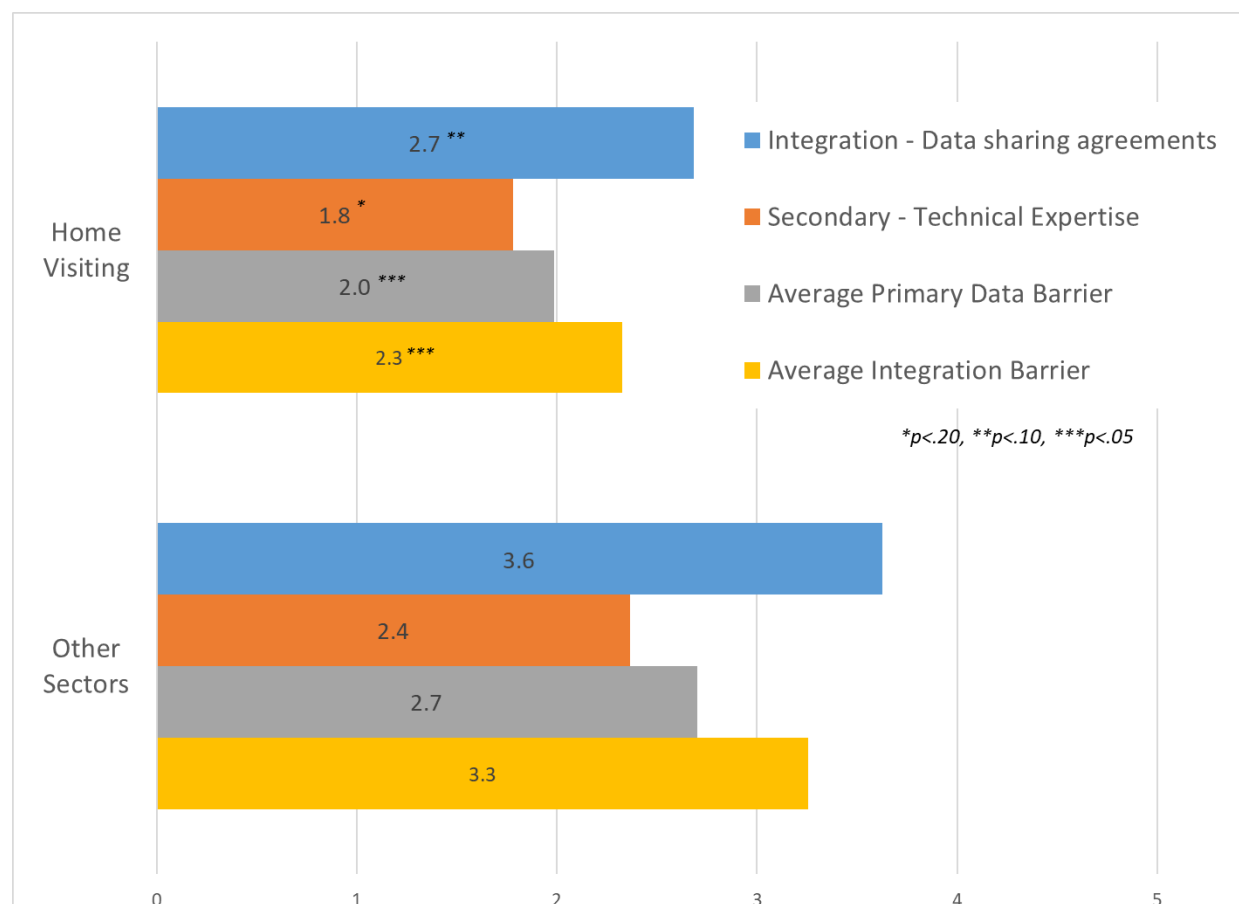

Figure 2. Barriers to data use, home-visiting organizations vs. other early childhood sectors. Higher values indicate greater perceived barriers to data use.

Open-Ended Comments on Data Use

Several open-ended response items encouraged respondents to provide more detailed feedback on their data use. These responses were thematically categorized and their contents analyzed.

Open-ended Question 1: **What currently available data do you consider most useful to your organization? Why?**

Out of 56 responses to this question, we identified 88 discrete responses about the types of available data most useful to these organizations. Although the responses were very detailed and highly contingent upon each organization's focus, most highlighted the usefulness of data used to assess the needs of families and communities (i.e., needs assessment) or data used to track services and outcomes of children and families (i.e., program evaluation). However, these

responses indicate that while these organizations have shared general goals, they do not use the same data sets. In helping these organization, we need to take a holistic view of data needs to encompass the many domains of child well-being and family support services. Examples of useful available data include:

- Child care costs
- Child care quality
- Community assessment
- Developmental screening results
- Early hearing detection results
- NC DETECT
- NC Report Card
- School readiness
- U.S. Census and American Community Survey

Open-ended Question 2: **What data does your organization currently not have that would be most useful? Why?**

Similar to Question 1, responses to this question were diverse and specific to a respondent's service context. From 56 responses, we identified 72 discrete areas of data needs. Five respondents specifically mentioned the potential utility of Kindergarten assessment data, currently inaccessible. Other examples of useful data include:

- Adverse childhood experiences (ACEs)
- Child abuse and neglect investigations
- Child care suspension/expulsion
- Dental care
- Homelessness
- Parent engagement
- SNAP eligibility
- Parental substance use

Open-ended Question 3: **Are there any aspects of an early childhood integrated data system that would be helpful to your position or organization?**

Of the 47 responses to this question, only two stated "no" or "not sure." The significant majority of respondents were enthusiastically positive and cited several ways that an integrated data system would enhance their work. The most common response was than an integrated data system would provide a more complete representation of a child and family. Many respondents also asserted that integrated data would help connect currently fragmented care and data systems and encourage more collaboration among organizations. Several respondents also noted the value of a longitudinal data system that could track children as they move in and out of various systems, helping to identify the long-term downstream "return-on-investment" that early childhood programs and services deliver. Given the robust language of several responses, we provide several exemplary quotes:

- "An integrated data system would make it much easier for our organization to make the connections for lawmakers and the public about the impact of policy proposals by highlighting the number of children affected across sectors (i.e. # children living in poverty who lack health care and also live in an area without access to child care)."
- "We support collective impact work through real-time data and continuous improvement – or at least that is the idea. The data we have access to is so disparate that we can't work effectively. It would be very, very helpful to have access to an integrated data system that would allow us to see the impacts of our programs and services, and identify gaps and opportunities for targeted improvement."
- "Yes - we need to plan programs and services using accurate longitudinal data that is individually identifiable (or can be obtained by using a common identifier by which we are collecting data on the same children over time, even if the report that comes back produces aggregate numbers based on the child-specific data). If we were able to "query" an integrated system for other related information on a specific sub-set of children using the common identifier, that would be helpful in accurately determining and reporting outcomes and looking at things like return on investment."

Open-ended Question 4: **Please share any additional information about the data needs of your organization/position.**

We received 19 responses to this open-ended prompt for additional information. Many of the comments reiterated the respondent's enthusiasm for initiatives to improve data access and use. Some specific quotes from these comments provide insight into individual hopes and concerns:

- "Data agreements with other organizations would be extremely helpful."
- "In order to reflect outcomes accurately, we need to be able to reliably, safely, and accurately track long term, individually identifiable educational, language and literacy data. Data would never be shared without de-identification, but child specific data is necessary to determine which programs or types of intervention are most successful."
- "It is also difficult and very time consuming to track down other data sources and figure out who the appropriate person(s) are who are the gatekeepers of the data."

> *"If we all really pooled our money AND really paid attention to the needs of the direct service providers/people doing the work and entering the data and worried about aggregation of data later in the process then you might find a system that met the needs on the ground as well as larger system/big picture needs."*

- "Our organization lacks the ability to easily access some important data points through dashboards. It would be helpful to have the ability to check data trends through more comprehensive presentation of measures on dashboards."

- "The State needs to find and work much more aggressively with trusted partners who can be trusted to protect sensitive data and to do good research with it. There are quite a lot of partner institutions in NC that fit that description."
- "We need data to be available for all 100 counties as well as for the state level. We particularly would like to see population level indicators for the status of children when they enter kindergarten, and the social emotional status of young children."

Opportunities for Expansion of NC ECIDS

The mission of the North Carolina Early Childhood Integrated Data System (NC ECIDS) is "to create a high-quality, comprehensive, and integrated early childhood data system for North Carolina to inform policies and practices that produce better outcomes for children and families." NC ECIDS data are currently available through an interactive web portal (https://www.ecids.nc.gov). The NC ECIDS system provides a strong foundation for the type of integrated data system that survey respondents felt would be helpful to their programs and services.
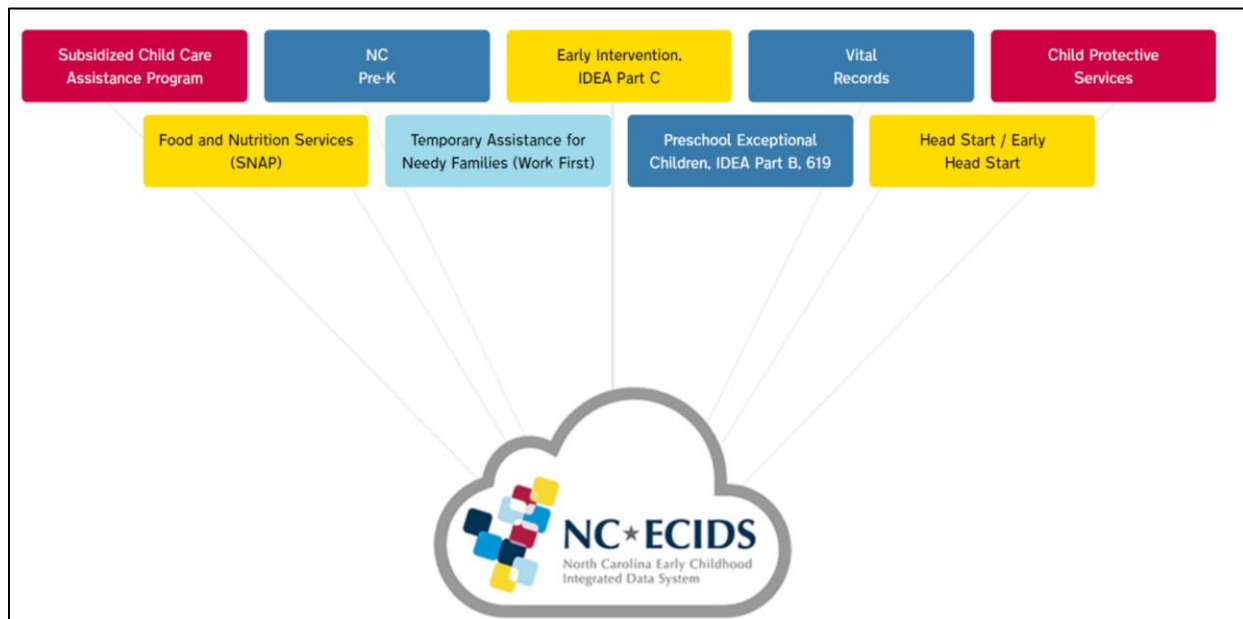

Figure 3. Data sources currently available in aggregate through the NC ECIDS web portal.

Expanding the NC ECIDS system to better meet the needs of users in NC will require increasing the number and quality of data sources integrated into the NC ECIDS system. While this growth will require external investment, the results of the survey indicate that data users in the state would benefit greatly from this expansion. The purpose of expanding NC ECIDS is to improve data users' ability to track a child's experiences and outcomes over time (**life-course**) and improve their ability to describe a child's experiences from a **holistic** view of child well-being. The NC ECAP inherently embraces this holistic, life-course perspective of child development and well-being. Survey responses indicated that organizations are already collecting data in each of

the ECAP goal areas, as well as in many sub-target areas. Specific information about the ECAP target areas is provided in the data supplement at the end of this report. Certain target areas will need additional attention to ensure consistent data collection. The general task will be to identify a process to collect and manage this information in a centralized location. **As observed by several survey respondents, the quality of this integrated data system will only be as useful as the information being collected by local providers.**

Early childhood data integration is a current focus of many other states and organizations. Several strategies and "lessons learned" for data integration are available to guide the process in North Carolina. For example, the Roadmap for Early Childhood and K–12 Data Linkages focuses on linking early childhood and K-12 data and identifies multiple programs that could be included in the data integration process, such as TANF, Medicaid, pre-kindergarten, and early childhood workforce data.[3] This report outlines seven key areas required to improve data linkages, which are largely consistent with areas contemplated by survey respondents:

1. *State capacity*
2. *Data governance*
3. *Privacy, security, and transparency*
4. *Linking, matching, and sharing*
5. *Data quality*
6. *Data access and use*
7. *Stakeholder engagement*

We provide two examples from other states to describe initiatives currently in place. Although the NC planning is ambitious, there are instructive precedents from other statewide partnerships.

State Example 1: Pennsylvania Enterprise to Link Information for Children Across Networks (PELICAN). The Pennsylvania PELICAN system "offers a single integrated information system that automates and supports all of Pennsylvania's early learning and education programs."[4] PELICAN integrates Pre-K services, Head Start services, and the Pennsylvania child care Quality Rating and Improvement system. Although the PELICAN system only includes early learning and education programs, it provides a useful example of some of the necessary components of the seven key areas outlined above that have been included in this system.

State Example 2: South Carolina Health Utilization Office. South Carolina houses one of the most comprehensive integrated data systems in the U.S.[5] Previously part of the state's Office of

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[3] From Child Trends, Data Quality Campaign, and the Early Childhood Data Collaborative https://www.childtrends.org/wp-content/uploads/2016/01/ECDC-DQCEarlyChildhoodK12Linkage.pdf
[4] From Pennsylvania Early Learning Initiative https://www.pakeys.org/pa-early-learning-initiatives/pelican/pelican-getting-started/
[5] For more detail see this case study from the University of Pennsylvania's Actionable Intelligence for Social Policy: https://www.aisp.upenn.edu/wp-content/uploads/2015/08/SouthCarolina_CaseStudy.pdf

Research and Statistics, in 2014 the South Carolina Integrated Data System became part of an independent agency operating as the Revenue and Fiscal Affairs Office.[6] Their data integration initiative initially focused on the health care sector, but then expanded in part to "show the agencies how their program outcomes were tied to program outcomes across other agencies." Figure 4 below outlines the data sources from several sectors that contribute to the South Carolina Integrated Data System.
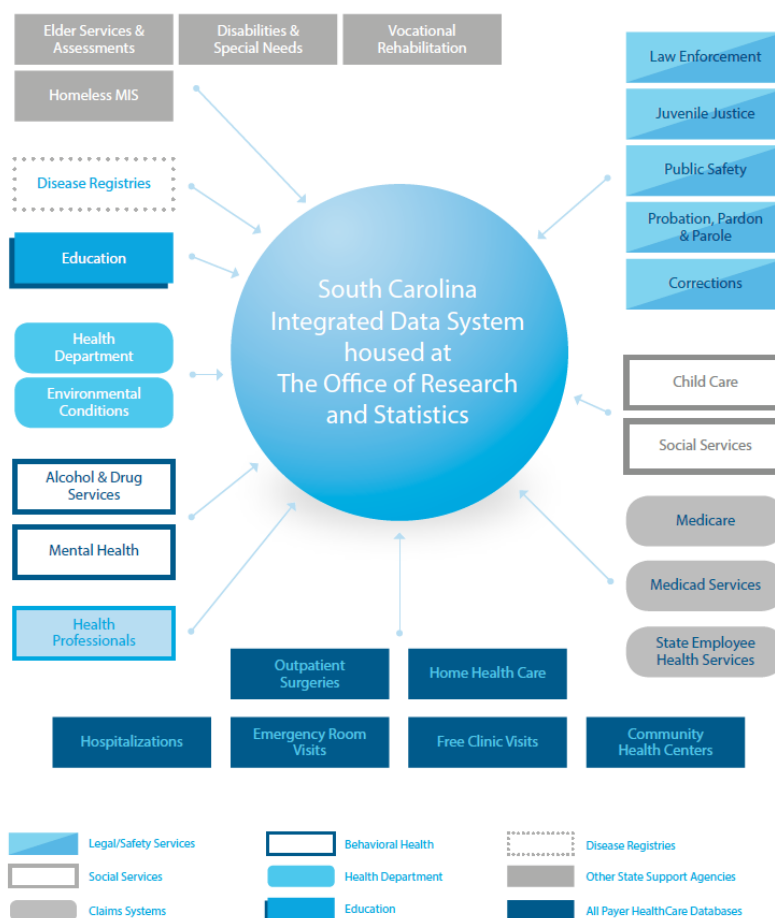

Figure 4. The South Carolina Integrated Data System (also known as the "Circle of Love")

Existing Recommendations for Early Childhood Data Use in NC

Recommendations for early childhood data use are available from active initiatives in North Carolina and nationwide. The Hunt Institute's report [Connecting the Continuum: Longitudinal Data Systems in North Carolina](#) highlights different challenges to developing these systems, and poses a series of guiding questions that can inform this work. As many NC initiatives strive to be data-informed, including the [North Carolina Early Childhood Foundation's Pathways to Grade-Level Reading Initiative](#), [Essentials for Childhood](#), and the [North Carolina Early Childhood Action Plan](#), we must consider how to best collect and apply early childhood data. Steps or recommendations from different initiatives are outlined in Table 1 below.

