

# Measuring Supply Capacity at Centerbased CCEE Programs

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#### Introduction

**Supply capacity** is a critical construct for understanding how much care is available to families in the community. Researchers and policymakers who are concerned with increasing families' ability to have their children participate in center-based child care and early education (CCEE) have to take into account how much supply capacity there is to accommodate those children and families, as well as the age categories, provider characteristics, and community settings for which more supply might be needed. Supply capacity can be defined and measured in different ways. One such way is to define supply capacity as **operating capacity**, that is, the number of children a provider is able to serve at a given moment in time. We define operating capacity as the sum of the provider's current enrollment and vacancies; in other words, by supply capacity we mean the total number of children a provider is able to serve, rather than the additional number of children a provider can serve on top of their current enrollment.

Availability of care can also be measured by expansion potential and capacity utilization. **Expansion potential** is defined as the ratio of vacancies to enrollment. Expansion potential is a measure of the degree to which center-based providers are able to serve additional children beyond those already enrolled. **Capacity utilization** is defined as the ratio of enrollment to operating capacity, measures the percentage of available slots that have been filled.

State licensing lists provide a source of data for analyzing the supply of center-based CCEE, but they are limited in several ways. First, state licensing lists provide data on licensed capacity, which is the number of children a center is legally licensed to serve. Licensed capacity may differ from a center's operating capacity. In many states, licensed capacity is determined by physical requirements such as the center's indoor and outdoor square footage or the number of toilets or bathrooms in the facility. Operating capacity, on the other hand, is affected by factors such as staffing, age groups served, and services provided (e.g. half-day programs, full-day programs, before/after school care). A center that experiences a staff shortage may have an operating capacity lower than its licensed capacity. Conversely, centers that offer part-day programs may have an operating capacity that is higher than its licensed capacity, because not all children are present at the facility for the entire day. Hence, licensed capacity may not be an accurate measure of CCEE supply.

Second, state licensing lists may not include all CCEE programs offering center-based care. For instance, in some states CCEE programs run by schools serving elementary or secondary grades are not licensed by the state's child care licensing agency. Finally,

the lists may not include granular breakdowns of capacity by age categories, and by themselves do not offer information about provider characteristics or those of the communities in which they are located.

This methodological brief describes how enrollment and vacancies at center-based child care and early education (CCEE) programs can be estimated using data from the 2019 National Survey of Early Care and Education (NSECE). The NSECE center-based provider survey offers a rich set of data that address limitations of state licensing lists. In addition to a range of variables that describe provider and community characteristics, the NSECE also collected detailed information about enrollment and vacancies. This brief describes data from the NSECE that can be used to measure centers' operating capacity and also presents two measures of the availability of care: expansion potential and capacity utilization. Based on an analysis of the capacity data available in the 2019 NSECE, this brief reports the following findings:

- 1. At the national-level, center-based providers have limited expansion potential. When expansion potential is disaggregated by age categories, our analysis finds that expansion potential is limited across all age categories. On average, centers are operating with a capacity utilization of about 90 percent.
- 2. Expansion potential is unevenly distributed across providers. Although the majority of providers have no expansion potential, some providers reported that they were able to serve more children.
- 3. Expansion potential at the classroom-level is even more limited than that at the center-level.
- 4. Limited expansion potential is observed across multiple center and community settings. Supply tightness is particularly pronounced at centers where no families pay ("free care to all families"), centers with predominantly public funding, those with the most teachers, and those with the lowest departure rates for teachers.

This brief also compares capacity information collected from the 2019 NSECE to licensed capacity for a sample of centers and estimates the degree to which reported operating capacity tracks licensed capacity. Based on an analysis of a sample of centers, we find that the average center has an operating capacity that is lower than its licensed capacity.

This methodological brief proceeds as follows. The next section describes how enrollment and vacancy information was collected from respondents in the 2019 NSECE center-based provider survey, and the variables in the NSECE data files that can be used to analyze enrollment and vacancies. The brief then reports findings from an analysis of the capacity data available in the 2019 NSECE. The following section documents differences between centers' operating capacity reported in the 2019

NSECE and their licensed capacity reported in state licensing lists. The final section offers caveats and suggests avenues for future research.

