Approaches to Defining and Measuring ECE Access – August 17, 2020

1. Descriptive Information

Approaches to Defining and Measuring ECE Access	Facilitator and Discussants
Early care and education (ECE) access is traditionally assessed by examining system-level trends including the number of slots that are available and the average price of slots. Recent advancements in data capacity and analytic methods have resulted in new approaches to understanding access that enhance what can be learned at a system-level. Using a family-centered definition of access as a framework, this session will explore new strategies for defining and measuring access. The definition of access includes multiple dimensions that can inform measurement strategies: "With reasonable effort and affordability, all families can use early care and education that supports their child's development and meets their family's needs." Session attendees will present research that reflects these dimensions and address questions about the extent to which new strategies are supporting better policy and practice. What conclusions can be drawn about the state of current research on access? What gaps need to be addressed to advance policy? Which dimensions of access are being addressed adequately and which need further work? What analytic strategies are needed to deepen our understanding? The session will include multiple perspectives—research, state policy, and state technical assistance—to produce rich conversation.	• **Kathryn Tout,** Child Trends • **Lyn Rhodes,** Minnesota Department of Human Services • **Zelda Boyd,** NCECQA **Presenters** • **Dana Thomson,** Child Trends | *Defining and Measuring Access: Themes from a Review of the Literature* • **Liz Davis,** University of Minnesota | A *National Portrait of Access Using the NSECE* • **Herman T. Knopf,** University of Florida, Anita Zucker Center for Excellence in Early Childhood Studies| *Florida's Index of Child Care Access* • **Benjamin Case,** Wisconsin Department of Children and Families | *Mapping ECE Access in WI for Vulnerable and Underserved Children* • **Aaron Sojourner,** University of Minnesota | *Family-Centered Measures of Multiple Dimensions of Access in Minnesota* **Scribe** • **Nicole Wright,** ICF

2. Documents Available on Website

- Approaches to Defining and Measuring ECE Access

3. Brief Summary of Presentations
- **Summary of Presentation #1:** Dana Thomson & Gabriella Guerra, Child Trends
  Key Themes from a Comprehensive Literature Scan on ECE Access
  - o Dana Thomson highlighted an increased focus on improving access to ECE for all in the policy and research communities, especially in the context of the Coronavirus pandemic. As a result, how access is conceptualized and measured is increasingly important, as well as monitoring and tracking progress and making comparisons across different settings/geographies.

- o Dr. Thomson and her colleague Gabi Guerra conducted a review of local, state, and federal reports to this end across the past five years that attempt to conceptualize or define access. A total of 124 articles and reports were included.
- o Approach:
  - Their starting point was a multidimensional definition of access: *access to ECE means that parents, with reasonable effort and affordability, can enroll their child in an arrangement that supports the child's development and meets the parents' needs.*
  - They examined the extent to which definitions and measures of access in the literature reflect multiple dimensions of access.
  - The degree to which ECE reaches underserved/disadvantaged children emerged as another dimension.
- o How articles address the following dimensions of access, the extent to which they address *multiple* dimensions, how indicators across multiple dimensions were combined, and whether they incorporate a family-centered perspective was also considered.
- o First dimension is **reasonable effort,** which encompasses sufficient availability, location near home/workplace, age appropriate ECE slots, and readily available information about ECE options. The highest proportion of articles reviewed addressed availability (73%), followed by location (61%), age appropriateness (41%), and availability of information (17%).
- o **Affordability** includes subsidies or financial assistance, cost to family, and costs incurred by ECE programs for providing services.
  - About half of the articles examined access by looking at subsidies (52%).
- o **Supporting children's development** is the third dimension and includes care that is high quality and care that provides access to specialized services.
  - Quality of care is addressed in 55 percent of articles.
  - 34 percent address care that provides access to specialized services.
- o **Meeting parents' needs** subdimensions:
  - Provider type is addressed by 70 percent of articles.
  - 39 percent address hours of operation (need for extended care or care during nontraditional hours, for example)
  - Other factors, such as care for multiple children and cultural match, are addressed in 24 percent of articles reviewed.
- o The **Equity** dimension is intended to highlight disparities in access due to low income, race/ethnicity, linguistic diversity, immigrant status, urbanicity, etc. The most commonly addressed subdimension was income, which was addressed in 48 percent of articles, followed by race/ethnicity, which was addressed in 27 percent.
- o **Key finding #1:** Reasonable effort is a foundation for most definitions of access, but other dimensions are also critical, including affordability. Reasonable effort was addressed in 88 percent of sources, followed by meeting parents' needs (82%), affordability (75%), supporting children's development (64%), and equity (58%).
- o **Second**, the researchers found that access is often conceptualized in a multidimensional way (65% of sources reviewed defined access in ways that spanned four or more dimensions). Only 2 percent used one dimension to conceptualize access, and 8 percent used two dimensions.
- o The **third key finding** is that few sources combine indicators across dimensions in a way that provides an overall characterization of access. Some combine multiple dimensions by examining the intersection of or overlap between dimensions of access. Others combined dimensions sequentially, first reporting on one dimension, then another.
  - There were two reports that created composite indexes for access to summarize multiple dimensions.
- o The researchers also looked at whether various indicators were rooted in a systems or family-level perspective (supply side versus demand side factors). Family-level data is quite limited, which limits the ability of the field to understand access from a family's perspective.

