Harris County Child Care Supply and Demand Analysis

November 16, 2021

TEXAS
POLICY LAB

Knowledge Gap in Child Care Supply and Demand Presents a Major Barrier for Evidence-Based Policymaking in the Houston Area

Policymakers and early childhood leaders need the best data on supply of and demand for child care to meet the needs of working families, especially in these uncertain economic times. The evolving COVID-19 crisis highlights the need for high-quality, flexible models that can be adjusted as supply and demand rapidly changes.

One of the key challenges in quantifying supply of and demand for high-quality child care is the very personal and local nature of how families seek and use child care, how providers seek and serve children, and how these sides of the market interact. Previous assessments of child care gaps in Harris County have not examined these local interactions.

We have begun to address these gaps by creating child care markets in Harris County.

To examine these local interactions between families who need child care and child care businesses, we have adapted an approach used by the National Survey of Early Care and Education (NSECE), which, in turn, is based on a basic approach in Urban Economics. NSECE identifies provider clusters, which is unique in connecting providers and households via their geographic proximity. This kind of approach allows us to describe early childhood markets as geographies where transactions between providers and households are most likely occurring.

Our analysis created **786 unique child care markets in Harris County**. What do we mean by a child care market?

- A child care market is defined by an anchoring census tract and all surrounding tracts within a 3-mile radius. National research suggests that typical low-income families utilize child care within 3 miles of their home address.[1]

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[1] https://www.acf.hhs.gov/sites/default/files/documents/opre/distance_to_ece_factsheet_111716_b508.pdf

- In the example in Figure 1 below, the market for census tract 421300 (part of Gulfton) is shown. The anchoring census tract (421300) is outlined in black. We draw a circle (red) with a 3-mile radius from the center of the anchoring census tract. Every census tract that falls within the red circle is considered part of the market for this census tract.

- We calculate demand for the market by counting all children under the age of 3 from low-income families in which one or both parents are working. Then we determine the group of relevant licensed child care providers from which those families might choose. This includes all the providers in the surrounding census tracts (within the red circle). We then create a ratio of supply (child care seats) to demand (number of children) to illustrate the need for child care in the market.

- We created a market for each census tract in Harris County so the total number of markets is the total number of census tracts, with each census tract likely to be included in several markets. In our analysis, we found that each child care market contained an average of 24 census tracts.
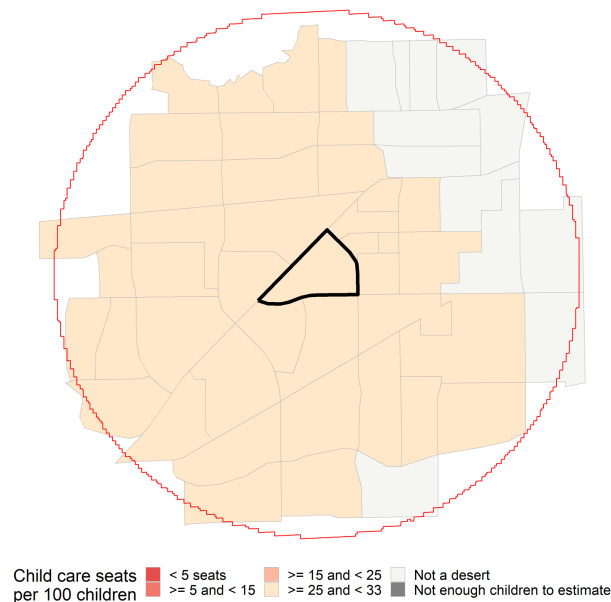

Figure 1

We have created a database that creates and defines these child care markets. In addition, we have launched an interactive display of this data on a web-based tool that visualizes markets

as clusters of providers and households, allowing users to explore supply and demand interactions.

We have improved estimates of supply and demand by considering local geographic realities where child care providers and families interact.

In 2018, Children at Risk created a map that displays ZIP code level estimates of supply and demand, highlighting child care deserts where demand exceeds supply by at least 3-to-1. The ZIP code approach assumes families choose providers in the same ZIP codes where they reside. Defining markets at the ZIP code level assumes that families living at one corner of the ZIP code face the same market as families living in the central or opposite corners of the ZIP code area. Figure 2 illustrates the limitations of this approach. Figure 2 places census tract 421300 (blue) within its ZIP code (red), 77074. Let's consider a family living in one of the census tracts to the northeast of this ZIP code in ZIP code 77081 (still Gulfton). In the ZIP code approach, child care providers in 77074 would be deemed inaccessible to these families in 77081, which is incongruous.
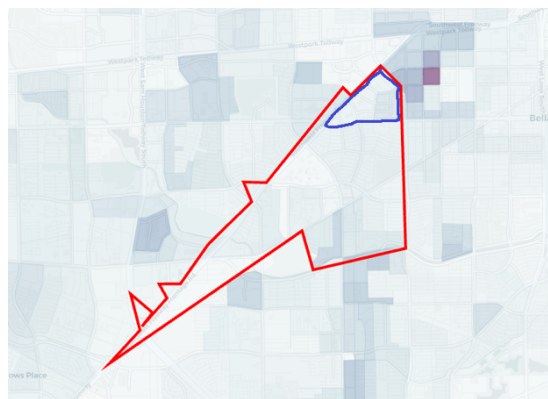

Figure 2

In reality, a child care market involves many different census tracts (and potentially several ZIP codes), where parents and child care providers compete in multiple child care markets, and where supply and demand interact to impact prices, quality, etc. Thus, by drawing a 3-mile radius from each census tract, we are utilizing the most granular level for households on the demand side and including all child care providers within a reasonable commuting distance from these households in every direction. We believe our maps will provide a more accurate

representation of areas with the highest need for additional early childhood investments because we account for the fact that families often use early childhood programs in ZIP codes and census tracts other than their own.[2]

With child care markets defined in this way, we can improve our understanding of gaps in quality child care in a number of ways:

- Using smaller geographic units to understand the local child care markets as opposed to markets defined at the ZIP code level.