### Data

The 2019 NSECE center-based provider survey collected detailed enrollment and vacancy information from its respondents. The NSECE first asked providers to enumerate the age groups that they serve at the center. Age groups are ranges of ages used by the center to group children. Each center-based provider could report up to ten age groups, reflecting how the center organizes its children into groups. Then, for each age group, providers were asked to report their current numbers of children enrolled and the vacancies they have for that age group. We report capacity as the sum of enrollment and vacancies.

To facilitate comparisons across centers, the NSECE mapped reported age groups to seven age categories: infants (children younger than 12 months), 1-year-olds, 2-year-olds, 3-year-olds, 4-year-olds, 5-year-olds (not in kindergarten), and school age (including kindergarten). When an age group spanned multiple age categories, reported enrollment and vacancies were assumed to be distributed uniformly over the range of the age group, and allocated to age categories accordingly. For instance, if the center considered children seven months and older to under two years old part of the same age group, and reported three children in this age group, then one child would be allocated to the infant (younger than 12 months) age category and two children to the 1-year-old category.

The 2019 NSECE includes variables reporting enrollment and vacancy information in its center-based provider data files. The Level-1 Restricted-use center-based provider data file includes variables L1\_CB9\_AGECAT\_TOTENROLL\_X and L1\_CB9\_AGECAT\_ADDLENROLL\_X, where X is a placeholder for each of the seven age categories (INF, 1YR, 2YR, 3YR, 4YR, 5YR, SA). These variables respectively report enrollment and vacancy information. The public-use data file includes variables named CB9\_ENRL\_X and CB9\_ENRL\_VACANCIES\_X, which contain the same information as L1\_CB9\_AGECAT\_TOTENROLL\_X and L1\_CB9\_AGECAT\_ADDLENROLL\_X but are top-coded to limit disclosure. We refer readers to the 2019 NSECE User's Guide – Center-based Provider for more information about these variables.

<sup>&</sup>lt;sup>1</sup> Top-coded means that all values greater than a defined threshold were recoded to a fixed value.

<sup>&</sup>lt;sup>2</sup> The User's Guide and the Center-based Provider public-use data file are available at

## Findings from analysis of 2019 NSECE survey data

#### Center-based providers have limited expansion potential

We begin by documenting enrollment and capacity at the national-level. Exhibit 1 reports, for each age category, national estimates of total enrollment, vacancies, and operating capacity. The exhibit further reports two measures of the availability of care: expansion potential and capacity utilization.<sup>3</sup> Both measures are expressed as percentages in Exhibit 1.

Exhibit 1 indicates that at the national-level, center-based providers had limited expansion potential and were operating near capacity in 2019. For example, expansion potential for the youngest age category (younger than 12 months old) was 14.6%. The mean number of children enrolled in this age category, conditional on having at least one enrolled child in this age category, was about 9 children. Hence, a center with an average enrollment of children younger than 12 months had about 1.3 vacancies for children in this age category. Expansion potential declines for older age categories.

**Exhibit 1: National-level Enrollment and Enrollment Expansion Potential in** Center-based CCEE Programs, 20194

| Ago Cotogony          | Number     | of Children, Wei | Expansion | Capacity     |                |
|-----------------------|------------|------------------|-----------|--------------|----------------|
| Age Category          | Enrollment | Vacancies        | Capacity  | Potential, % | Utilization, % |
| <1 year-old           | 426,000    | 62,300           | 488,000   | 14.6         | 87.2           |
| 1-year-old            | 718,000    | 95,100           | 813,000   | 13.2         | 88.3           |
| 2-year-old            | 1,010,000  | 127,000          | 1,130,000 | 12.6         | 88.8           |
| 3-year-old            | 2,170,000  | 208,000          | 2,380,000 | 9.6          | 91.3           |
| 4-year-old            | 2,340,000  | 226,000          | 2,570,000 | 9.6          | 91.2           |
| 5-year-old (not in    |            |                  |           |              |                |
| Kindergarten)         | 366,000    | 34,900           | 401,000   | 9.5          | 91.3           |
| School Age (including |            |                  |           |              |                |
| Kindergarten)         | 2,480,000  | 290,000          | 2,770,000 | 11.7         | 89.5           |

Notes: Statistics are based on center-based survey respondents with valid data (non-missing enrollment and vacancy counts). 328 cases with non-valid data (4,168 weighted) were excluded from analysis, or 4.7% of cases (3.4% weighted). Capacity = Enrollment + Vacancies. Expansion Potential = Vacancies / Enrollment. Capacity Utilization = Enrollment / Capacity. Note that Expansion Potential and Capacity Utilization are calculated based on aggregated enrollment, vacancies, and capacity at the national-level. Counts are rounded to 3 significant figures, and percentages are rounded to 1 decimal place.

https://www.childandfamilydataarchive.org/cfda/archives/cfda/studies/37941. The questionnaire is available at

https://www.acf.hhs.gov/opre/project/national-survey-early-care-and-education-2019-2017-2022.