- o Research highlights a need for the field to combine/weigh indicators of access across dimensions and that incorporate demand side factors. Additionally, there is a need to examine how those factors may be shifting due to pandemic and apply an equity lens.

- **Summary of Presentation #2:** Herman Knopf, University of Florida
  Florida's Index of Child Care Access
    - o Dr. Knopf provided a demonstration of Florida's ECE portal, online tool designed for state and local ECE policymakers to understand the extent to which children have access to child care options and to identify and develop interventions that may improve access.
    - o Development work on the tool began to help state policymakers, stakeholders, and Early Learning Coalitions understand access to care. In an attempt to share information in a way that is understandable and actionable, the research team designed a map that shows selection (a positive balance indicates that parents are enrolling their children in high quality care when available) and infrastructure (indicating that there are enough slots for children to enroll in care). When an area has a negative value for infrastructure, it means it can't support the families within the geographic area.
    - o Maps show data at the zip code level, and the team is moving into census track level analyses as well.
    - o It is interactive, so users can hover over areas and select to see additional features.
    - o Dr. Knopf explained that the subsidy system is locally administered in Florida. If you hover over a zip code, you can see the number of children enrolled in the system and the number of slots available.
    - o Early Learning Coalitions were excited about using the data, but as they tried to develop interventions, additional questions emerged, including where specific providers are located. The research team added a layer to the map to address this, indicating providers with color-coded dots. Blue providers are considered high quality, active, and are participating in the subsidy program. Pink are high quality, but not participating in the subsidy program. Black are considered low quality providers, but active.
    - o The map also indicates child care and home-based program types, as well as size.
    - o Location and quality are important, but stakeholders also wanted to know where the families who are participating in the subsidy program live. There is now a heat map feature that plots families on the map so users can identify areas that are more densely populated. Darker areas have higher density.
    - o Users can layer these measurements - families and program locations, as well as quality - to get a more complete picture of what the child care landscape looks like in any given area.
    - o The map is also time bound, so users can see variance over time.
    - o Finally, the team added a feature that indicates whether the loss of a certain provider in any given area would change access to high quality options within a certain distance.

- **Summary of Presentation #3:** Ben Case, Wisconsin Department of Children and Families
  Mapping ECE Access in Wisconsin for Vulnerable and Underserved Children
    - o Access to ECE can be very challenging for families, especially if parents work nonstandard shifts/hours. The WI Department of Children and Families wanted to determine whether families served during nonstandard hours drive longer, on average, to access child care than those served during standard hours.
    - o The research team examined data from families served in October 2019. They chose October because it is a high usage month for ECE. Data included residential and provider addresses and family work schedules. The data source was the Cares Worker Web (CWW), which is internal.
      - Work schedules were divided into three shifts: 6am-1:59pm, 2pm-11:59pm, and 10pm-5:59am. The second and third shifts are considered to be nonstandard hours.
    - o The research team used Excel spreadsheets to drill down and ensure data quality (removed addresses with PO boxes or those with zip-level codes (not front door)). Then they solved for drive time from home to provider.