Table 1. Additional Existing Recommendations and Strategies for Data Use	
Steps/Recommendations/Strategies	**Source (hyperlinked to reference document)**
"Undertake an analysis and assessment of the 0 – 8 data landscape, (e.g., health, education, child welfare, etc.). This analysis will include, but not be limited to, data quality, data ownership, data governance, data access, data systems, and data gaps. This analysis should include an evaluation of strengths and limitations of each relevant data system."	Birth – Third Grade Interagency Council Progress Report
"Conduct a broad survey among teachers, administrators, policy-makers, governmental agencies, organizations and other stakeholders of the 0 – 8 data to which they would like to have access on a regular basis and what types of questions they would like to have answered."	Birth – Third Grade Interagency Council Progress Report
"The B-3 Interagency Council submit a request for funding through a fiscal note for a data system to facilitate the sharing of child and family information between programs serving 4-year-olds and LEAs as well as funding for human resources to support statewide scale-up and implementation to all programs serving 4-year-olds and all elementary schools."	Birth – Third Grade Interagency Council Progress Report
"Use data to track community needs, available services, and racial/ethnic, linguistic and income disparities in delivery of services and children's outcomes. Use these data to determine whether enough services are available and whether access to high quality services is equitable. Adjust delivery of services as needed."	Pathways to Grade-Level Reading Action Framework
"Disaggregat[e] data so that we can clearly see and address the racial and other disparities in outcomes among groups of children."	Pathways to Grade-Level Reading Action Framework
"[Collect] and analyz[e] reliable data on young children's health, well-being, social-emotional development, housing status, academic performance and other factors in order to track children's progress across multiple years, and then using those data to make better policy decisions for their care."	North Carolina Early Childhood Action Plan
"Re-evaluat[e] and replac[e] early childhood data sources and methods of collecting information across sectors in order to eliminate measures that may demonstrate racial, ethnic, geographic or other kinds of bias."	North Carolina Early Childhood Action Plan
"Use partnerships to help identify, gather and synthesize relevant data."	Essentials for Childhood: Creating Safe, Stable, Nurturing Relationships and Environments for All Children

"Take stock of existing data."	Essentials for Childhood: Creating Safe, Stable, Nurturing Relationships and Environments for All Children
"Identify and fill critical data gaps."	Essentials for Childhood: Creating Safe, Stable, Nurturing Relationships and Environments for All Children
"Use the data to support other action goals and steps."	Essentials for Childhood: Creating Safe, Stable, Nurturing Relationships and Environments for All Children
"HRSA and ACF recognize that data exchange standards should be tools that assist state home visiting programs in exchanging relevant information with early childhood partners in systematic and standard ways in order to support more efficient and effective implementation of programs."	Developing Data Exchange Standards for MIECHV Home Visiting Programs: Conceptual Brief, May 2019
"Data providers and survey managers should connect users to the abundance of existing public and private data applicable to population health disparities research."	Counting a Diverse Nation: Disaggregating Data on Race and Ethnicity to Advance a Culture of Health

These recommendations correspond to the components to support data linkage highlighted above from the [Roadmap for Early Childhood and K–12 Data Linkages](#). Actions to achieve these recommendations and support the use of early childhood data in North Carolina are already underway. Building from the work of the Pathways to Grade-Level Reading initiative, a North Carolina Early Childhood Data Advisory Council has been formed.[7] This group strives to identify measures that will inform early childhood development, as well as develop a strategic vision for early childhood data use and collection in the state.[8]

Summary and Recommendations

Survey respondents expressed enthusiasm about the opportunity to improve the collection and use of early childhood data in the state. Data collection is already underway in each goal area of the North Carolina Early Childhood Action Plan, demonstrating the momentum behind the plan's goals to inform policy and practice leveraging early childhood data for all of North Carolina's children from birth to age eight. In order to achieve this goal, we have outlined several recommendations to support participating organizations in these efforts. Our recommendations are synthesized from the survey findings, and informed by the best practices pertaining to early childhood data nationwide.

Recommendation 1: Data quality and management. Build internal capacity in early childhood settings at the community level to collect, manage, and use data.

Survey responses indicated that a key challenge to collecting, managing, and using early childhood data is staff time and expertise. Technical assistance with collecting and managing data, as well as creating resources for using data to inform practice will be essential. At the individual organization level, it will be critical to develop training resources with guidance on best practices for obtaining, managing, and using quality data. Using primary data for quality improvement is one clear opportunity to provide a tangible application of data collection. For example, the Child Trends' "Culture of Continuous Learning Project" applied the Institute for Healthcare Improvement's Breakthrough Collaborative Series[9] approach for collaborative improvement to improve the quality of care in child care and Head Start settings.[10]

Our analysis of early childhood sector barriers provides some insights for improving an organization's internal capacity to collect primary data. Home-visiting services reported lower

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[7] From the NC Early Childhood Foundation Pathways to Grade-Level Reading Initiative website: https://buildthefoundation.org/initiative/pathways-to-grade-level-reading/
[8] From the NC Early Childhood Foundation NC Early Childhood Data Advisory Council Website: https://buildthefoundation.org/nc-early-childhood-data-advisory-council/
http://www.ihi.org/resources/Pages/IHIWhitePapers/TheBreakthroughSeriesIHIsCollaborativeModelforAchievingBreakthroughImprovement.aspx
[10] https://www.childtrends.org/project/culture-of-continuous-learning-project

average barriers across primary data collection, likely due to home visitors' and home-visiting programs' traditions of collecting data. One strategy for other agencies might be to identify opportunities for home-visiting agencies to work with (for example) child care agencies to develop learning collaboratives around data use.

Recommendation 2: Data sharing. Support the sharing of data between organizations by providing legal, procedural, and policy guidance.

The complicated process for sharing data between organizations, including establishing data use agreements and ensuring the privacy and security of the data, can significantly impede data sharing initiatives. Providing guidance and resources, such as templates and information on best practices, can directly support organizations in their efforts to share data. External resources are available to support the state in improving data sharing. For example, All In: Data for Community Health[11] is a "nationwide learning collaborative that helps communities build capacity to address the social determinants of health through multi-sector data sharing collaborations."

Recommendation 3: Purposeful data use. Provide technical assistance to early childhood organizations to access and leverage existing early childhood data from available public sources.

All stakeholders should be aware of the range of data sources that could inform the work of their organizations. Providing technical assistance in identifying these sources, accessing the data available, and sharing methods for analysis supports the use of secondary data by early childhood organizations in North Carolina.

Recommendation 4: Data transparency at the state level. Provide accessible and timely information to improve access to state administrative data.

Data users in North Carolina should not experience insurmountable barriers in accessing readily available data. To eliminate initial roadblocks to data use, the sources of and avenues for accessing available data should be clear to all.

Recommendation 5: User-centered system. Better aligning data systems to equitably support the needs of all users.

Shared data should not only support the needs of a larger statewide system or goals, but also the needs of the end-users generating the data. Organizations at all levels should be able to inform policy, practice, and programs when using these data systems. Future planning efforts of the PDG should directly engage data users in the state to better understand their needs.

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[11] https://www.allindata.org/

Appendices

Survey Overview and Methodology

To conduct the survey, the evaluation team from the UNC School of Social Work partnered with the Carolina Survey Research Laboratory (CSRL) in the Department of Biostatistics at the UNC Gillings School of Global Public Health. An electronic survey was developed using Qualtrics survey software. CSRL provided expertise in the areas of survey and questionnaire design and supported data collection. The survey was piloted with a group of experts from the North Carolina Infant and Early Childhood Mental Health Association. This group provided feedback on survey readability, flow, and content relevance. Pilot feedback was received through May 17, 2019.

Once the survey was finalized, sample recruitment opened on May 22, 2019. An initial key stakeholder contact list was developed with support from PDG B-5 partners. A universal survey link was generated and shortened (bit.ly/NCPDG). This approach made it challenging to estimate a response rate because unique links were not provided to specific individuals in a sample frame. However, a universal link widely advertised through numerous professional networks invited a greater diversity of responses across the state. The first recruitment email was sent to 179 recipients from the contact list and an additional 83 emails were sent to a separate contact list recently compiled for a study of early childhood home visiting. We advertised the initiative in social media channels for the UNC School of Social Work and NC DHHS, and through fliers at the NC Summit on Child Health on June 7 at Duke University. To incentivize survey participation, respondents had the option of entering a raffle for $50 gift cards for five randomly selected survey finishers. The survey closed on June 14, 2019.

Respondent and Organization Information

Survey Response

We received 206 unique responses to the Qualtrics online survey during the survey window. This total represents the number of unique individual clicks on the link to the survey. Seventy individuals (34%) finished the entire survey and were entered in the survey raffle. The highest number of responses to an individual question asked of all respondents was 124 (60%). This response pattern indicates that many individuals recruited to participate clicked on the survey link and did not respond, or responded on a different computer later.

Organization Names

The following lists the names of the organizations represent by survey respondents represented. Some respondents were collapsed into larger groups, with the largest group

coming from various divisions within the NC Department of Health and Human Services (*n* = 25).

NC Department of Health and Human Services (25)
Local Smart Start/Partnership for Children (9)
Duke University (5)
UNC Chapel Hill (5)
Alamance Achieves / Cone Health
Autism Society of NC
Book Harvest
Burke County Public Schools Parents as Teachers
Center for Environmental Farming Systems
Charlotte Bilingual Preschool
Child Care Resources Inc.
Child Care Services Association
Child First, Inc.
Coastal Horizons Center
Community Action Opportunities
Community Care of North Carolina
Davidson County Schools /Parents as Teachers Program
Duplin County Schools Pre-K
Durham County Government
East Coast Migrant Head Start Project
Families Moving Forward
Family Connects International
Forsyth Tech Community College
Gaston Family Health Services
Guilford Child Development
Head Start Rockingham County
Hoke County Parents as Teachers
Imprints Cares
Institute for Emerging Issues, NC State University
Intermountain Children's Services, Inc.
Iredell County Health Dept.
Kannapolis City Schools/ Kannapolis BOE Head Start
Kids First, Inc. Child Advocacy Center
LeGrande Learning Center
Macon Program for Progress 0-5 Head Start
Mecklenburg County Public Health/ Health Department
MomsRising
Moore County Schools

NC Center for Health and Wellness
NC Child
NC Children's Developmental Services Agency, Mecklenburg County
NC Cooperative Extension - Lenoir County
NC Early Childhood Foundation
NC Homeless Education Program
NC Partnership for Children
NC Pre-K in Bertie County
NC State University
North Carolina General Assembly
North Carolina Institute for Public Health
North Carolina Institute of Medicine
Our Children's Place of Coastal Horizons Center
Pitt County Health Department
Prevent Child Abuse NC
Reach Out and Read Carolinas
Ready for School, Ready for Life
Resiliency Task Force Wilmington
Rockingham County Head Start
STEP's Developmental Academy, Inc.
Southwestern Child Development Commission
The Duke Endowment
The Enola Group
Third Sector
University of Virginia
Uplift Comprehensive Services/The Power of U
Verner Center for Early Learning
Wake County Public Schools Parents as Teachers
Wayne Action Group for Economic Solvency, Inc. (WAGES)
Western Carolina Community Action
YMCA of Greater Charlotte - Parents as Teachers
YWCA Lower Cape Fear
Yadkin County Human Services Agency
Yadkin County Women, Infants, & Children (WIC)
Yadkin Valley Economic Development District Inc. Head Start

Location of Responding Organizations

Survey responses provided geographic location for 124 respondents. Responses came from 40 different geographic locations. Raleigh was the most represented location (*n* = 38), followed by Durham (*n* = 11). The following list provides the unduplicated location of survey respondents and organizations.

Asheville	Kenansville
Bakersville	Kings Mountain
Boonville	Kinston
Boston, MA	Madison
Burlington	Mocksville
Carthage	Morganton
Chapel Hill	Morrisville
Charlotte	Raeford
Charlottesville, VA	Raleigh
Durham	Rocky Mount
Elizabeth City	Roxboro
Franklin	Statesville
Gastonia	Sylva
Goldsboro	Thomasville
Greensboro	Trumbull, CT
Greenville	Webster
Hendersonville	Wilmington
Hickory	Winston Salem
Indian Trail	Yadkinville
Kannapolis	

Organization Service Focus

An introductory question asked respondents to indicate the service focus of the organization they represented, with the option to select more than one service focus. A total of 124 individuals responded to this question. Early education (74 responses, 60%) and child care (59 responses, 48%) were the most commonly selected groups, and the least selected service focus was housing (13 responses, 10%).
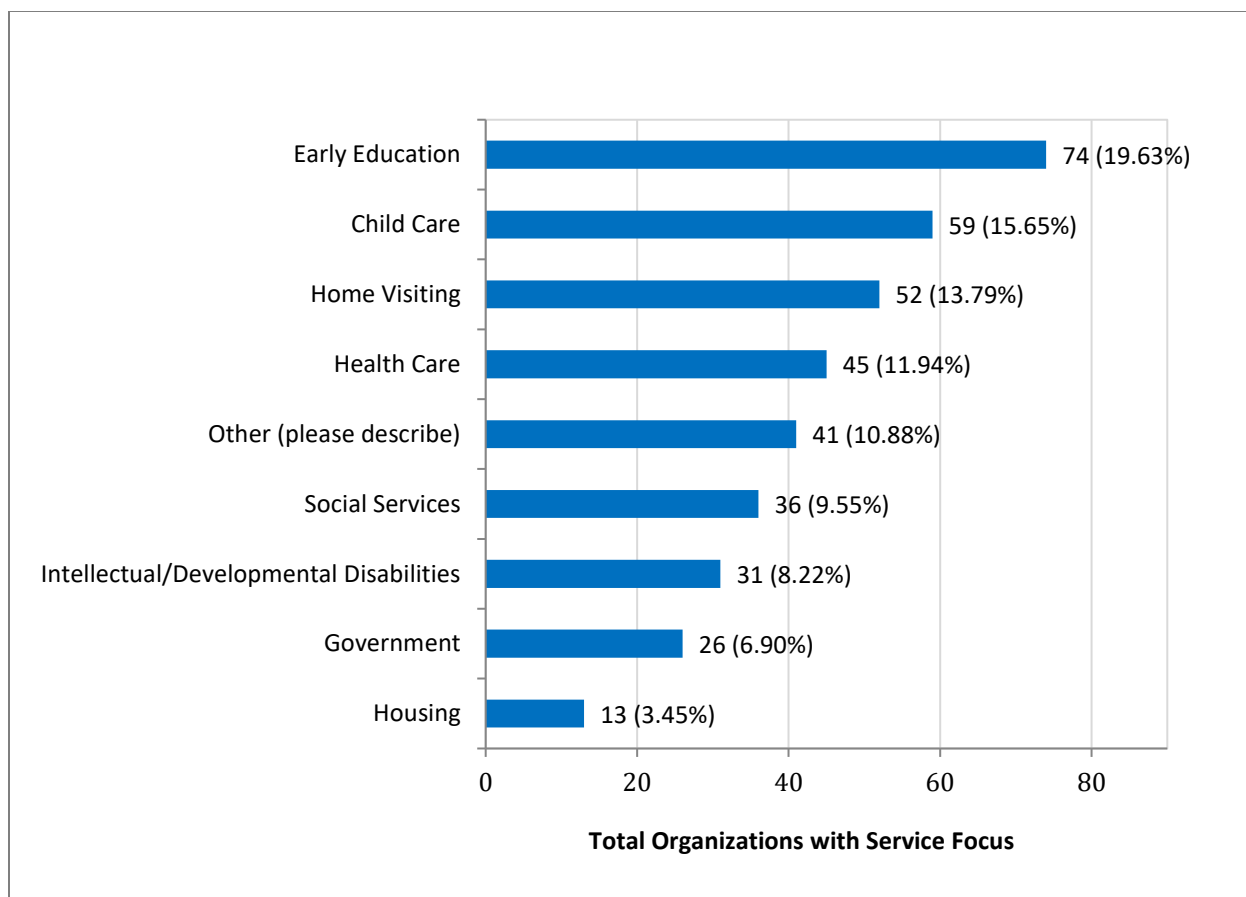
Figure 5. Survey respondent type of organization(s)

Organization Service Population

The next question asked about the organization's service population, with the option of selecting more than one population. We received 120 responses to this question. The most represented group was families (99 responses, 83%), defined as parents/guardians with children up to age 5. The least selected service population group was children 5-8 years (52 responses, 43%).

Two groups served by the PDG B-5 grant are "**underserved children**" and "**vulnerable children**." The survey provided operational definitions for these subgroups and asked respondents whether their organizations provided services for these groups. Out of 117 responses, 91 (78%) indicated that they provide direct services to vulnerable children and 88 out of 116 respondents (76%) reported that they provide direct services to underserved children.