<sup>&</sup>lt;sup>3</sup> See the Introduction for definitions of these terms.

<sup>&</sup>lt;sup>4</sup> Estimates of vacancies, capacity, expansion potential, and capacity utilization from the 2019 NSECE are not comparable to those from the 2012 NSECE due to changes in question design, and as such we do not make such comparisons in this brief. The Appendix provides more information about these changes.

#### Expansion potential is unevenly distributed across providers

National-level enrollment and vacancies do not tell us how expansion potential is distributed across providers. Exhibit 2 reports the number of providers serving each age category, as well as the distribution of expansion potential over these providers. Exhibit 2 indicates that expansion potential was unevenly distributed across providers in 2019. While the majority of providers have limited expansion potential in every age category, some providers do have the ability to serve more children. The same pattern of unevenly distributed expansion potential is observed across all age categories. For example, the median provider serving children younger than 12 months old had zero expansion potential for this age category. In other words, at least half of all providers that served children younger than 12 months (and had at least one child enrolled in this age category) reported no vacancies for the age category, despite a national-level expansion potential of 14.6%. On the other hand, the 75th percentile expansion potential in the younger than 12 months old age category was 25%; that is, a quarter of all providers serving this age category reported expansion potential of 25% or more.

Exhibit 2: Provider-level Enrollment Expansion Potential by Age Category, 2019

|   | Number of                  | Providers, V       | Veighted               | Expansion Potential, %, Quartiles and Mean |        |            |      |
|---|----------------------------|--------------------|------------------------|--|--------|------------|------|
| Age Category  | Serving<br>Age<br>Category | With Valid<br>Data | Pct with<br>Valid Data | 25th perc.                                 | Median | 75th perc. | Mean |
| < 12 months   | 48,900                     | 48,700             | 99.6                   | 0  | 0.0    | 25.0       | 26.9 |
| 1-year-old  | 57,900                     | 57,700             | 99.6                   | 0  | 2.9    | 25.0       | 22.6 |
| 2-year-old  | 71,000                     | 70,600             | 99.4                   | 0  | 3.3    | 21.5       | 21.0 |
| 3-year-old  | 103,000                    | 102,000            | 99.2                   | 0  | 2.4    | 18.2       | 18.6 |
| 4-year-old<br>5-year-old                                    | 107,000                    | 105,000            | 97.8                   | 0  | 2.5    | 17.6       | 19.7 |
| (not including<br>Kindergarten)<br>School Age<br>(including | 53,900                     | 53,400             | 99.1                   | 0  | 3.3    | 20.0       | 24.4 |
| Kindergarten)   | 56,000                     | 55,400             | 99.0                   | 0  | 4.3    | 22.6       | 27.8 |

Notes: Statistics are based on center-based survey respondents with valid data (non-missing enrollment and vacancy counts and enrollment of at least one child in the given age category). Expansion Potential = Vacancies / Enrollment, expressed as percentages. Note that the quartiles and mean are based on Expansion Potential calculated at the provider-level. Counts are rounded to 3 significant figures, and percentages are rounded to 1 decimal place.

Note that the means are consistently larger than the medians, indicating the presence of outliers with large expansion potential. In most cases the large expansion potential is due to the provider having a small number of enrolled children (the denominator used in the calculation of expansion potential), rather than a large number of vacancies. In our discussion we will focus on the median, as it is less sensitive to the presence of outliers

# Expansion potential at the classroom-level is even more limited than that at the center-level

In the center-based provider survey, a classroom at the center was randomly selected, and follow-up questions asked about this classroom. Exhibit 3 reports expansion potential at the classroom-level, subset by the age of the youngest child in the classroom. Expansion potential at the classroom-level was even more limited than that at the center-level, with the median reporting no vacancies for both 0-35 month and 36-59 month groups. This relationship between classroom-level and center-level expansion potential is expected. In any given classroom, the ability to expand is limited by the physical space available in the room, whereas providers have more options to expand overall enrollment at the centers: by increasing enrollment at a classroom with vacancies, opening additional classrooms, adding time periods, or adding staff.