- o **Results**
    - The team mapped average drivetimes from residence to child care for families who are receiving subsidized child care during standard and nonstandard working hours. They depicted the average drive times using color coding. With this map, they are able to identify target areas for policymakers to focus funding/interventions.
    - Findings demonstrate that, on average, families served during nonstandard hours drove longer to child care than families served during standard hours.
- o The study had some limitations, including:
    - Standard vs. nonstandard hours
    - Accuracy of residential addresses (inability to verify, possibility of homelessness not being captured, duplicate addresses)
    - Not accounting for method of transportation (i.e., public could take longer)
    - Not including those most impacted by lack of access and affordability (i.e., if a family can't access or afford child care, they weren't included in the study)
- o Next steps include:
    - Comparing averages across census tracts
    - Establishing new shift hours and generating a new file extract
    - Controlling for factors such as inaccurate or duplicate addresses and methods of transportation
    - Overlaying with maps depicting child care deserts
    - Analyzing by provider type (family vs. group child care providers)

- **Summary of Presentation #4:** Aaron Sojourner, University of Minnesota
  Family-Centered Measures of Access in Minnesota
    - o This research is focused on mapping access to child care for Minnesota families. It also incorporates a drivetime measure, similar to what Ben Case outlined in the previous presentation.
    - o The research team starts by considering where families with young children live (using data from the census that provides an estimate/proxy rather than exact locations), then looking at the market of providers.
        - They are ultimately building a distance-based measure of available child care slots per capita – how many nearby slots there are available to families with young children.
    - o The map also uses a composite affordability measure that accounts for both money price and drivetime to create a more complete picture. Quality measures are included on the map as well.
    - o Users can view access, cost, and quality (as well as the share of nearby slots that are highly rated). This information is available for every neighborhood. ChildCareAccess.Org is the result.
    - o Dr. Sojourner used Rice County as an illustrative example. The dots on the map represent synthetic family locations (the dots are distributed around the county as families are, even though it is not exact, so users can see clusters of families with young children). The color of the dots represents quantity access. If dots are blue, families living nearby have a relatively high number of slots nearby and not a lot of other children competing for those slots.
    - o This map starts a data-informed conversation for local decisionmakers: where to prioritize funding or at least start investigating.
    - o Dr. Sojourner highlighted the interactive aspects of the map as well. Users can visualize the high numbers of families clustered in the cities (with red designating low access). Users can also flip from viewing quality to cost to see where the cost of child care is lower (again, cost incorporates money price and travel costs). Users can look at measures of quality, and they can also construct their own combinations of measurements at various levels (school districts, counties, etc.).
    - o The map does not show provider locations, only families.
    - o Dr. Sojourner closed by noting that families often feel pain when looking for child care because they can't find what they want (too far away, too expensive, doesn't feel trustworthy, etc.) – but policymakers want to get underneath and diagnose that pain – what is causing that inaccessibility and how can we mitigate it?

- o Community level reports are available on the website, as well as a national map to show child care deserts.