Out of 116 responses, English (*n* = 111, 96%) was the most common language that respondents reported they provide services in, followed by Spanish (*n* = 88, 76%), and English and Spanish (*n* = 87, 75%). Services in the following languages were reported in less than 10% of responses: Arabic, Vietnamese, Hindi and related, French, Chinese, Korean, German, and Dravidian.
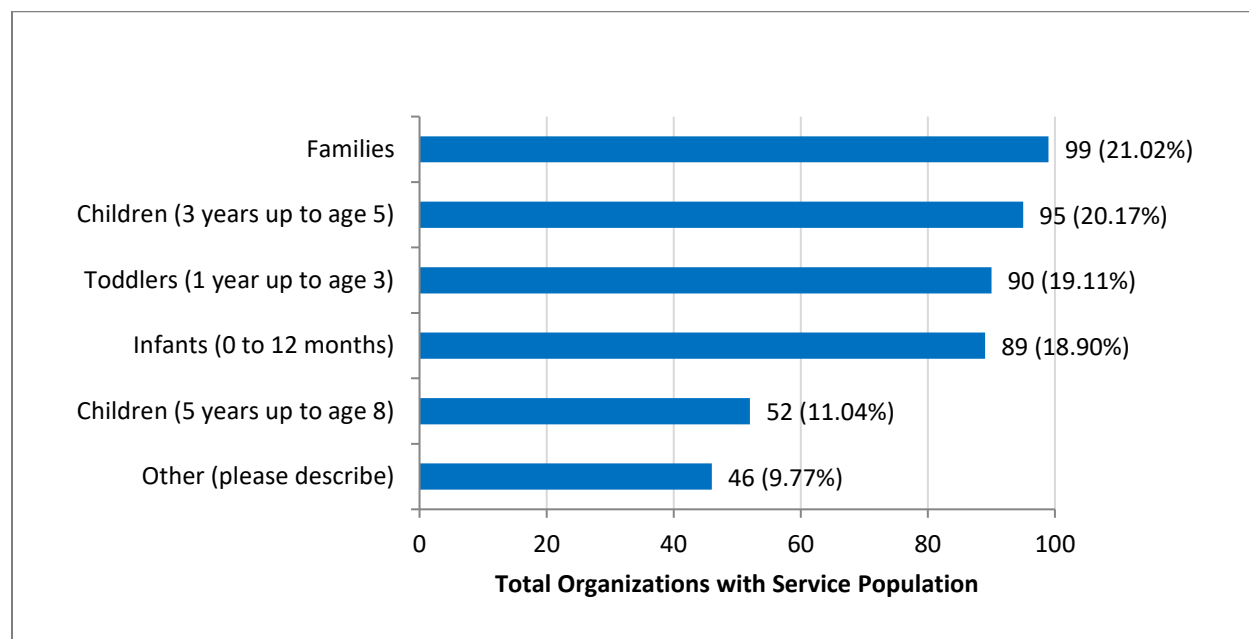
Figure 6. Survey respondent organization service population

Data Supplement

Primary and Secondary Data

Our survey sought to better understand how primary data, secondary data, and integrated data systems are currently used in North Carolina. Because the same data is often used across many domains of child and family well-being, we asked respondents to identify which of the NC ECAP's ten goal areas described their own goals for a shared data system. The survey then posed drill-down questions related each of the ten goal areas to gain further details about respondents' aspirations for each area.

Generating Primary Data

Most respondents (*n* = 85) reported that their employing organizations collected several data points related to child and family demographics including child race/ethnicity (*n* = 74; 87%), child date of birth (*n* = 72; 85%), child name (*n* = 71; 84%), and child address (*n* = 70; 82%). By comparison, fewer respondents reported that they collected identifying information such as a child identification number (*n* = 40; 47%), the child's Social Security number (SSN; *n* = 24; 28%), or a parent's/guardian's SSN (*n* = 22; 26%).

Access to social safety net services and supports are an important factor in the quality of an early childhood system of care. Respondents (*n* = 75) most commonly reported collecting information about access to Medicare/Medicaid services (*n* = 62; 83%), followed by the Women, Infant, and Children (WIC) program (*n* = 43; 57%), the Temporary Assistance to Needy Families (TANF) program (*n* = 42; 56%), the Supplemental Nutritional Assistance Program (SNAP; *n* = 37; 49%), and Social Security Disability Insurance or Supplementary Security Income (SSDI/SSI; *n* = 37; 49%). Fewer respondents reported collecting information about other safety net programs such as housing assistance (*n* = 23; 31%), energy assistance (*n* = 16; 21%), transportation assistance (*n* = 16; 21%), and the Earned Income Tax Credit (EITC; *n* = 11; 15%).

Our survey invited respondents to provide any additional information about their experiences creating primary data in an open-ended response. Several respondents reported they wanted "do more" to improve their primary data collection. One respondent stated that the end of grant funding impacted support for data collection at their organization. Another respondent suggested that a single universal assessment tool used across the state would help track children's progress.

Data Systems

Ongoing primary data collection requires organizations to develop a data collection and storage system. Although some agencies still use paper-based file systems, most have developed digital databases using software programs such as Microsoft Excel. Statewide programs conducted with state funds could also share a centralized data management system. More recently, third-party companies have developed cloud-based case management and electronic record programs to serve organizational database needs. Many respondents (*n* = 76) were asked to report about the system they used to store and manage data. The most common response was an internal database (*n* = 39; 51%), followed by third-party software (*n* = 32; 42%) and state system databases (*n* = 29; 38%). However, a large number of respondents (*n* = 26; 34%) also reported using a paper-based system to store and manage data.

Reporting

Primary data is often used to track an individual's progress, conduct program evaluations, and drive an organization's internal decision-making. Requiring organizations to report findings from primary data collection to an external entity can increase system-wide accountability in data collection. On the other hand, external reporting can be onerous and time-consuming when organizations are reporting different findings to multiple funders and stakeholders for different timelines. Respondents (*n* = 80) reported whether any of the primary data they collect is given to an outside agency or organizations. The majority of respondents (*n* = 57, 71%) stated that they reported primary data to an outside agency or organization. Typically, this data reporting occurred annual (*n* = 22, 40%) or quarterly (*n* = 14, 25%). Fifty-six respondents named the organization they sent primary data reports to. Most commonly, respondents sent primary data reports to a funding agency (*n* = 40, 71%), a state agency (*n* = 30, 54%), or the federal

government (*n* = 23, 41%). Fewer respondents reported that they sent primary data to a city or county government office (*n* = 15, 27%), a national program office (*n* = 18, 32%), a state program office (*n* = 13, 23%), or a local/regional program office (*n* = 10, 18%). It is also notable that 77% (*n* = 43) of respondents said that they were required to report primary data to more than one external organization – a fact which underlines the strategic value of a widely-accessible central data hub.

To understand how children and families of different subgroups are served, external reporting of data across subgroups is required. Many respondents (*n* = 70) replied that they externally reported data on clients' race/ethnicity (n=58; 83%), geographic area (*n* = 47; 67%), and poverty status (*n* = 39; 56%), as well as on their caregivers' educational attainment (*n* = 26; 37%).

Secondary Data

We asked respondents about the types of child and family demographic data they use that is collected from another source (i.e., secondary data). Out of 58 responses, the most common secondary data used was on child race/ethnicity *(n* = 41; 71%), followed by child date of birth (*n* = 35; 60%), family income/poverty status (*n* = 35; 60%), and language spoken in the home (*n* = 35; 60%). Similar to primary data collection, fewer respondents reported using secondary data including a child identification number (*n* = 14; 24%), the child's SSN (*n* = 13; 22%), or a parent's/guardian's SSN (*n* = 12; 21%).

Secondary data used by ECE programs can come from a variety of sources. In order to understand which types of secondary data are used, we provided a list of possible data sources and asked respondents to select all of the sources they use. Out of 65 respondents, the most common secondary data source was the U.S. Census (*n* = 41; 71%), followed by Vital Statistics (*n* = 42; 65%) and the NC Child County Data Cards (*n* = 37; 57%). The Early Childhood Integrated Data System (NC ECIDS) was reported as a source of secondary data by 42% of respondents (*n* = 27).

Respondents were asked to provide additional information about their secondary data usage in an open-ended response. These responses indicated that secondary data was most often used for strategic planning, grant writing, program development, public health surveillance, program budgeting, and treatment plan development.

Differences in Barriers by Early Childhood Service Sector

The early childhood system operates across numerous service sectors. Although efforts are underway to align and integrate these sectors into a comprehensive system of care, professionals across sectors have varying resources and requirements regarding data use. We examined differences in perceived barriers between the different sectors identified in the survey (i.e., early education, child care, social services, health care, home visiting, housing, government, and intellectual-developmental disabilities). Using independent t-tests, we

compared the average barrier scores of respondents who identified with specific sector. As an exploratory analysis, differences with a statistical significance of *p* < .20 were identified.
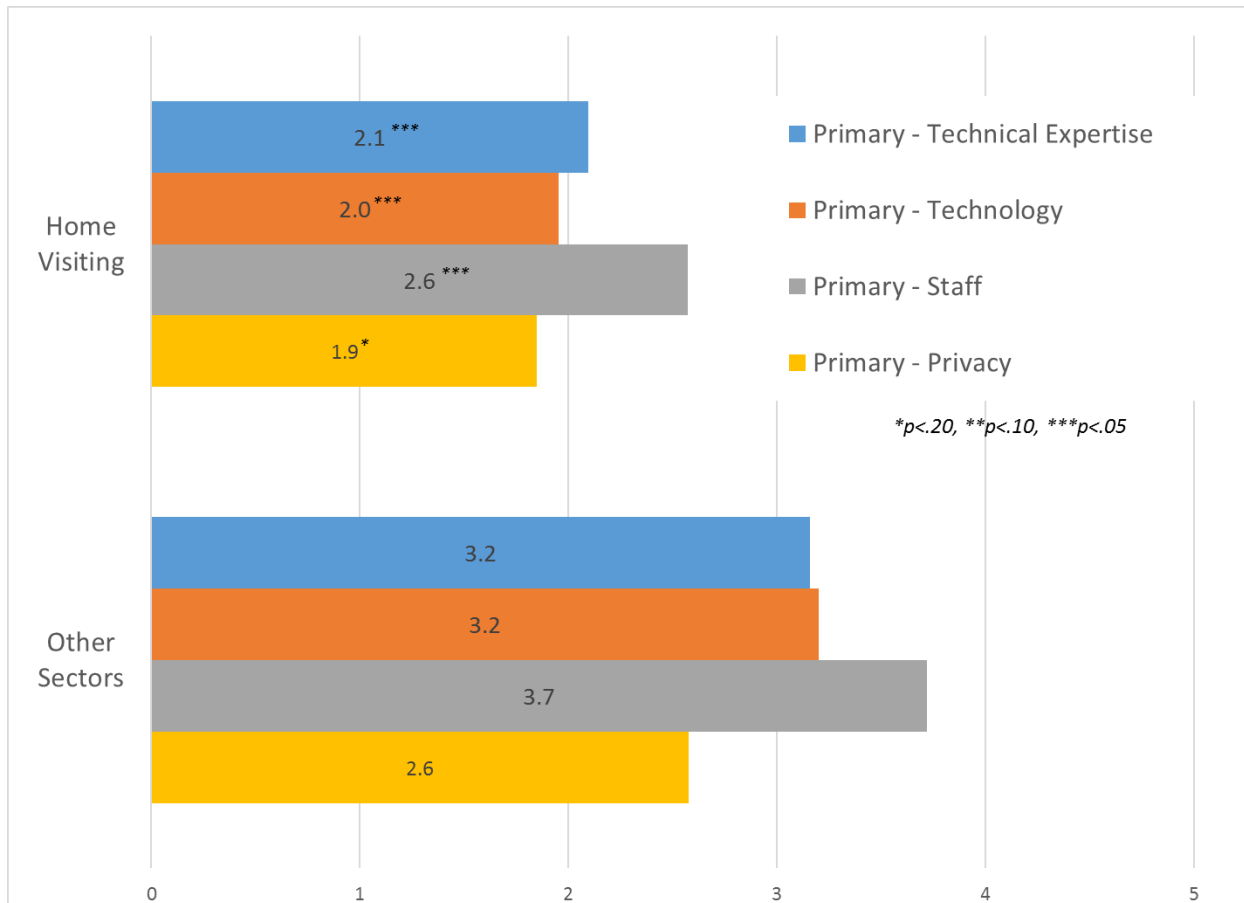

Figure 7. Barriers to primary data use comparing home visiting to other sectors
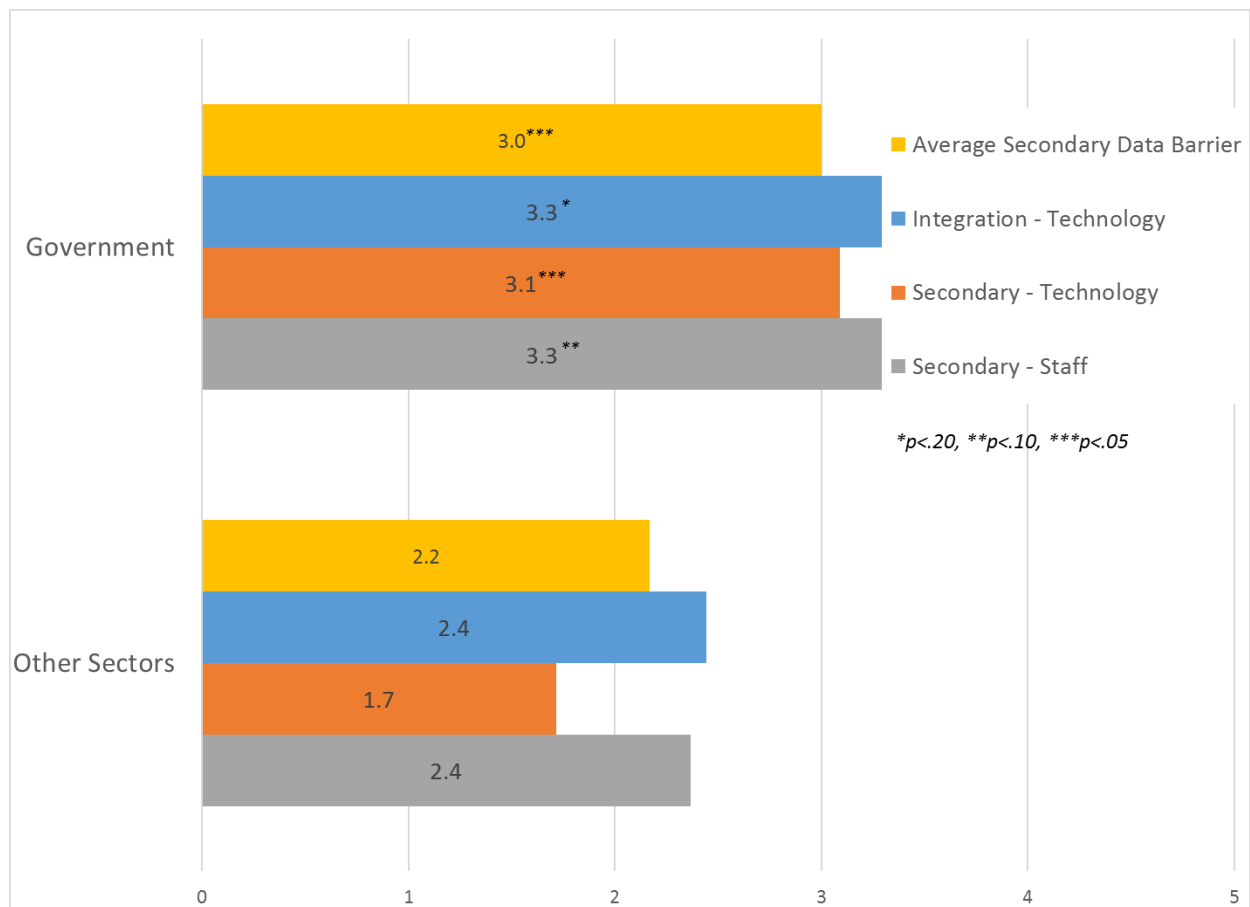
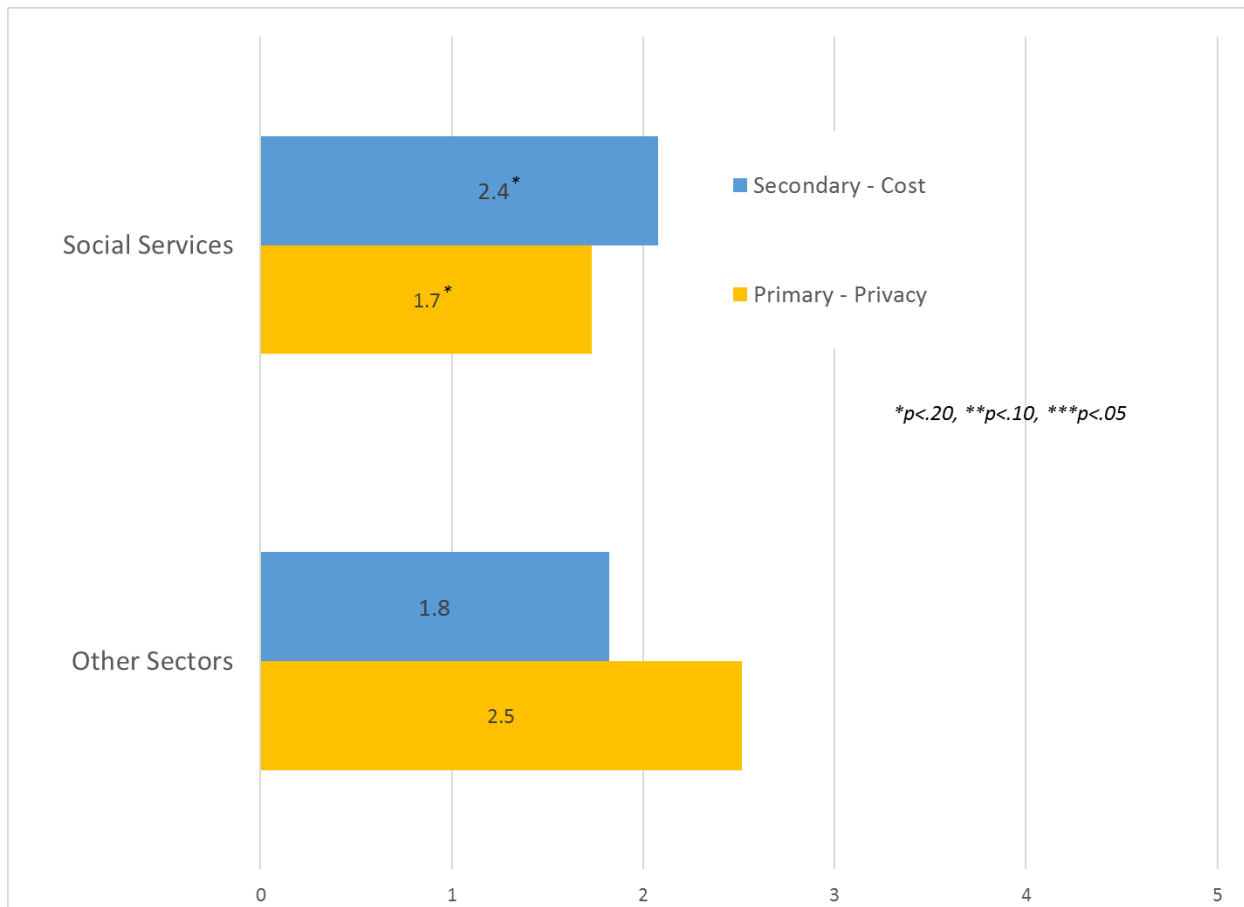**Figure 8.** Barriers to data use comparing government to other sectors