Exhibit 3: Classroom-level Enrollment Expansion Potential by Age of Youngest Child in Classroom, 2019

| Age Category,                           | Numbe            | er of Classrooi<br>Weighted | ms,                       | Expansion Potential, %, Quartiles and Mean |        |            |      |
|---|------------------|-----------------------------|---------------------------|--|--------|------------|------|
| by Age of - Youngest Child in Classroom | Offering<br>Care | With Valid<br>Data          | Pct with<br>Valid<br>Data | 25th perc.                                 | Median | 75th perc. | Mean |
| 0-35 months                             | 246,000          | 218,000                     | 88.7                      | 0  | 0      | 16.7       | 25.5 |
| 36-59 months                            | 279,000          | 244,000                     | 87.6                      | 0  | 0      | 19.0       | 19.8 |

Notes: Statistics are based on center-based survey respondents with valid data (non-missing enrollment and vacancies and enrollment of at least one child in the classroom). Cases were also excluded where respondents reported that they did not know the number of vacancies in the classroom, but it was at least one, and where respondents reported that there was no limit on vacancies. Among classrooms in which the youngest child was aged birth through 59 months, about 8,000 (weighted) did not have valid data, 41,000 had at least one vacancy (but did not know the exact number), and 13,000 had no limit on vacancies. Counts are rounded to 3 significant figures, and percentages are rounded to 1 decimal place.

# Limited expansion potential is observed across multiple center and community settings

Exhibits 4 and 5 report the distribution of expansion potential at the center-level by selected center and community characteristics, for the infant (younger than 12 months) and 4-year-old age categories respectively. These characteristics include sources of revenue (whether the center charges families for care), sources of funding (public, mixed, or no public funding), number of staff who work directly with children, the staff departure rate (number of individuals working with children aged birth through five that departed the center in the last 12 months, divided by total number of teachers, lead teachers, aides, or assistants working with children aged birth through five), community poverty density, and urban density.

The exhibits paint a picture of supply tightness across multiple center and community settings, with the median center in each category reporting expansion potential of zero

or in the single digits. Expansion potential at the 75th percentile exhibited greater variation across settings, with centers where no families pay ("free care to all families") and those with predominantly public funding reporting lower expansion potential than those in other categories. Centers that have more than 15 teachers and those with the lowest departure rates reported less expansion potential than centers with fewer teachers and those with higher departure rates. We observe for both age categories reported in the exhibits the same pattern of supply tightness, particularly at centers where no families pay ("free care to all families"), centers with predominantly public funding, those with the most teachers, and those with the lowest departure rates.

Exhibit 4: Enrollment expansion potential for providers serving infants, by selected center and community characteristics, 2019