- **Summary of Presentation #5**: Liz Davis, University of Minnesota
  Measuring and Comparing Access with a Family-Centric, Multidimensional Methodology: Analysis of the 2012 National Survey of Early Care and Education (NSECE)
  - o The purpose of this research is to demonstrate an application of a family-centric, multidimensional definition of child care access at the local level using nationally-representative data. Access is defined across four dimensions: reasonable effort, affordability, meets parents' needs, and supports child's development.
  - o Key questions, when looking at the nationally-representative data, are focused on how to measure each of the four dimensions. What researchers can actually measure is limited by the data available.
    - Describe overall access based on the four dimensions:
      - What is the median level of access for each dimension?
      - How much variation in access is there across local areas?
    - Compare access for families of different income levels, races, and ethnicities.
    - Examine the association between access and the type of primary care used by families with young children.
  - o The research team used the 2012 NSECE as its primary data source, with data from all four surveys: center-based providers, center-based workforce, homebased providers, and households with young children. The analysis of this data was conducted at the household level.
  - o The researchers used a "tots per slots" measure (a ratio):
    - Numerator is the number of children in the area (in two age groups: infants to toddlers 35 months old and 36 to 72 months old)
    - Denominator is the number of slots at center-based and listed non-relationship-based home-based providers.
      - Current enrollment numbers were used due to the availability and quality of the survey data.
  - o Analysis was focused on access ratios:
    - Reasonable effort – overall tots per slot in the area
    - Affordability – tots per slot at different price points
    - Meets parents' needs – number of children with parents working nonstandard hours compared to the number of slots at providers offering nonstandard hours
    - Supports child development – tots per slot with structural quality indicators, such as teacher with a degree or CDA
  - o Liz Davis walked through the example of the methods for determining affordability
    - The research team looked at the supply of care at different price points and compared the number of children to the number of slots based on each price point.
  - o Preliminary findings: Affordability for families with income below 200% FPL
    - The team found that overall, there is less care available for the 0-3 age group than preschool aged group (there is a higher number of tots per slot). Further, as the price point decreases, the number of tots per slot increases.
  - o In addition to looking at median values, the researchers also wanted to look at who lives in areas with lower access. They defined lower access areas to be those with access ratio at the 75th percentile or higher. Definition varies by dimension and is a relative measure rather than an absolute one.
  - o Preliminary findings: What percentage of families of different demographic groups live in lower access areas?
    - For Hispanic families, the median is five infants and toddlers per slot, as compared to four for white children (and 4.1 for Black children).
    - Note that the threshold to define low access is 6.4.

- o Limitations/Challenges:
  - The field needs better measures of supply capacity and demand
  - Access is local, requiring local data on supply and demand.
  - In this report the team only looked at dimensions one at a time.
- o Liz Davis concluded by saying that more research is needed on how to define low access across dimensions.

- **Summary of Presentation #6:** Lyn Rhodes
  Reflections from a State Perspective
  - o All the information shared today gives us new ways to look at family needs and how to address them. Having analysts working closely with policymakers leads to a better understanding of what is going on and how to best use the information.
  - o The data from the 2012 NSECE is nearing a decade old. The new 2019 survey data will provide a better understanding of parent need. However, there has been a more recent shift in the number of providers staying open due to the pandemic. Centers are offering limited capacity, and the viability of that model is questionable.
  - o In Minnesota, there are gaps in understanding around age groups. Minnesota has a unique way of storing age group categories and does not have a good sense of the open slots for each age group, meaning policymakers are forced to make assumptions.
  - o There are also questions around how much parents' choice is not actually choice, but rather, what they can afford.
  - o It is helpful to have public options included in the map, but we do not always know what the structure of those options are (e.g., limited hours). Parents may also utilize more than one slot – we don't know all of those nuances.
  - o The more information we can find, the more creative we can be, and the better our picture is so we can put funds where they will be most impactful.

- **Summary of Presentation #7:** Zelda Boyd
  Reflections from a Technical Assistance Perspective
  - o Dana and Gaby's lit review is right on target with what we've seen. There is not a lot of data or information available on the parent perspective – not only what they need in terms of a slot, but more anecdotally about their desires.
  - o We are hopeful that the mapping will allow us to dig a little deeper.
    - Are parents close to work or school?
    - Are they walking distance?
    - Are there enough families in a rural area to sustain a provider?
  - o Looking at the type of care/what parents prefer, families typically choose care that is culturally and linguistically compatible to their needs, but it is unclear if we can actually see that based on the information we have. Parents' level of trust and comfort is not taken into account. They might be paying for a lower level of quality because they are comfortable with the provider.
  - o Nontraditional hours capacity is another grey area – if a program builds slots for nontraditional hours, parents might not be comfortable. They will use family, friends, or neighbors instead. Tying data about what's available to what parents desire is really critical.
  - o Affordability is an important piece of parents' desires as well. Even if care is affordable, if it is not desirable to the parent, they won't take advantage of it. Slots may show up as available, but they're not being utilized by parents that still have that need.
  - o Researchers have to overlay our definition of quality with a parent's definition. The provider might be loving and caring, but not do activities that are developmentally appropriate. Overlaying those pieces is necessary moving forward. Aligning families' needs with available slots – if we can move toward that, people will thrive.