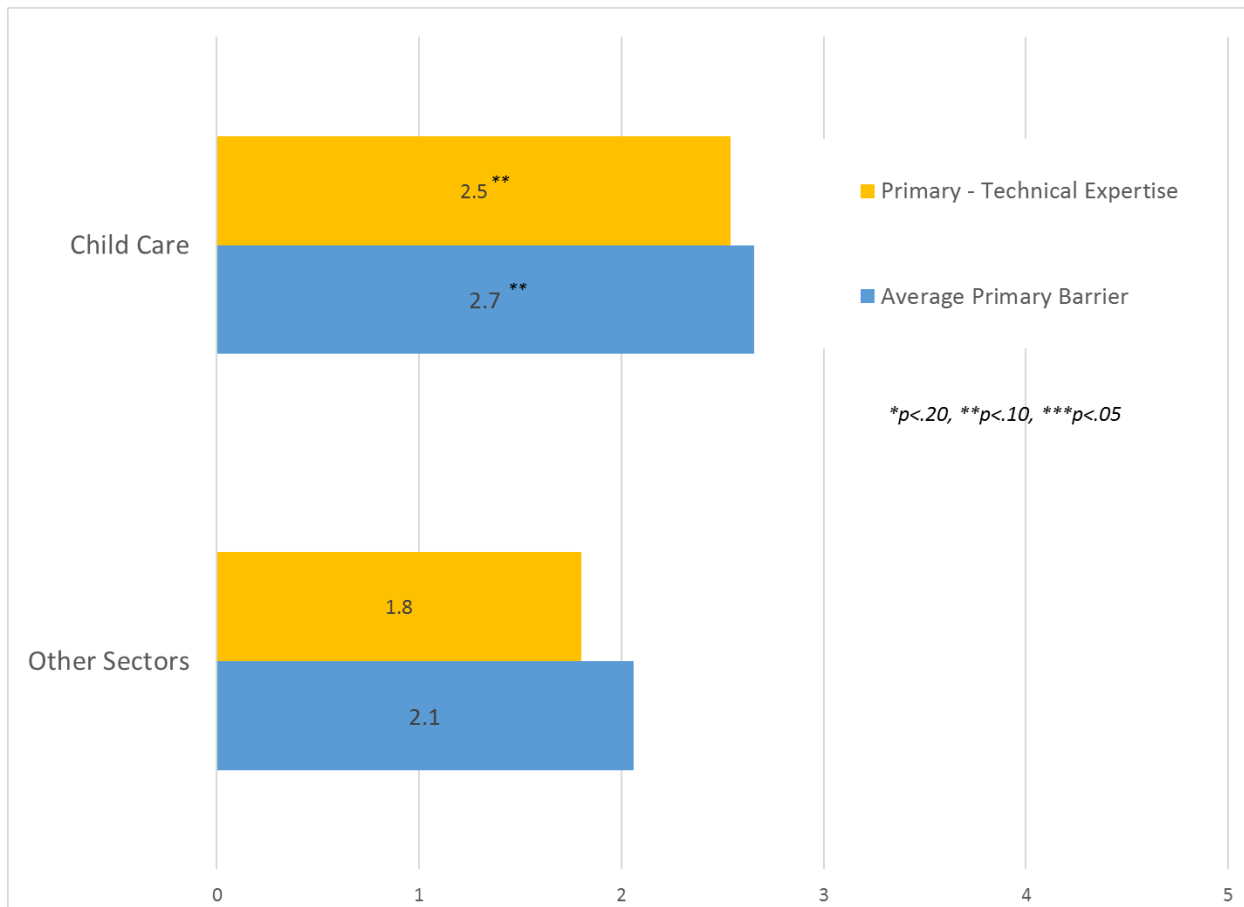**Figure 9.** Barriers to data use comparing social services to other sectors

Figure 10. Barriers to data use comparing child care to other sectors
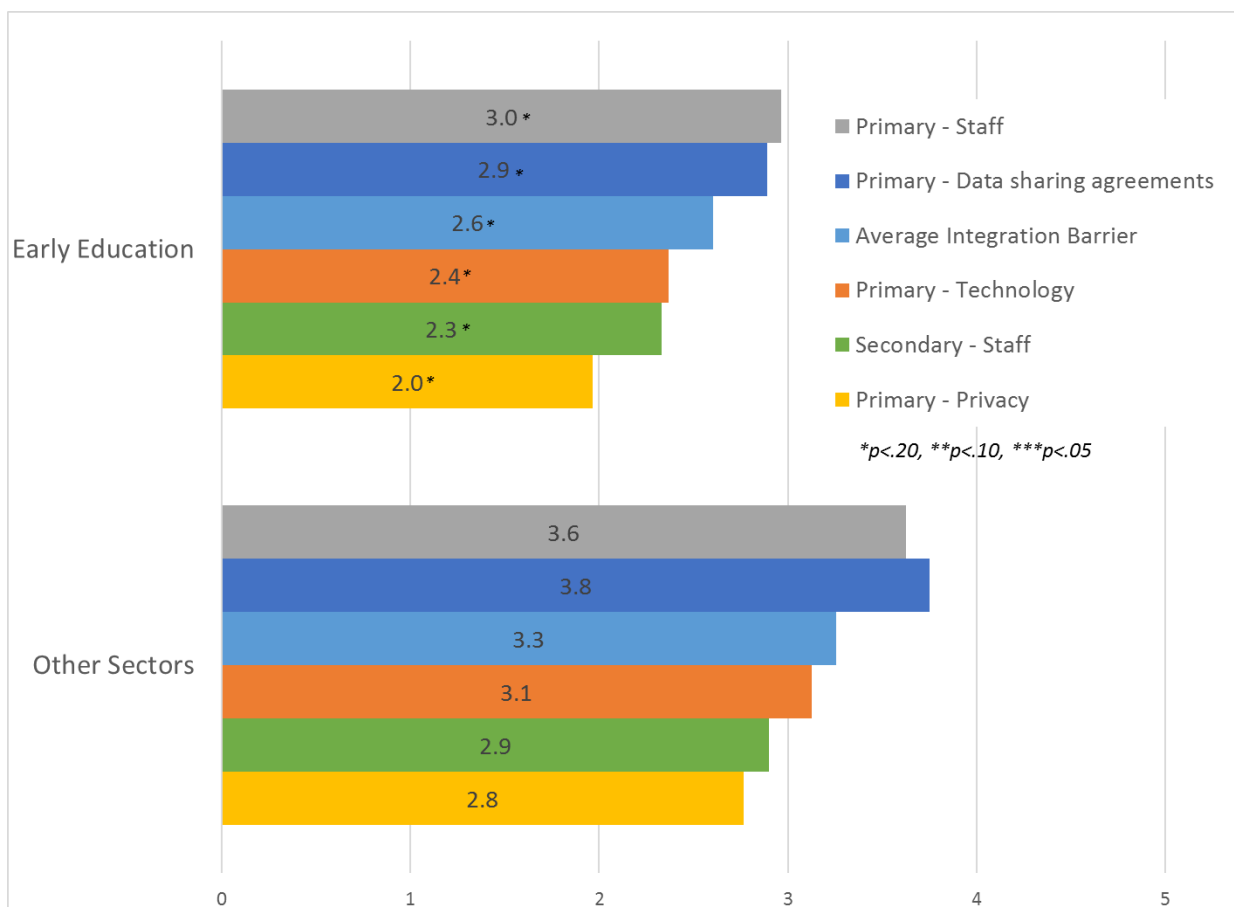
Figure 11. Barriers to data use comparing early education to other sectors

NC ECE Data and the Early Childhood Action Plan

Primary Data Created/Collected and Secondary Data Used

The following set of figures displays whether survey respondents reported that they create primary data or use secondary data pertaining to each of the ten ECAP goal areas. For each goal area the respondent selected, additional drill down response options allowed respondents to identify which specific data indicators they used. In the following figures, **blue bars** will represent primary data collected and **red bars** will indicate secondary data used by respondents. In each of these charts, both the percentage and count will be displayed (e.g., 50% (40)). The count is not displayed in cases when the category received less than ten responses.

The following figure displays the percentage of respondent organizations that create or collect primary data for each of the ten ECAP goal areas. About half of survey respondents reported they collect primary data in "social-emotional health and resilience" and "safe and nurturing

relationships" goal areas. The least common focus (*n* = 18, 17%) of primary data collection was "permanent families for children in foster care."
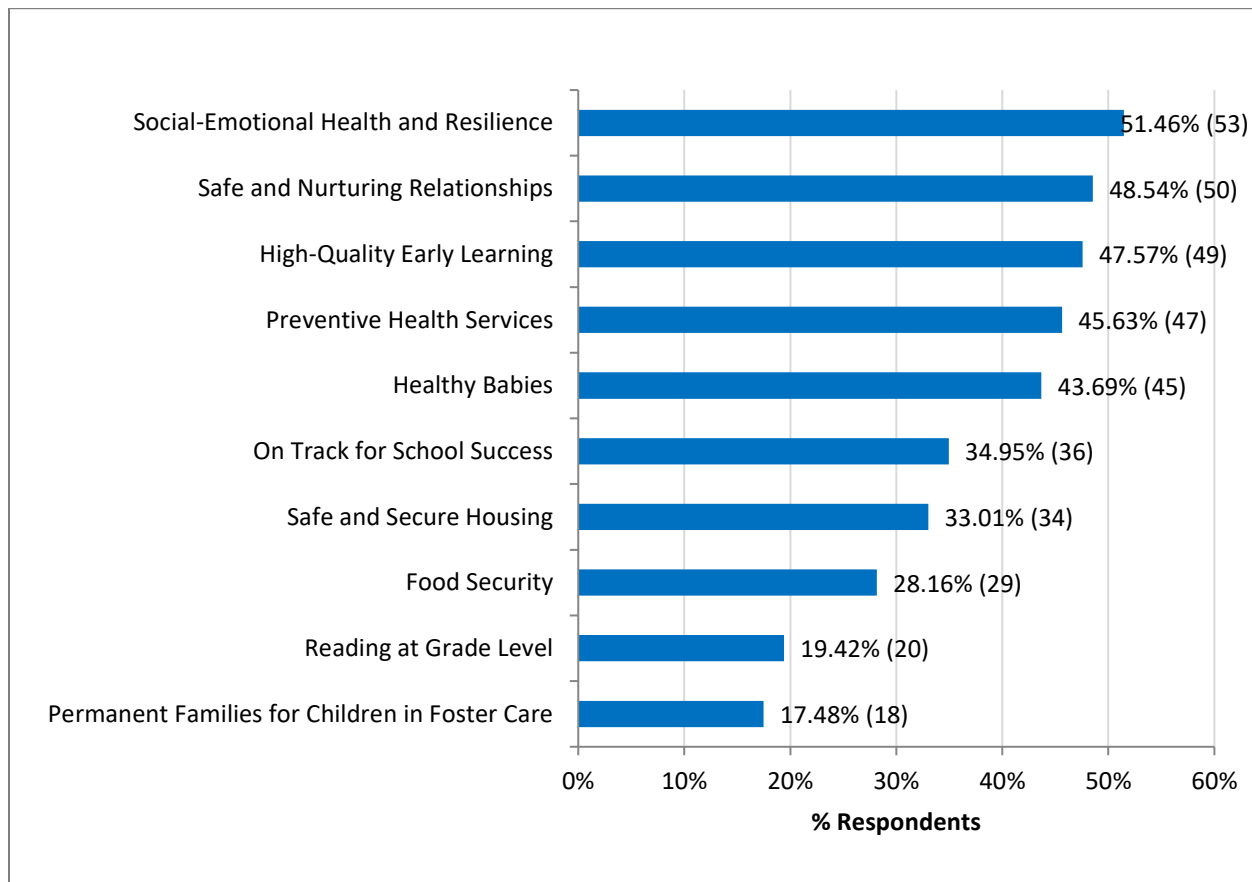
Figure 12. Respondent organizations collecting or creating primary data by ECAP goal area

This figure presents the same ECAP goal areas and displays the percentage of respondents who use secondary data for each goal area. The most commonly selected goal area for secondary data use was "healthy babies" (*n* = 73, 71%) and the least selected was "permanent families for children in foster care" (*n* = 40, 39%).
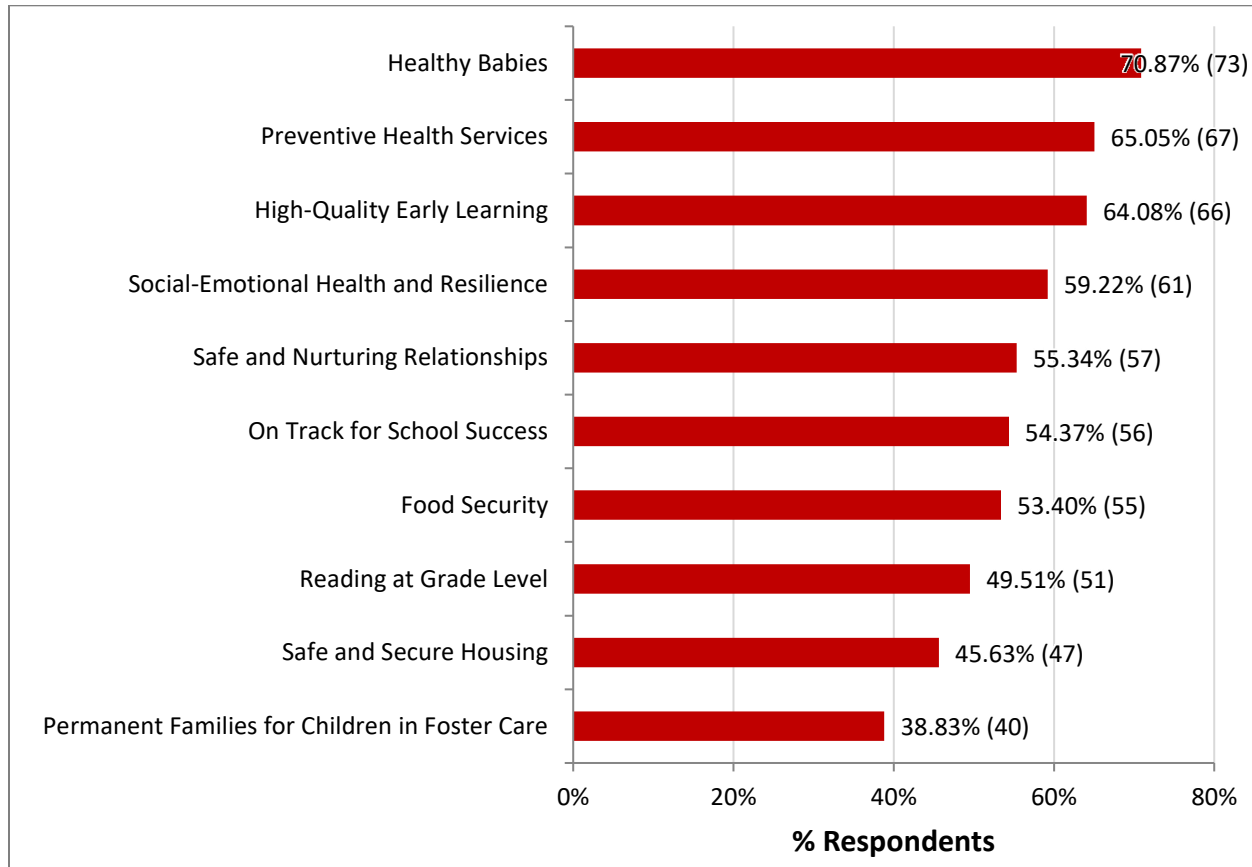
Figure 13. Respondent organizations using secondary data by ECAP goal