|                          | Number of Providers, Weighted |              |          | Expansion Potential, %, Quartiles and Mean |               |                |         |  |
|--------------------------|-------------------------------|--------------|----------|--|---------------|----------------|---------|--|
|                          |                               | Providers, v | veignied | Expansion                                  | Potential, %, | , Quartiles ar | id Mean |  |
| Characteristic           | Total                         | With         | Pct with | 25th                                       |               | 75th           |         |  |
| Characteristic           | Serving                       | Valid        | Valid    | perc.                                      | Median        | perc.          | Mean    |  |
|                          | Age<br>Category               | Data         | Data     | perc.                                      |               | perc.          |         |  |
| Revenue                  |                               |              |          | _  | _             | -              |         |  |
| Prices charged           | 44,700                        | 44,500       | 99.7     | 0  | 0.0           | 25.0           | 26.8    |  |
| Free care to all         | ,                             | ,            |          | -  |               |                |         |  |
| families                 | 3,730                         | 3,680        | 98.8     | 0  | 0.0           | 14.3           | 30.0    |  |
| Funding                  |                               |              |          |  |               |                |         |  |
| Predominantly            |                               |              |          |  |               |                |         |  |
| public funding           | 8,120                         | 8,120        | 100.0    | 0  | 0.0           | 16.7           | 32.4    |  |
| Mixed funding            | 26,700                        | 26,600       | 99.9     | 0  | 0.0           | 28.6           | 27.6    |  |
| No public                |                               |              |          |  |               |                |         |  |
| funding reported         | 13,200                        | 13,100       | 98.9     | 0  | 0.0           | 20.0           | 22.6    |  |
| Center's number          | of teachers                   |              |          |  |               |                |         |  |
| 7 or fewer teachers      | 10,400                        | 10,400       | 99.3     | 0  | 7.2           | 60.0           | 50.4    |  |
| 8 to 15 teachers         | 18,400                        | 18,300       | 99.8     | 0  | 1.1           | 30.0           | 28.0    |  |
| More than 15             | 10,400                        | 10,500       | 99.0     | U  | 1.1           | 30.0           | 20.0    |  |
| teachers                 | 19,400                        | 19,300       | 99.5     | 0  | 0.0           | 12.5           | 12.9    |  |
| Demontrino noto          |                               |              |          |  |               |                |         |  |
| Departure rate           |                               |              |          |  |               |                |         |  |
| Departure rate ≤<br>0.17 | 11,800                        | 11,700       | 99.4     | 0  | 0.0           | 16.7           | 14.6    |  |
| Departure rate           | 11,000                        | 11,700       | 99.4     | U  | 0.0           | 10.7           | 14.0    |  |
| between 0.18             |                               |              |          |  |               |                |         |  |
| and 0.33                 | 10,700                        | 10,700       | 99.6     | 0  | 0.0           | 25.0           | 21.2    |  |
| Departure rate >         | 10,700                        | 10,700       | 33.0     | O  | 0.0           | 20.0           | 21.2    |  |
| 0.33                     | 10,100                        | 10,100       | 100.0    | 0  | 2.0           | 30.0           | 31.9    |  |
| 0                        |                               |              |          |  |               |                |         |  |
| Community pove           | erty density                  |              |          |  |               |                |         |  |
| Low poverty density      | 25,200                        | 25,100       | 99.8     | 0  | 0.0           | 25.0           | 21.9    |  |
| Moderate                 | 23,200                        | 23,100       | 99.0     | U  | 0.0           | 23.0           | 21.9    |  |
| poverty density          | 10,100                        | 9,980        | 99.1     | 0  | 0.0           | 22.2           | 26.9    |  |
| High poverty             | 10,100                        | 3,300        | 33.1     | O  | 0.0           | 22.2           | 20.5    |  |
| density                  | 13,700                        | 13,600       | 99.4     | 0  | 1.6           | 33.3           | 36.0    |  |
| Community urba           | n density                     |              |          |  |               |                |         |  |
| High urban               | doi:oity                      |              |          |  |               |                |         |  |
| density                  | 34,000                        | 33,800       | 99.5     | 0  | 2.5           | 28.6           | 29.9    |  |
| Moderate urban           | ,                             | ,            | 22.3     | •  |               |                | _0.5    |  |
| density                  | 9,570                         | 9,530        | 99.6     | 0  | 0.0           | 14.3           | 23.5    |  |
| Rural                    | 5,390                         | 5,390        | 100.0    | 0  | 0.0           | 25.0           | 13.6    |  |

Notes: Statistics are based on center-based survey respondents with valid data (non-missing enrollment and vacancy counts). Counts are rounded to 3 significant figures, and percentages are rounded to 1 decimal place.

Exhibit 5: Enrollment expansion potential for providers serving 4-year-olds, by selected center and community characteristics, 2019