- o Characteristics of providers:
  - They are there, may be affordable – but if they're not willing to be a subsidy vendor because they may only be paid at 75% percentile, parents can't take advantage of that either.
  - What do they need to meet the needs of families?
  - o Finally, being able to take the information and see shifts in real time is important.

4. Questions from Attendees and Answers from Panelists

Q: For Herman: does the data reflect current situation under COVID, or before?
A: The maps that we were looking at are historical (2017-2018). Our team has also created new analyses specific to understand the impact that COVID has had on child care infrastructure. That analysis uses a daily look at infrastructure changes that reflects local variation and COVIC incidence

Q: If there are links to Florida's website just shared, I would love to explore it for Community Assessment purposes.
A: There is an application process for gaining access. Please send me an email, and I can help facilitate access for you - hknopf@ufl.edu.

Q: For Benjamin - Maybe I missed it, but could their jobs be further away too, so parents are finding care nearer their jobs than their homes?
A: Yes! That is another limitation of the project. That is another dimension we want to add to understand parental choice, particularly with better understanding if they choose providers closer to home or to work

Q: For Herman: Exciting project! Where do the data come from and how "live" is the system? (that is, how often are data updated)?
A: The data are from the Florida Office of Early Learning (CCDF Lead Agency) and Department of Children and Families (CC Licensing) FLICCA is updated annually, once child attendance data are finalized in the system. Our COVID analyses are calculated daily and are being updated quarterly.

Q: For FL, is the underlying data from about providers entirely from your subsidy data or do the providers have to keep it up to date in some way (e.g., slots available)?
A: The child data come from the subsidy system, child payment records. The provider data come from Child Care licensing combined with the Subsidy data system; providers are not burdened with submitting data. We have recently completed a more focused series of analyses specific for a particular Early Learning Coalition that included data from a provider survey that included report of current enrollment and desired capacity for all providers in the subsidy system.

Q: For Aaron: How is age of children and age served being accounted for, or can it be?
A: This uses the number of children age 0 to 5 and slots for children age 0 to 5. Here we are presenting for all infants, toddler and preschoolers overall. It's not conceptually difficult to do it by age group. It's only difficult to present all that information in a clean way but it's entirely possible if that's a priority.

Q: Do you have suggestions on where to find data on number of children birth to 5 in licensed family child care, and separately in unlicensed or exempt family child care, nationally, and if possible, state by state? Also do you have child age breakdowns (i.e., birth to three vs three to 5), as more infants and toddlers are in family or home based care? Also, do you on family child care providers' demographics? Many thanks!
A: The National Survey of Early Care and Education (NSECE) has data on many of these, and is nationally representative, but can be analyzed for only a few large states at the state level.

Q: Ahhh....exactly Zelda....need to consider building in parent's "comfort level with care" into QRIS, so that QRIS ratings reflect the "quality" that parents are looking for including "comfort with provider"
So very helpful! Appreciate your wisdom and analysis, Zelda!
Yes, Zelda...that's the flip side...there's that balance of how quality is defined - but we need to understand all

elements of quality - many QRIS do not include "compatibility", "comfort", "cultural competence/alignment" between child and family. Great discussion!!
A: You are correct. We need to dig deeper.

Q: I'm interested to hear from the authors of the ECE Access framework - there seems to be a piece missing from the "reasonable effort" component, which is the administrative barriers to enrollment (paperwork, confusing applications, in-person interviews, etc.). Did that issue come up as you developed the framework?
A: Absolutely! There are a few studies on this topic, but more is needed.

Q: I'm interested in Workforce Registries - expanding the data they collect to better inform equity conversations. Also, tech needs for providers to do SA care. Equity related to where qualified staff are, but expanding our definitions of how we define "quality staff" - it's not all college degrees and CLASS scores I appreciated your comments about parents' def of quality, Zelda.
A: You are correct. We need to dig deeper.