ECAP Goal #1: Healthy Babies

Among those respondents who reported that they collect primary data in the "healthy babies" goal area, 37 to 40 respondents indicated whether or not they also collected data in other areas. The most common secondary data collection focus was "prenatal health visits" (74%) and the least common was "maternal experiences of racism" (22%).
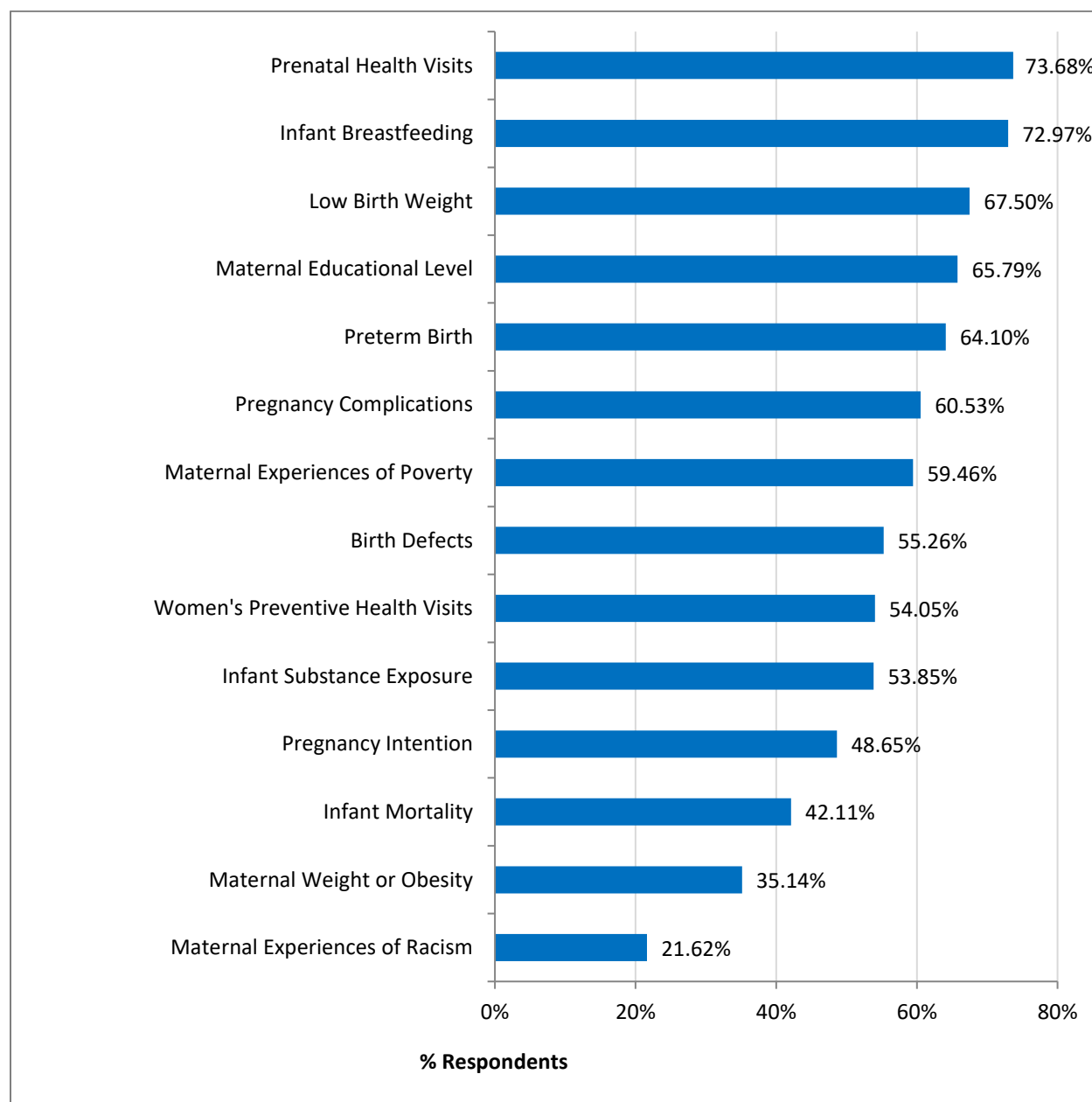
Figure 14. Collecting/creating primary data about healthy babies

Responses for secondary data ranged from 37 to 45 respondents. The most common focuses of secondary data used were "infant mortality" and "low birth weight" (69%) and the least common was "maternal experiences of healthy weight or obesity" (24%).
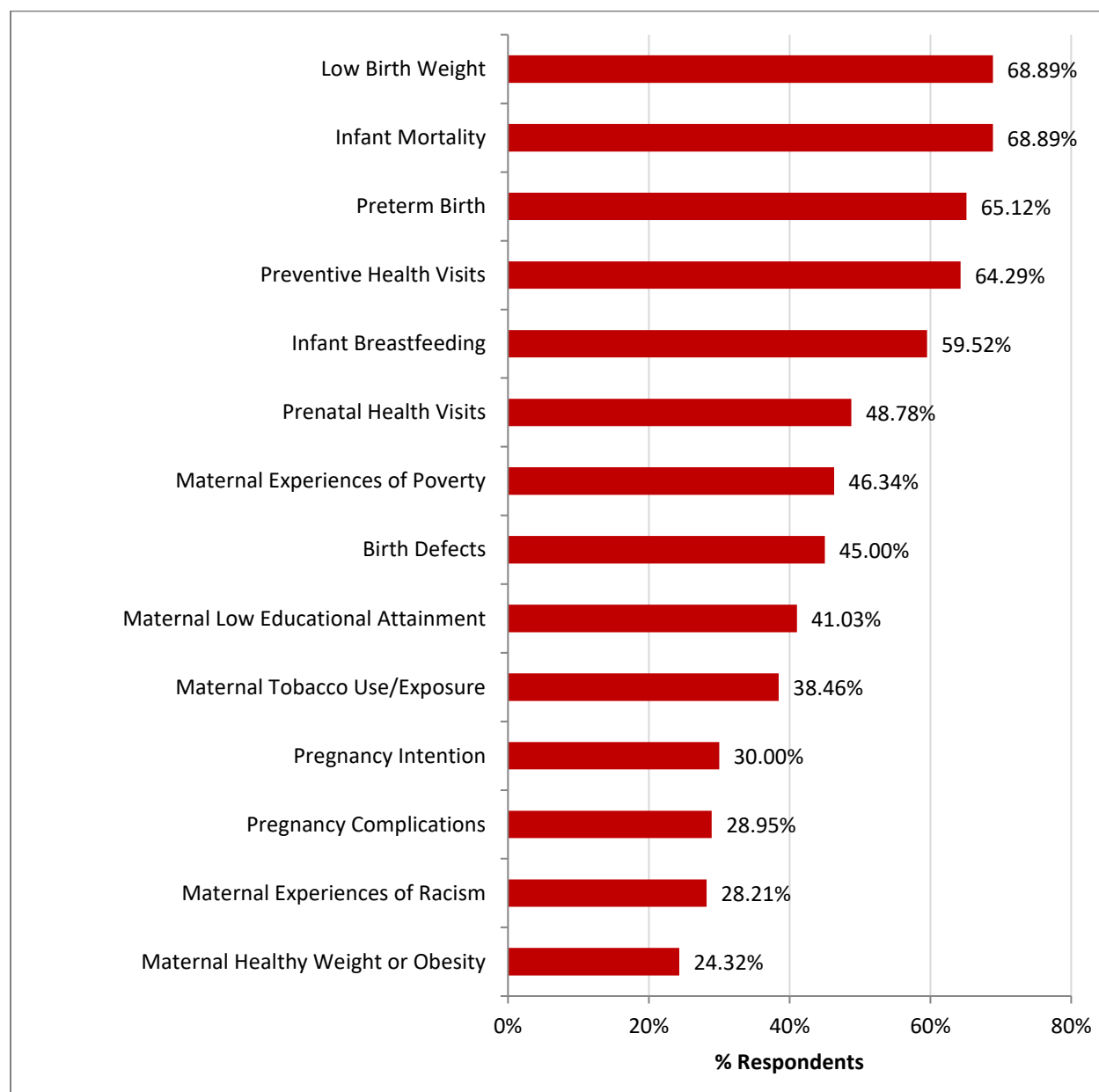
Figure 15. Using secondary data about healthy babies

ECAP Goal #2: Preventive Health Services

Among respondents who collect data in the preventive health services domain, 39 to 42 respondents provided a Yes/No response for primary data collection for the following indicators. The most common indicator collected was "Medicaid benefits eligible/receipt" (*n* = 37, 88%) and the least common was "varnishing (fluoride)" (*n* = 23, 56%).
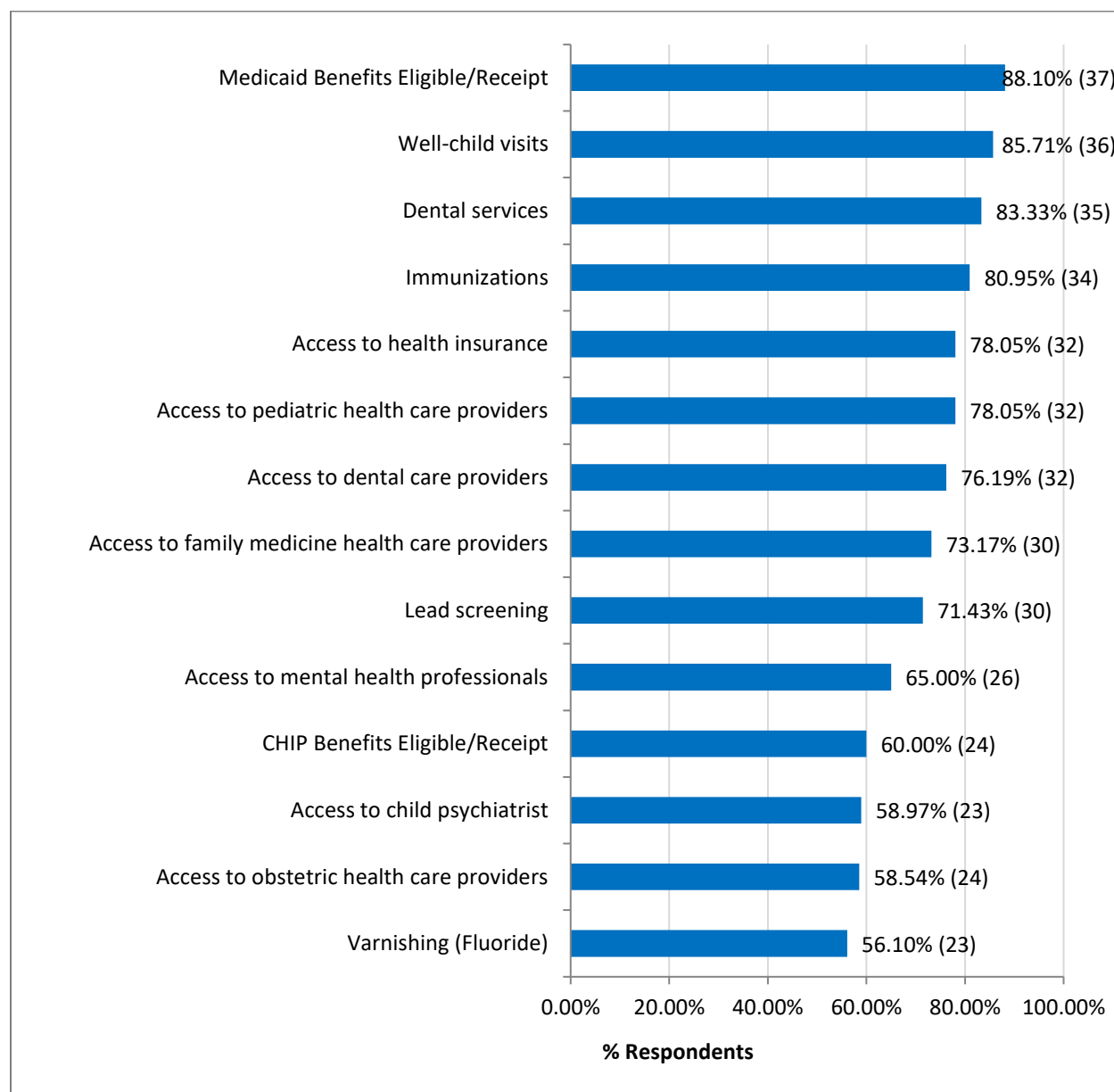
Figure 16. Collecting/creating primary data about preventive health services

Responses for secondary data ranged from 39 to 44 respondents. The largest indicator area for secondary data use was "immunizations" (*n* = 33, 79%) and the lowest was "access to obstetric health care providers within the county of residence" (*n* = 15, 38%).

Immunizations — 78.57% (33)
Well-child visits — 77.27% (34)
Medicaid Benefits Eligible/Receipt — 76.74% (33)
Access to health insurance — 73.81% (31)
Dental services — 73.17% (30)
Access to dental care providers — 68.29% (28)
Access to pediatric health care providers — 65.00% (26)
Lead screening — 60.00% (24)
Access to mental health professionals — 58.97% (23)
Access to family medicine health care providers — 58.97% (23)
Access to child psychiatrist — 48.72% (19)
CHIP Benefits Eligible/Receipt — 46.15% (18)
Varnishing (Fluoride) — 41.03% (16)
Access to obstetric health care providers — 38.46% (15)

% Respondents

Figure 17. Using secondary data about preventive health services

ECAP Goal #3: Food Security

Among respondents who collect data in the food security goal area, 26 to 27 respondents provided a Yes/No response for primary data collection for the following indicators. The most common indicator collected was "WIC eligible/receipt" (73%) and the least common were "proximity to food desert" and "proximity to food swamp" (both 23%).
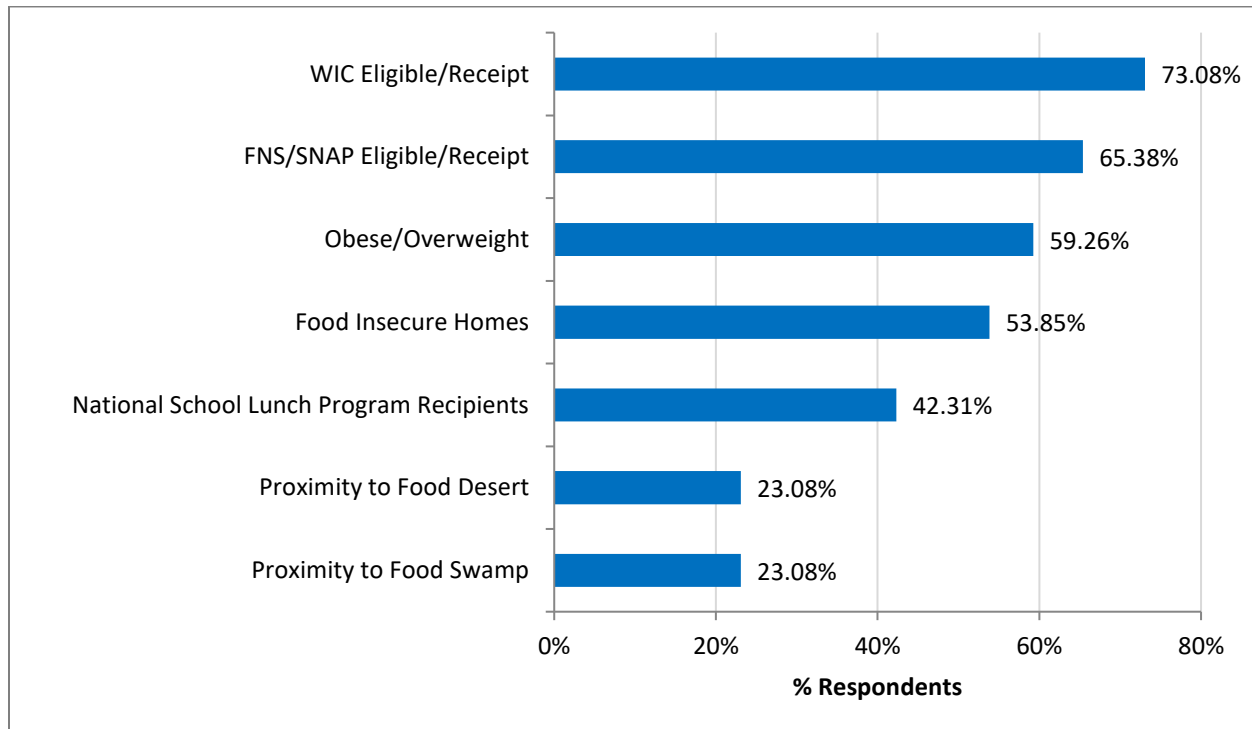
Figure 18. Collecting/creating primary data about food security