|   | Number of                           | Providers, \          | Neighted                  | Expansion Potential, %, Quartiles and Mean |        |               |      |  |
|---|-------------------------------------|-----------------------|---------------------------|--|--------|---------------|------|--|
| Characteristic                          | Total<br>Serving<br>Age<br>Category | With<br>Valid<br>Data | Pct with<br>Valid<br>Data | 25th<br>perc.                              | Median | 75th<br>perc. | Mean |  |
| Revenue Prices charged Free care to all | 77,700                              | 76,900                | 99.0                      | 0  | 4.2    | 22.2          | 23.1 |  |
| families                                | 28,500                              | 27,000                | 94.8                      | 0  | 0.3    | 5.3           | 9.8  |  |
| <b>Funding</b><br>Predominantly         |                                     |                       |                           |  |        |               |      |  |
| public funding                          | 30,400                              | 30,100                | 99.0                      | 0  | 0.3    | 9.0           | 14.7 |  |
| Mixed funding No public                 | 38,200                              | 38,100                | 99.8                      | 0  | 2.9    | 25.0          | 24.0 |  |
| funding reported                        | 32,300                              | 31,900                | 98.8                      | 0  | 4.5    | 20.0          | 20.5 |  |
| Center's number 7 or fewer              | of teachers                         |                       |                           |  |        |               |      |  |
| teachers                                | 36,100                              | 35,000                | 96.8                      | 0  | 3.0    | 18.8          | 26.0 |  |
| 8 to 15 teachers<br>More than 15        | 36,700                              | 36,200                | 98.7                      | 0  | 2.6    | 20.0          | 19.1 |  |
| teachers                                | 32,100                              | 31,600                | 98.7                      | 0  | 1.3    | 11.1          | 12.8 |  |
| <b>Departure rate</b> Departure rate ≤  |                                     |                       |                           |  |        |               |      |  |
| 0.17<br>Departure rate<br>between 0.18  | 19,800                              | 19,800                | 99.8                      | 0  | 1.6    | 15.4          | 14.9 |  |
| and 0.33<br>Departure rate >            | 16,300                              | 16,100                | 98.8                      | 0  | 4.8    | 20.0          | 22.0 |  |
| 0.33                                    | 15,900                              | 15,900                | 99.5                      | 0  | 5.0    | 30.3          | 24.5 |  |
| Community pove<br>Low poverty           | erty density                        |                       |                           |  |        |               |      |  |
| density<br>Moderate                     | 57,600                              | 56,700                | 98.4                      | 0  | 2.6    | 17.6          | 17.7 |  |
| poverty density<br>High poverty         | 22,500                              | 22,100                | 98.4                      | 0  | 1.7    | 16.7          | 20.1 |  |
| density                                 | 26,900                              | 25,900                | 96.1                      | 0  | 1.9    | 17.6          | 23.5 |  |
| Community urba<br>High urban            | n density                           |                       |                           |  |        |               |      |  |
| density  Moderate urban                 | 69,600                              | 67,700                | 97.2                      | 0  | 2.9    | 19.2          | 21.6 |  |
| density                                 | 20,800                              | 20,800                | 99.9                      | 0  | 0.0    | 12.5          | 16.6 |  |
| Rural                                   | 16,500                              | 16,200                | 97.8                      | Ö  | 1.7    | 19.4          | 15.7 |  |

Notes: Statistics are based on center-based survey respondents with valid data (non-missing enrollment and vacancy counts). Counts are rounded to 3 significant figures, and percentages are rounded to 1 decimal place.

# Comparing operating capacity from survey data and licensed capacity from licensing lists

State licensing lists record providers' licensed capacity. Because state licensing lists are readily available, researchers sometimes use licensed capacity as a measure of supply capacity when estimating CCEE supply.<sup>5</sup> However, licensed capacity reported on state licensing lists may or may not track a center's operating capacity at a given moment in time. For instance, staff shortages may cap a center's operating capacity at a level lower than its licensed capacity. Alternatively, a center may operate multiple sessions in a day (such as a morning and an afternoon session), with children attending only one session; as such, licensed capacity may understate total enrollment.

The NSECE offers a unique opportunity to compare licensed capacity to reported operating capacity across a range of providers and in multiple states. This opportunity arises because the NSECE gathers state licensing lists (and other state and national lists) to create a provider frame, and because the NSECE does so in every state in the country. The NSECE therefore has both licensed capacity data collected during the frame-building process as well as operating capacity data collected in the survey, which can then be compared.

In this section, we compare capacity information collected from the 2019 NSECE to licensed capacity for a sample of centers and estimate the degree to which reported operating capacity tracks licensed capacity. We perform this analysis for the five states with the highest number of respondents in the center-based provider survey. These states are California, Texas, Florida, Illinois, and New York. We attempt to link centers that participated in the survey to those in state licensing lists that we collected to construct the provider sampling frame. These lists were collected in the spring and summer of 2018. Because our sample includes providers that were sourced from lists other than state licensing lists (such as the list of Head Start-funded centers, license-exempt centers, and centers operated by public school districts), not all centers that participated in the survey could be linked to state licensing lists.

Verification of linkages to state licensing lists required extensive clerical review. For instance, in some cases the survey respondent reported the name of the parent organization or corporate entity that owned the center, which may be different than the center name recorded in state licensing lists (we consider such cases a match, even

<sup>&</sup>lt;sup>5</sup> See, for example, National Center on Early Childhood Quality Assurance (2020). Addressing the Decreasing Number of Family Child Care Providers in the United States. Retrieved from <a href="https://childcareta.acf.hhs.gov/sites/default/files/public/addressing\_decreasing\_fcc\_providers\_revised\_ma\_rch2020\_final.pdf">https://childcareta.acf.hhs.gov/sites/default/files/public/addressing\_decreasing\_fcc\_providers\_revised\_ma\_rch2020\_final.pdf</a>. The report notes that total licensed capacity in child care facilities increased between 2005 and 2017.

though the provider names were different). Because of the effort needed to verify linkages, we were unable to perform linkages for all respondents in the two states with the highest number of respondents, California and Texas. For each of these two states, we drew a random sample of 400 respondents from a subset of respondents whose addresses could be found on state licensing lists. For all centers that we were able to link to state licensing lists and that reported valid enrollment and vacancy numbers in the survey, we calculated the ratio of the licensed capacity (capacity recorded in the state licensing lists) to the operational capacity (capacity reported in the 2019 NSECE).<sup>6</sup>

Exhibit 6: Comparison of center-based provider capacity reported in state licensing lists to 2019 NSECE

| State      | Number of | Providers          | Ratio of Licensed Capacity to Operational Capacity, Unweighted |        |            |      |  |
|------------|-----------|--------------------|--|--------|------------|------|--|
| State      | Sampled   | With Valid<br>Data | 25th perc.   | Median | 75th perc. | Mean |  |
| Texas      | 400       | 340                | 0.92   | 1.05   | 1.35       | 1.34 |  |
| California | 400       | 340                | 0.77   | 1.00   | 1.33       | 1.18 |  |
| Florida    | 360       | 300                | 0.90   | 1.09   | 1.45       | 1.38 |  |
| Illinois   | 200       | 180                | 0.85   | 1.00   | 1.16       | 1.04 |  |
| New York   | 380       | 160                | 0.61   | 0.94   | 1.17       | 1.06 |  |

Notes: Random samples of 400 center-based survey respondents were drawn for Texas and California, as time and budget did not allow us to verify linkages for all respondents in these states. The count of sampled providers refers to survey respondents with an address found in a state licensing list. Multiple providers may be located at a given address. As such, a provider might be located at an address found in a state licensing list, but might not itself be listed in the state licensing list. Such a provider would be counted in the "Sampled" column, but not in the "With Valid Data" column. Valid data refers to NSECE respondents that could be linked to providers listed in state licensing lists and had valid survey data (non-missing data for enrollment and vacancies). The relatively low proportion of cases in New York state with valid data is due to missing licensed capacity data for a number of cases in the New York dataset. Counts are rounded to the nearest 20.

Exhibit 6 reports that the median licensed capacity to operational capacity ratio was close to 1, ranging from 0.94 to 1.09 across the five states. That is, in each state, about half of all respondents had a licensed capacity that was lower than the operational reported in the survey, and the other half had a licensed capacity that was higher than the capacity reported in the survey. The distribution of the licensed capacity to operational capacity ratio is relatively dispersed. For instance, in Texas, 25% of respondents had a licensed capacity that was 8% or more lower than the operational capacity; another 25% of respondents had a licensed capacity that was 35% or more

<sup>&</sup>lt;sup>6</sup> Each center that participated in the 2019 NSECE may be linked to none, one, or multiple entries from state licensing lists. Where they were linked to multiple entries, in some cases the entries may report differing licensed capacities. In such cases, we selected the capacity that was closest to the capacity that the center reported in the survey. However, California's state licensing list reports licensed capacity separately for 0-2 year, 2-5 year and school-age age categories. For California only, we summed up the capacities from all list entries linked to a center to derive the total licensed capacity for that center.

higher than the operational capacity. In Florida, 25% of respondents had a licensed capacity that was 10% or more lower than the operational capacity; another 25% of respondents had a licensed capacity that was 45% or more higher than the operational capacity. The licensed capacity to operational capacity ratio is similarly dispersed in the other three states. In all five states, the mean licensed capacity to operational capacity ratio was above one, suggesting that licensed capacity overstated reported capacity on average.