Responses for secondary data ranged from 31 to 36 respondents. The largest indicator area for secondary data use was "WIC eligible/receipt" (76%) and the lowest was "proximity to food swamp" (19%).
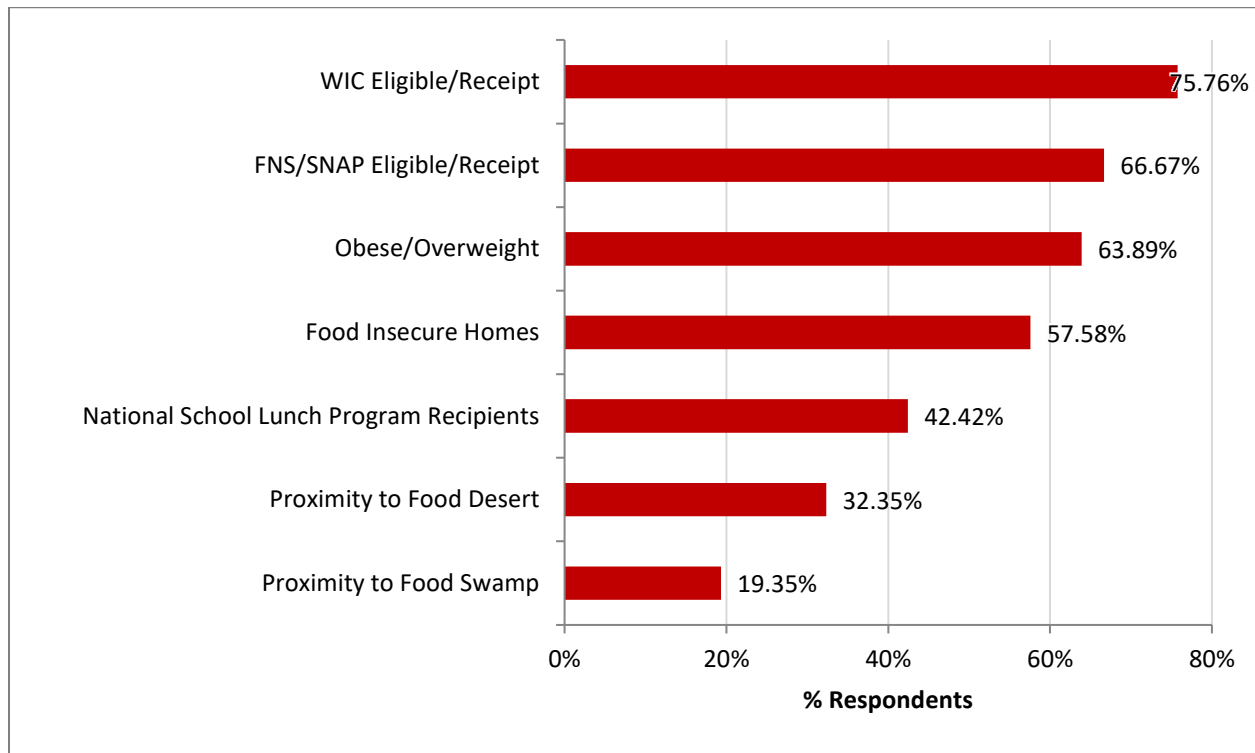
Figure 19. Using secondary data about food security

ECAP Goal #4: Safe and Secure Housing

Among respondents who collect data in the safe and secure housing goal area, 29 to 31 respondents provided a Yes/No response for primary data collection for the following indicators. The most common indicator collected was "experience homelessness" (87%) and the least common was "proximity to recreational area" (14%).
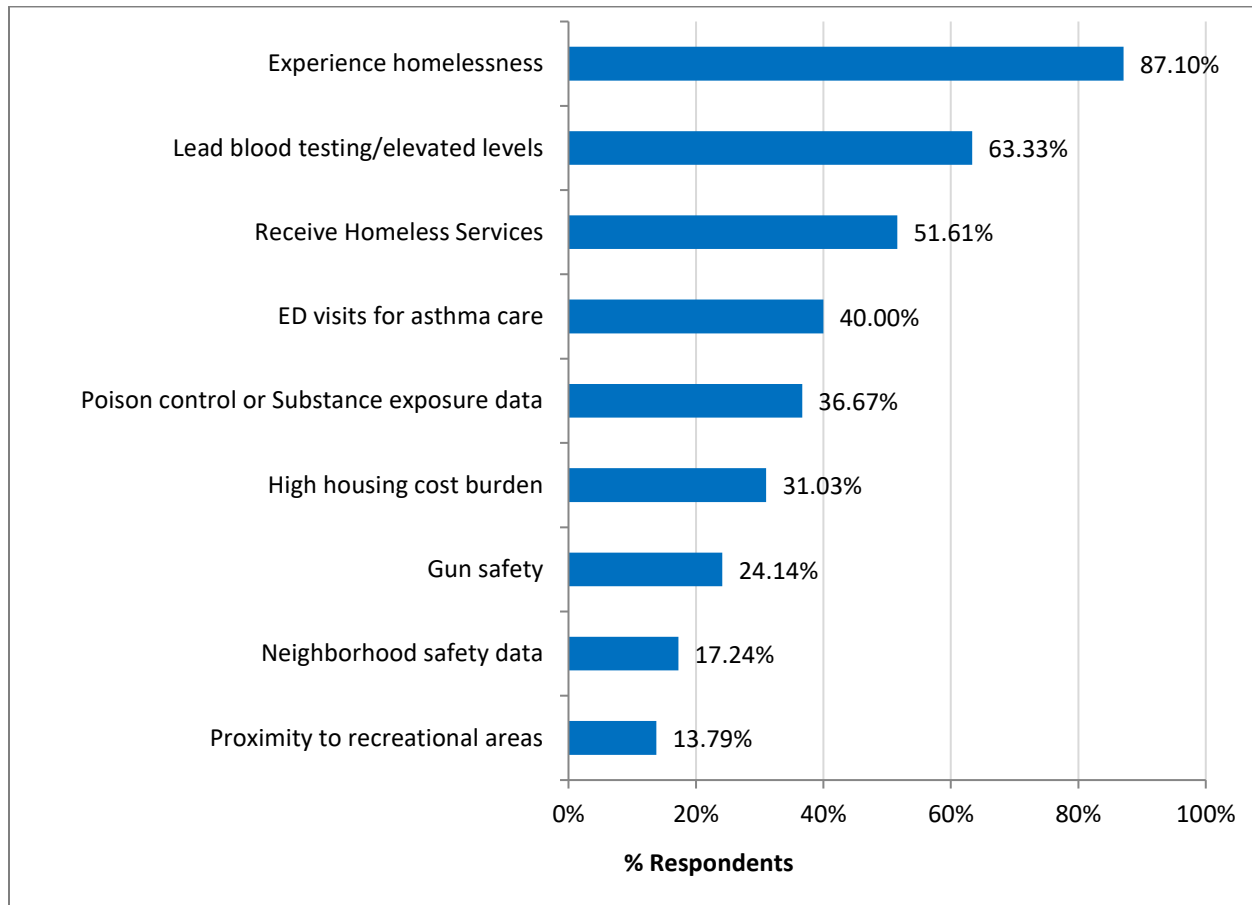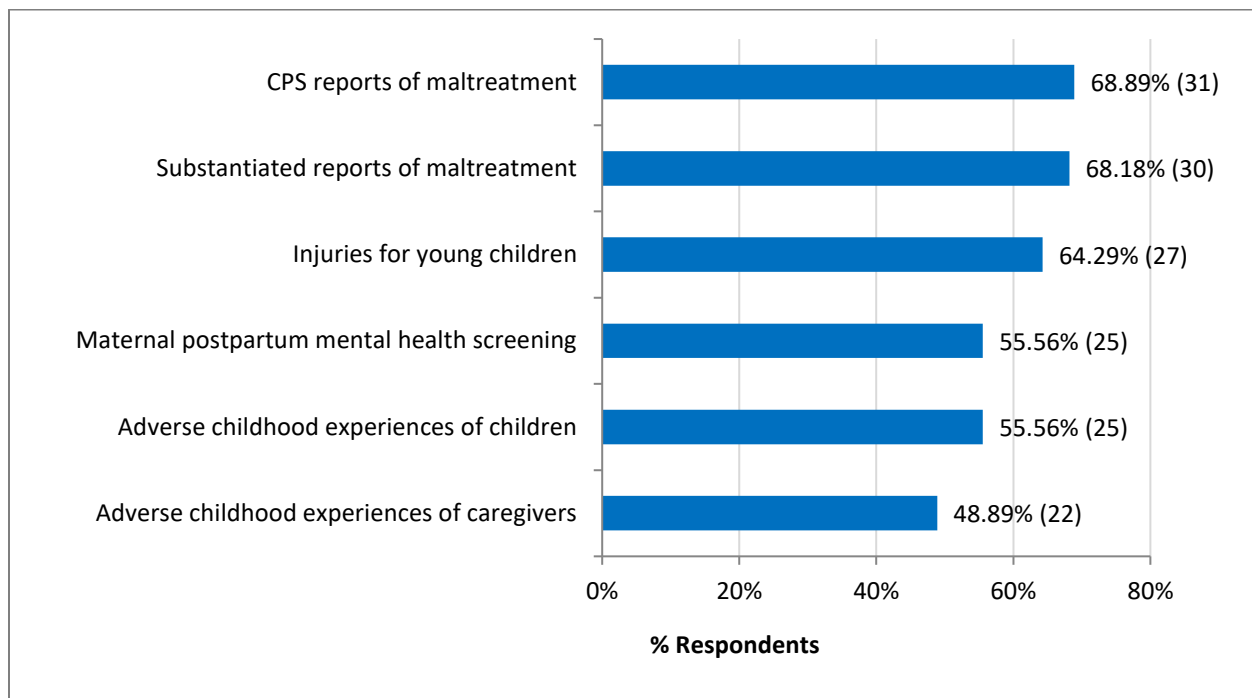

Figure 20. Collecting/creating primary data about safe and secure housing

Responses for secondary data ranged from 23 to 30 respondents. The largest indicator area for secondary data use was "experience homelessness" (73%) and the lowest was "gun safety" (28%). Receipt of homeless services includes Homelessness Prevention Services, Rapid Rehousing Services, Street Outreach Services, etc.
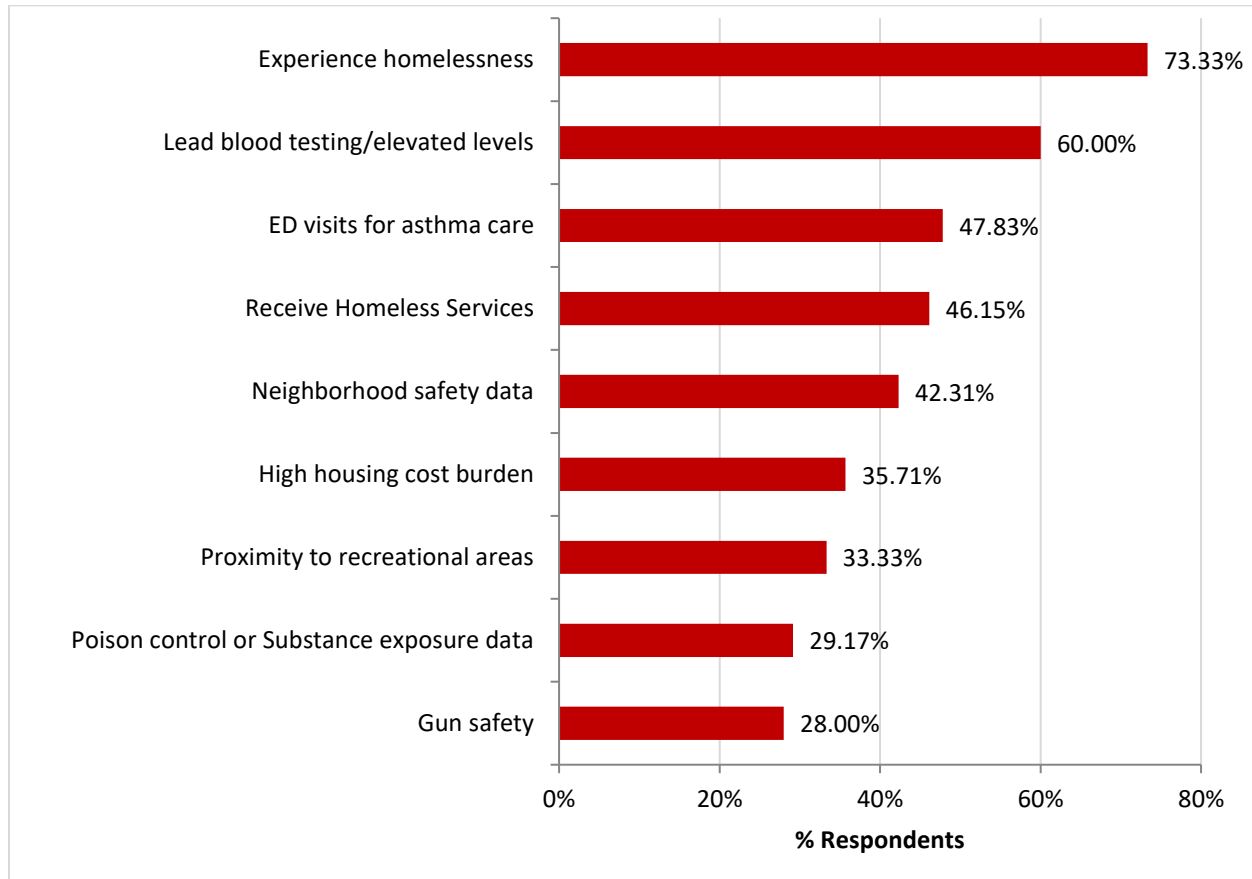
Figure 21. Using secondary data about safe and secure housing

ECAP Goal #5: Safe and Nurturing Relationships

Among respondents who collect data in the safe and nurturing relationships goal area, 42 to 45 respondents provided a Yes/No response for primary data collection for the following indicators. The most common indicator collected was "CPS reports of maltreatment" (n = 31, 69%) which was defined as including abuse, neglect, and dependency and the least common was "adverse childhood experiences of caregivers" (n = 22, 49%).