## Conclusion

A careful analysis of CCEE supply capacity enables researchers and policymakers to understand how much care is available in each age category, at what kinds of providers, and in which community settings. The NSECE offers a rare opportunity to perform these analyses and to estimate nationally representative statistics.

This brief details center-based CCEE supply capacity as of 2019, and describes a tight center-based CCEE supply picture across a range of age categories, provider characteristics, and community settings. Notably, data were collected prior to the COVID-19 pandemic. Almost certainly the pandemic or other major supply shocks that occurred after 2019 could be expected to affect all of the estimates described in this brief.

This brief also enables researchers to understand how their analytic conclusions might differ if they have access only to licensing lists and not to what centers report about their current enrollments and capacity. For the states we studied, and based on 2019 data, licensed capacity appears to overstate reported operating capacity. Further analysis would be needed to understand the relationship between licensed and reported operating capacity, and the factors that shape this relationship.

## **Appendix**

Estimates of vacancies, capacity, expansion potential, and capacity utilization from the 2019 NSECE are not comparable to those from the 2012 NSECE for two reasons. First,

the 2019 center-based questionnaire changed the question wording for the item that asked respondents to report vacancies by age level (C1a). In 2012, the questionnaire asked providers "At this time, how many more children in [FILL IN AGE GROUP] would your program be willing and able to serve? Use the code 999 if your program has no limits on the number of additional children to be served for this age group." In 2019, this question was modified so that it asked providers specifically about how many vacancies they had currently for each age group they reported.<sup>7</sup>

That is, the question text changed from "how many more children... would your program be willing and able to serve" to "how many vacancies do you currently have." Second,

the number of age groups a center-based provider could report about increased from six in 2012 to ten in 2019. Additionally, in 2019, as opposed to 2012, providers could only enter numeric values for the range of ages associated with each age group. For example, while in 2012 a provider may have entered "infants" as the description of an age group, in 2019 the provider was required to enter a minimum number of months and a maximum number of months (e.g., "6 months to 12 months).8

Because these statistics from the 2012 NSECE are not comparable to those from the 2019 NSECE, we do not compare them in this brief. For interested readers, Exhibit A1 presents analogous statistics reported in Exhibit 1 using data from the 2012 NSECE. On its face, Exhibit A1 suggests that expansion potential decreased between 2012 and 2019, although we reiterate that the 2012 and 2019 statistics are not directly comparable due to changes in the question design.

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<sup>&</sup>lt;sup>7</sup> 2019 National Survey of Early Care and Education (NSECE) User's Guide – Center-based Provider, p. 70.

<sup>&</sup>lt;sup>8</sup> Ibid.

Exhibit A1: Enrollment and Enrollment Expansion Potential in Center-based CCEE Programs, 2012

| A secretarian  | Children, W | /eighted Frequ | Eveneine  | Capacity              |                  |
|--|-------------|----------------|-----------|-----------------------|------------------|
| Age category —   | Enrollment  | Vacancies      | Capacity  | Expansion Potential % | Utilization<br>% |
| <1 year-old  | 438,000     | 318,000        | 756,000   | 72.6                  | 57.9             |
| 1-year-old   | 635,000     | 447,000        | 1,082,000 | 70.4                  | 58.7             |
| 2-year-old   | 928,000     | 617,000        | 1,545,000 | 66.5                  | 60.1             |
| 3-year-old   | 2,200,000   | 1,430,000      | 3,630,000 | 65.0                  | 60.6             |
| 4-year-old   | 2,310,000   | 1,420,000      | 3,730,000 | 61.5                  | 61.9             |
| 5-year-old (not in<br>Kindergarten)<br>School Age (including | 475,000     | 287,000        | 762,000   | 60.4                  | 62.3             |
| Kindergarten)  | 3,840,000   | 2,290,000      | 6,130,000 | 59.6                  | 62.6             |

Notes: Data from 2012 NSECE center-based provider survey.