Figure 22. Collecting/creating primary data about safe and nurturing relationships

Responses for secondary data ranged from 31 to 36 respondents. The largest indicator area for secondary data use was "CPS reports of maltreatment" (*n* = 29, 83%) and the lowest was "maternal postpartum mental health screening" (*n* = 16, 50%).
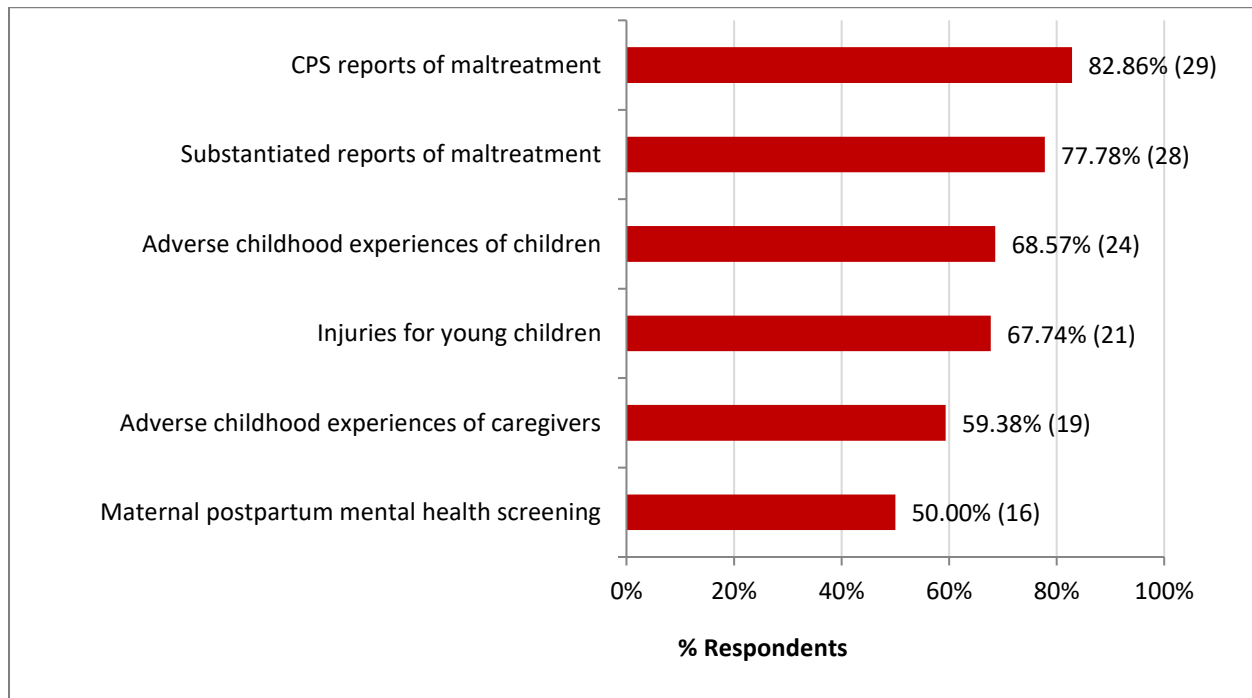
Figure 23. Using secondary data about safe and nurturing relationships

ECAP Goal #6: Permanent Families for Children in Foster Care

Among respondents who collect data in the permanent families for children in foster care goal area, 15 respondents provided a Yes/No response for primary data collection for the following indicators. The most common indicator collected was "kinship care placement" (80%) and the least common was "initial permanency planning hearing within 12 months of removal" (27%).
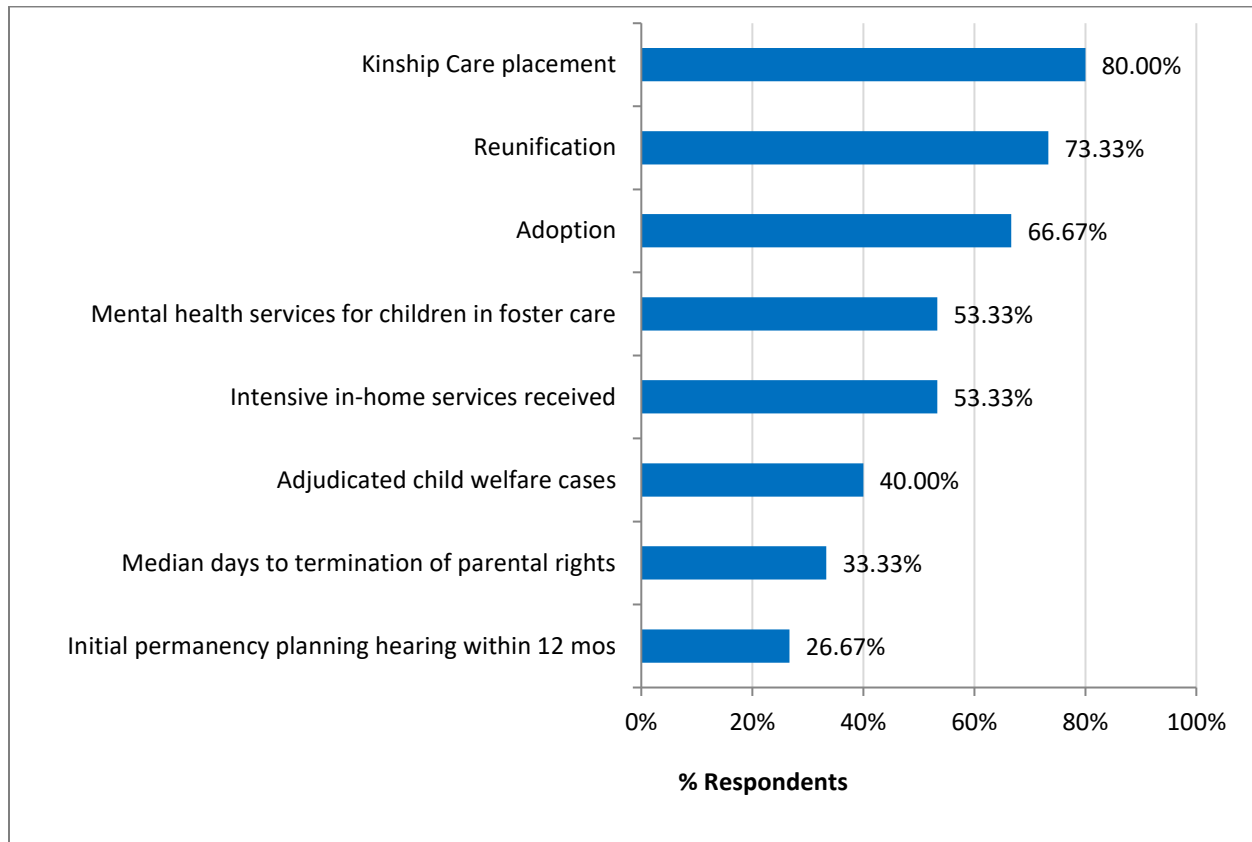
Figure 24. Collecting/creating primary data about permanent families for children in foster care

Responses for secondary data ranged from 17 to 20 respondents. The largest indicator area for secondary data use was "reunification" (45%) and the lowest was "median days to termination of parental rights" (18%).
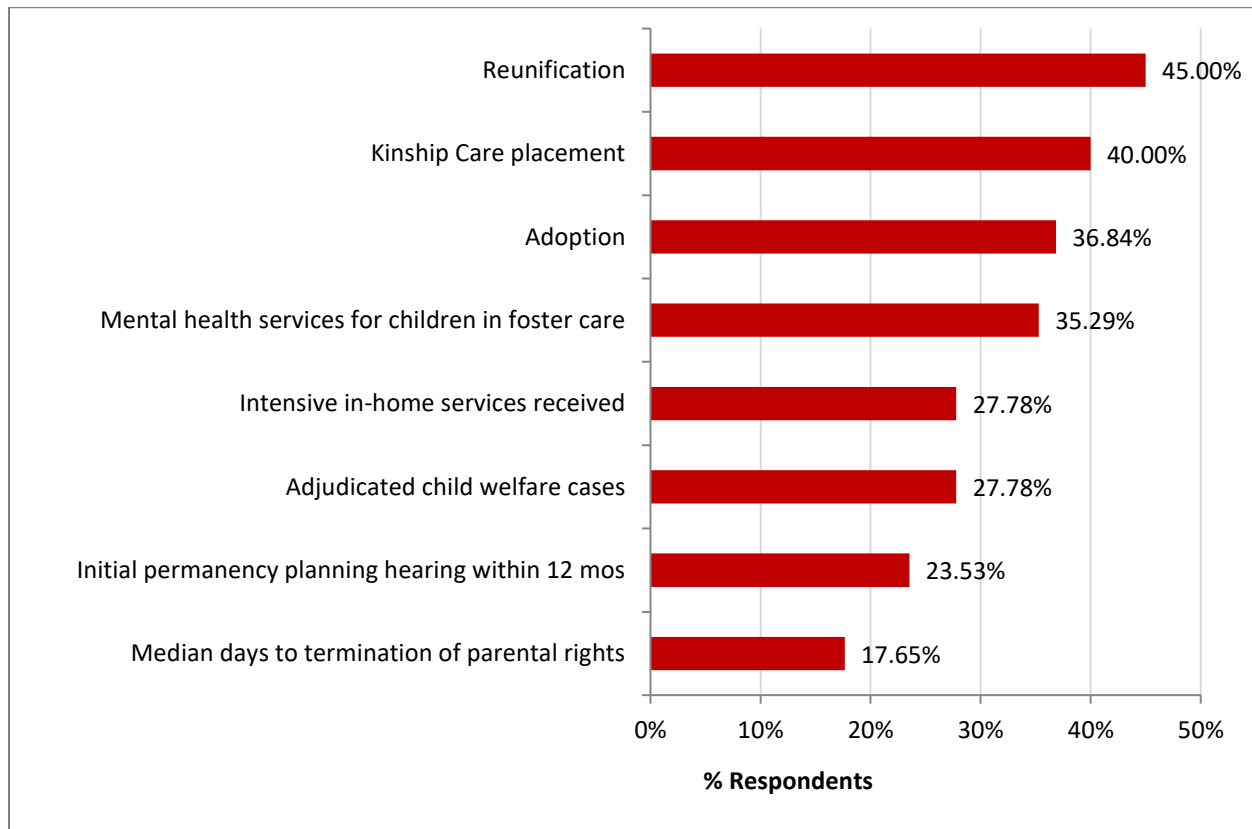
Figure 25. Using secondary data about permanent families for children in foster care

ECAP Goal #7: Social-Emotional Health and Resilience

Among respondents who collect data in the social-emotional health and resilience goal area, 41 to 45 respondents provided a Yes/No response for primary data collection for the following indicators. The most common indicator collected was "child behaviors" (*n* = 35, 80%) and the least common was "flourishing" (*n* = 10, 24%).
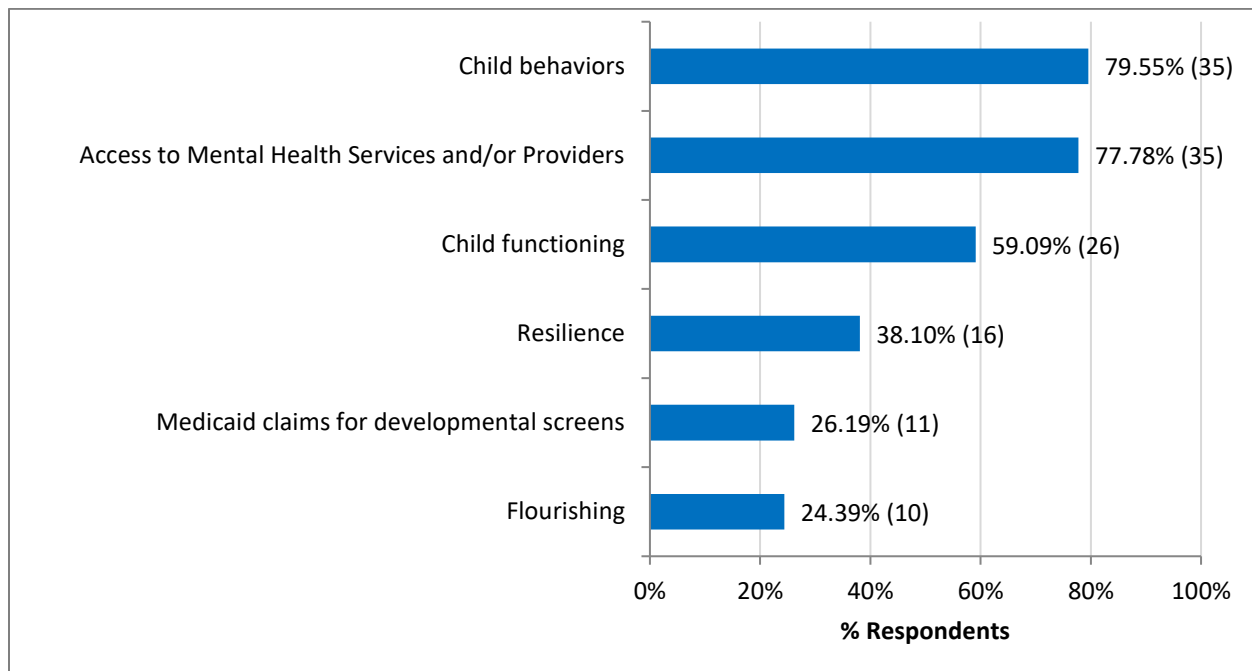
Figure 26. Collecting/creating primary data about social emotional health and resilience

Responses for secondary data ranged from 31 to 35 respondents. The largest indicator area for secondary data use was "child behaviors" (*n* = 23, 66%) and the lowest was "Medicaid claims for developmental screens" (*n* = 10, 32%).
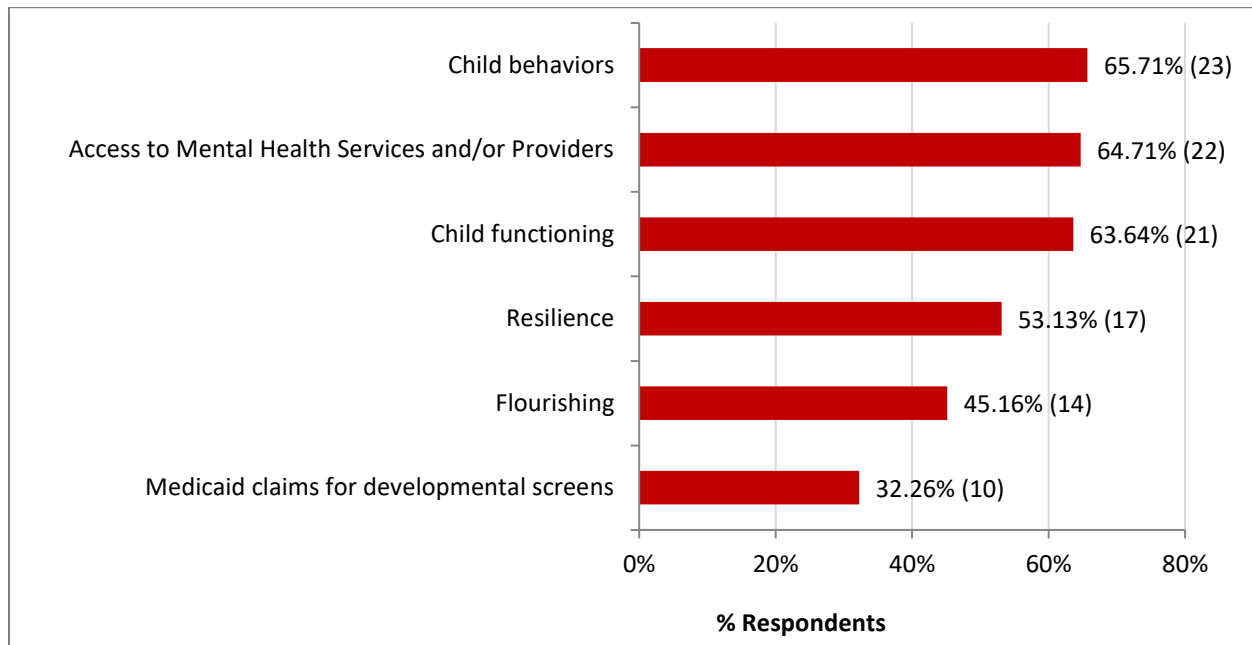
Figure 27. Using secondary data about social emotional health and resilience

ECAP Goal #8: High-Quality Early Learning

Among respondents who collect data in the high-quality early learning goal area, 38 to 42 respondents provided a Yes/No response for primary data collection for the following indicators. The most common indicator collected was "enrolled in Pre-K" (n = 35, 83%) and the least common was "family income spent on child care" (n = 13, 32%).
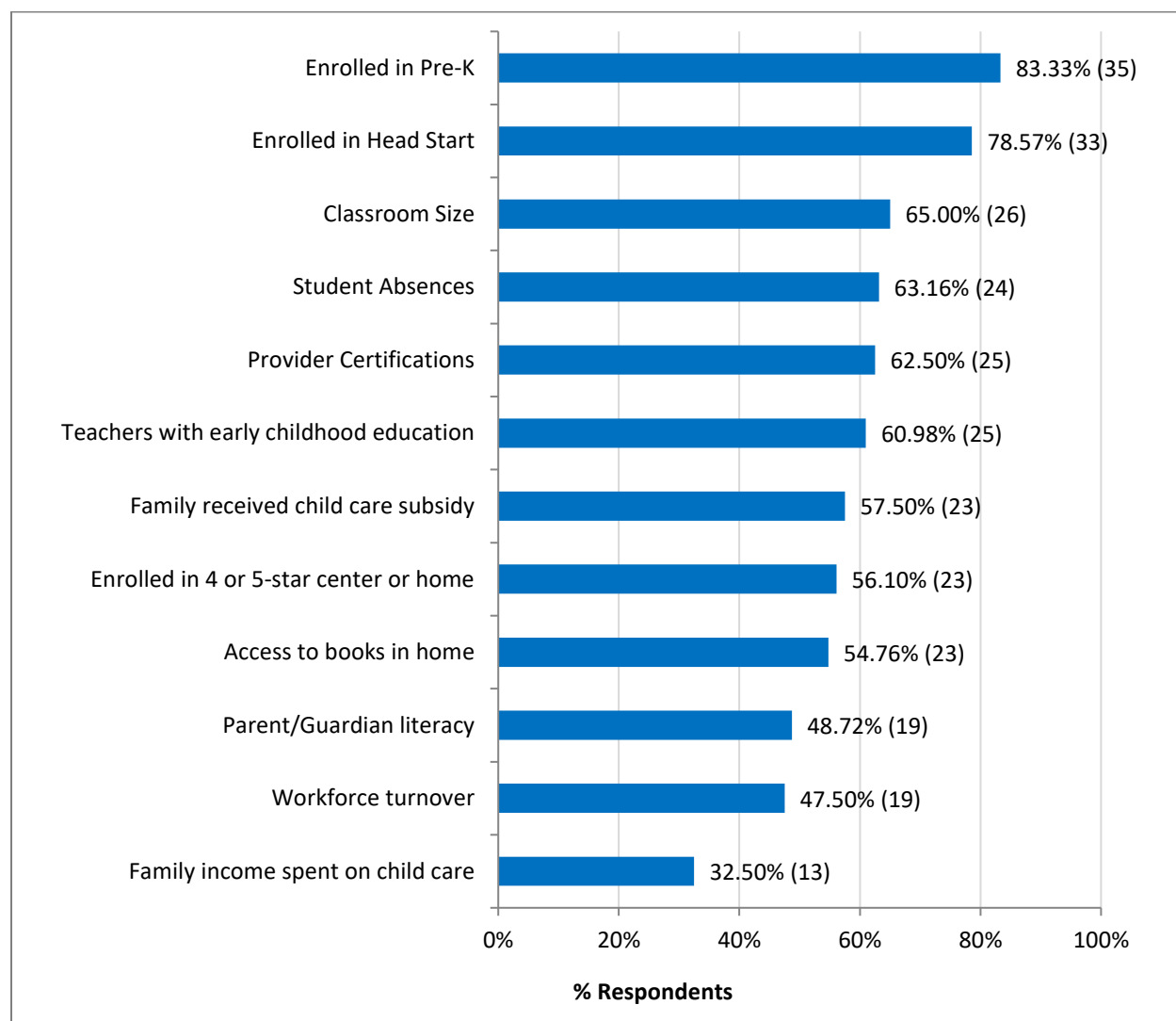

Figure 28. Collecting/creating primary data about high-quality early learning

Responses for secondary data ranged from 38 to 44 respondents. The largest indicator area for secondary data use was "enrolled in Pre-K behaviors" (*n* = 35, 83%) and the lowest was "family income spent on child care" (*n* = 15, 37%).
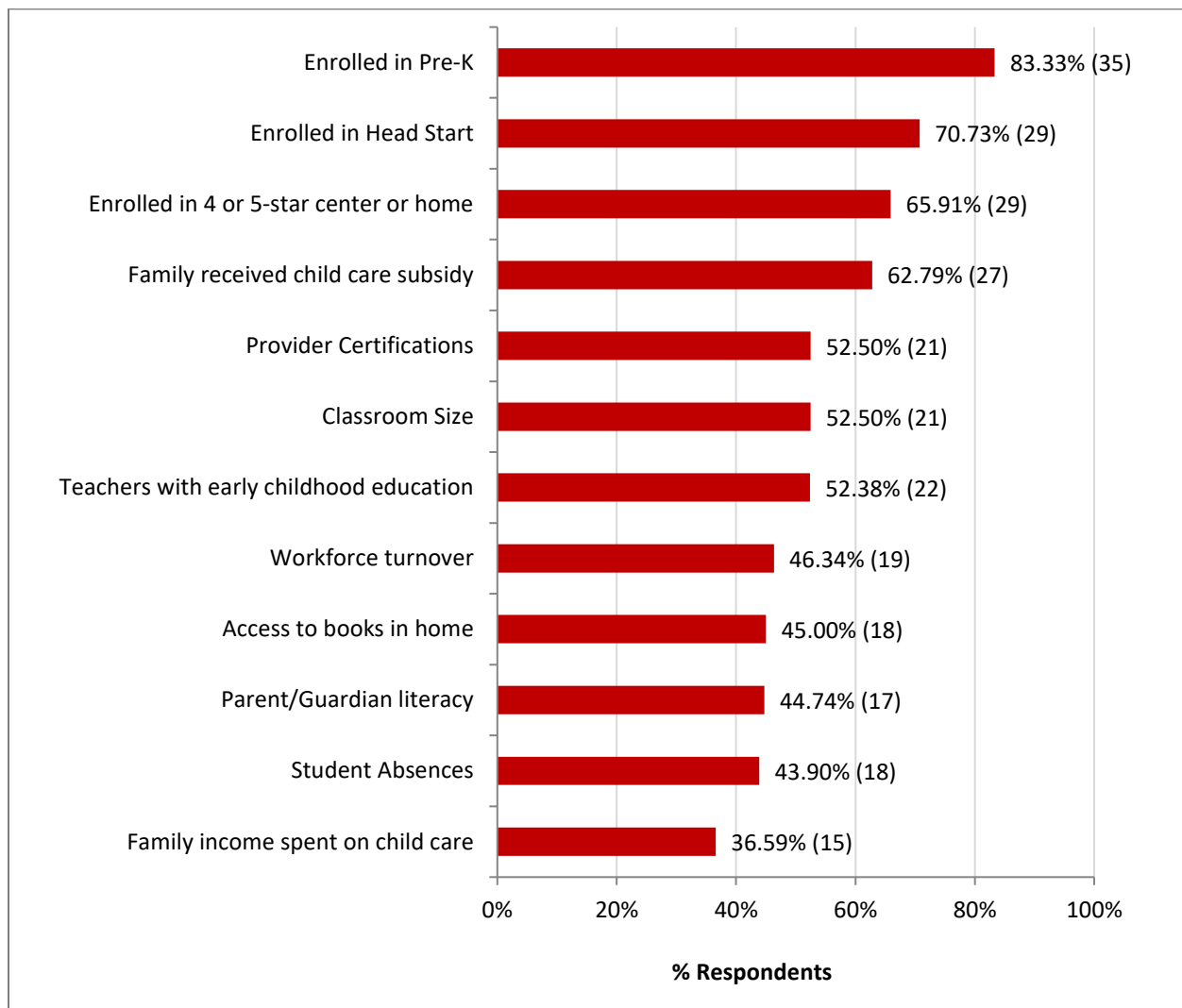

Figure 29. Using secondary data about high-quality early learning

ECAP Goal #9: On Track for School Success

Among respondents who collect data in the on track for school success goal area, 30 to 31 respondents provided a Yes/No response for primary data collection for the following indicators. The most common indicator collected was "use and knowledge of social emotional skills" (*n* = 28, 90%) and the least common was "Kindergarten Entry Assessment" (*n* = 11, 37%).
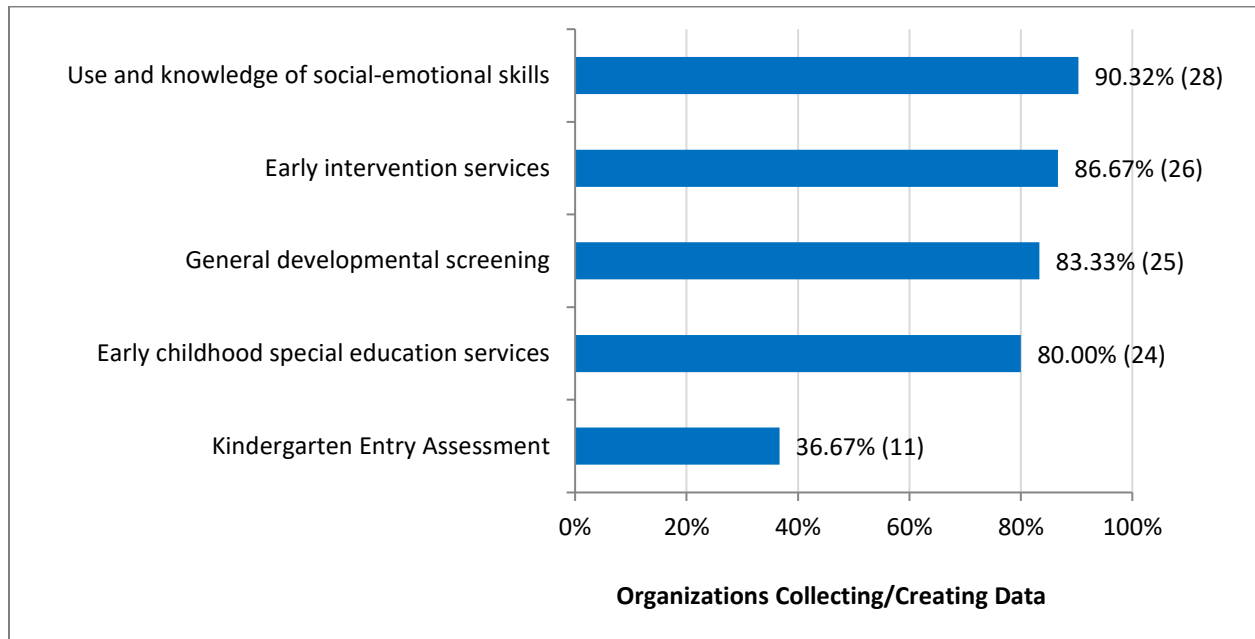

Figure 30. Collecting/creating primary data about being on track for school success

Responses for secondary data ranged from 31 to 32 respondents. The largest indicator area for secondary data use was "early childhood special education services" (*n* = 25, 78%) and the lowest was "Kindergarten Entry Assessment" (*n* = 17, 53%).
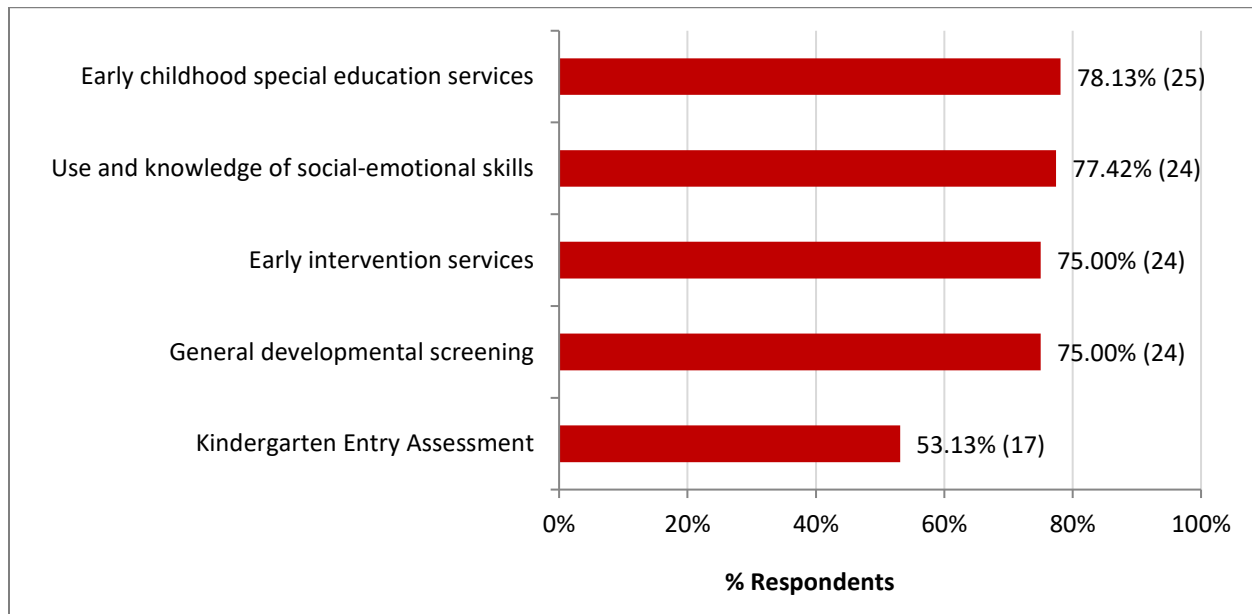

Figure 31. Using secondary about being on track for school success

ECAP Goal #10: Reading at Grade Level

Among respondents who collect data in the reading at grade level goal area, 15 respondents provided a Yes/No response for primary data collection for the following indicators. The most common indicator collected was "classroom size" (53%) and the least common were "K-2 mCLASS Reading 3D," "3rd grade EOG," and "4th grade NAEP" (7%).
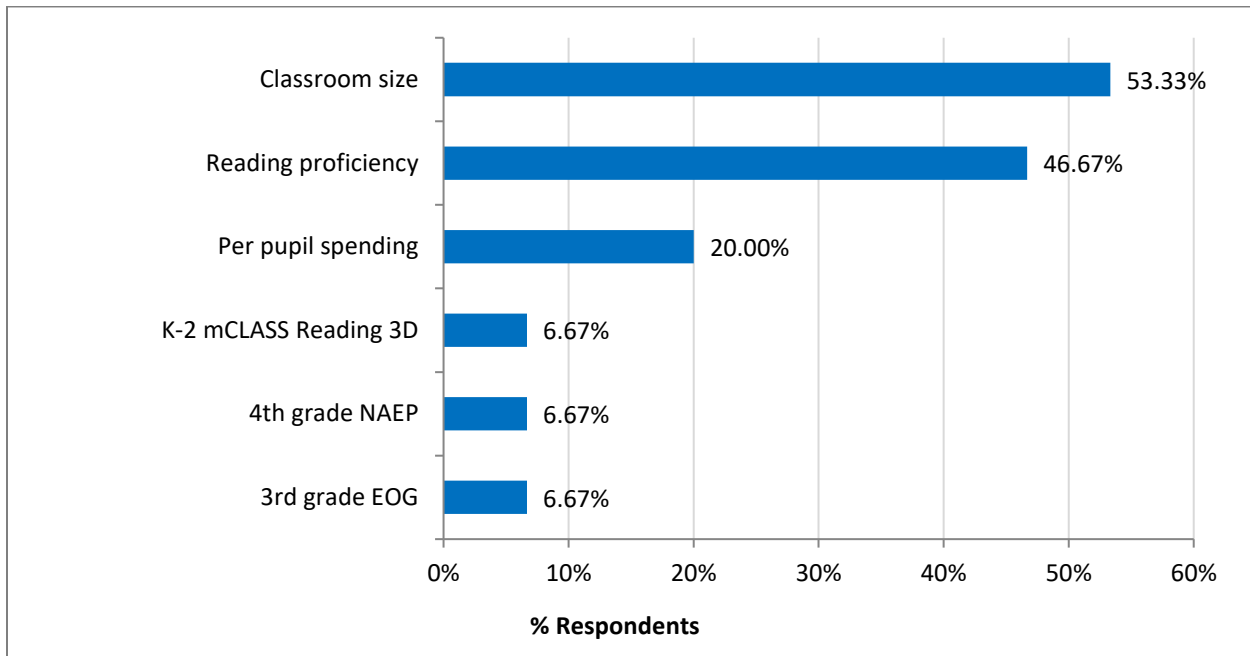

Figure 32. Collecting/creating primary data about reading at grade level

Responses for secondary data ranged from 27 to 31 respondents. The largest indicator area for secondary data use was "ready proficiency" (58%) and the lowest indicator areas were "K-2 mCLASS Reading 3D" and "per pupil spending" (19%).
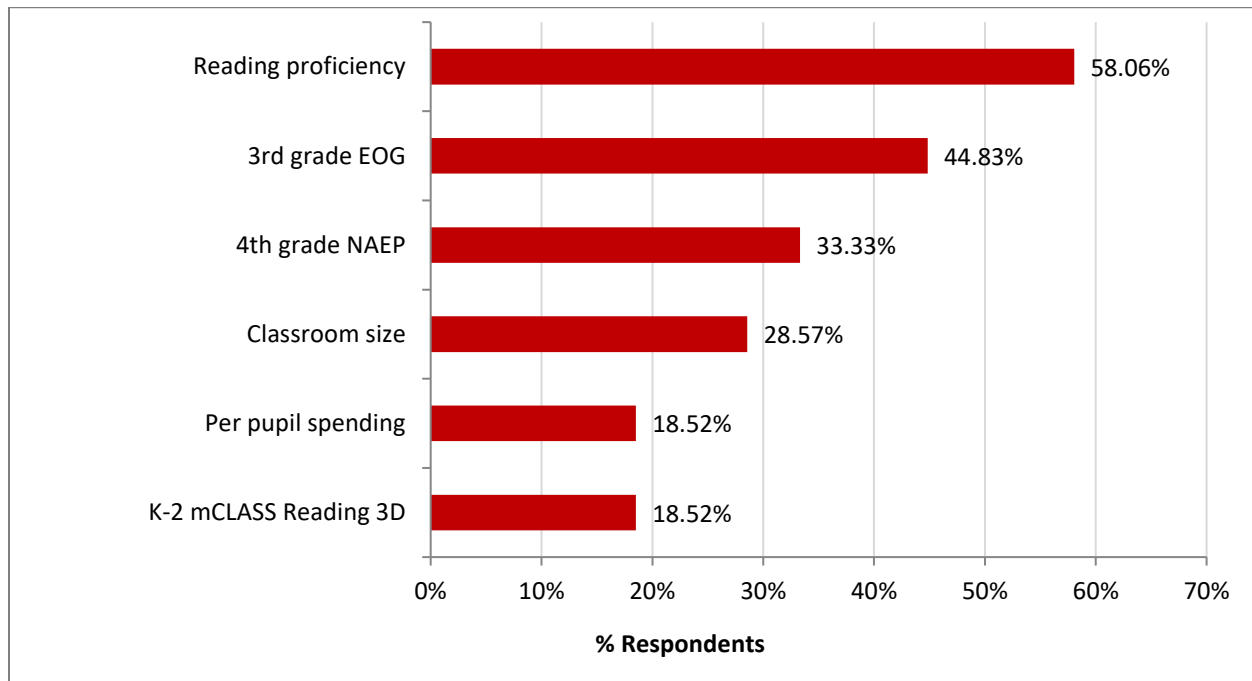

Figure 33. Using secondary data about reading at grade level