- Because census tracts are built to capture a homogenous population in terms of socioeconomic and demographic characteristics, it allows us to more accurately reflect how market conditions differ according to population characteristics.

- Finally, if desirable, starting from a smaller geographic unit allows us to aggregate to larger geographic units. For example, if we want to construct market conditions at the ZIP code level, we can do so by taking the union of all markets within a ZIP code. However, the union may include providers in different ZIP codes. For example, the market for census tract 432100 includes providers in ZIP code 77081.

We have improved estimates of supply by using real data on child care availability and enrollment.

The current empirical approach to estimate supply is to use licensed capacity, but since many providers do not serve as many children as they are licensed to, this is a suboptimal way to calculate supply. We improve upon this approach by using recent provider data to calculate the number of seats available for children 0-3. In early 2020, Texas Workforce Commission launched the Texas Child Care Availability Portal, and they regularly ask providers how many

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https://www.acf.hhs.gov/sites/default/files/documents/opre/cceepra_spatial_analysis_508.pdf

children they are currently serving and how many more children they would like to serve. We use data from this tool to estimate providers' desired capacity.

Development of Local Child Care Markets in Harris County Provides Valuable Insights, Answers a Range of Questions

- How do parents trade off between quality of care vs. distance vs. type of provider?

- Where are child care deserts? Is there a geographic clustering in certain parts of the county?

- Where is it most critical to place additional high-quality care? How would parents and other care providers react to its entry?

What does supply and demand look like across the 786 child care markets?

On average, each market contains 62 child care providers and ~2,900 low-income children under the age of 3 with working parents.

- Average estimated capacity for child care providers who accept children on subsidy is ~580 seats per child care market.

- Average estimated capacity for quality rated child care providers is ~320 seats per child care market.

- Average estimated capacity for high quality child care providers is ~210 seats per child care market.

How prevalent are child care deserts in Harris County?

We have analyzed trends in child care markets where demand exceeds supply by at least 3-to-1 ("child care deserts") and we focus on three groups of child care providers:

- Subsidy-accepting providers

- Quality rated providers (this includes Texas Rising Star, Head Start, and NAEYC providers)
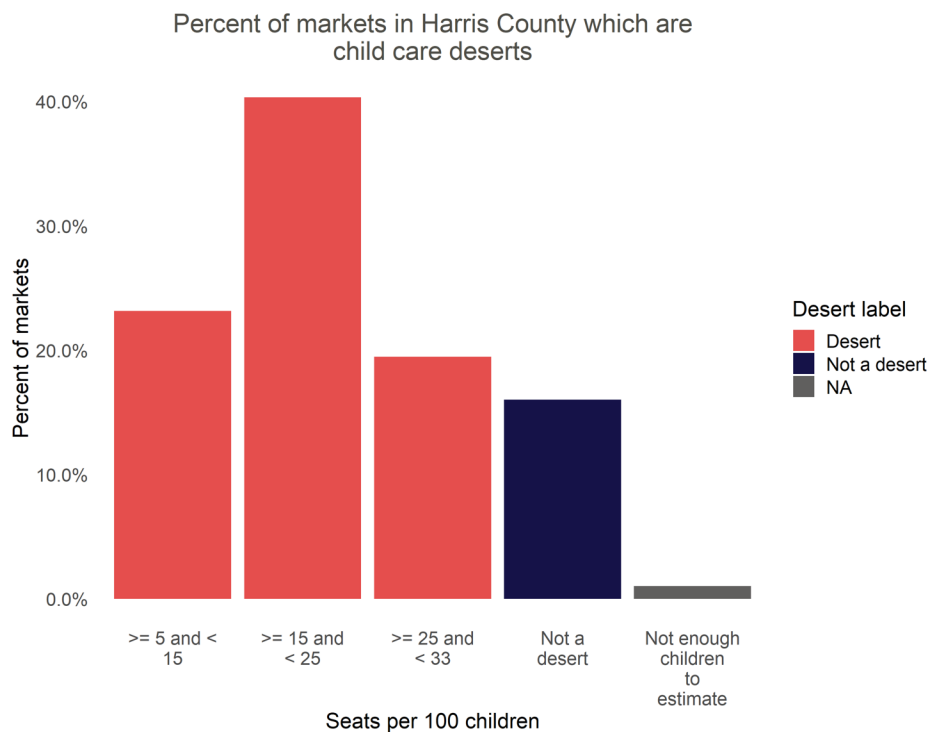
- High quality providers (this includes Texas Rising Star 4, Head Start, and NAEYC providers)
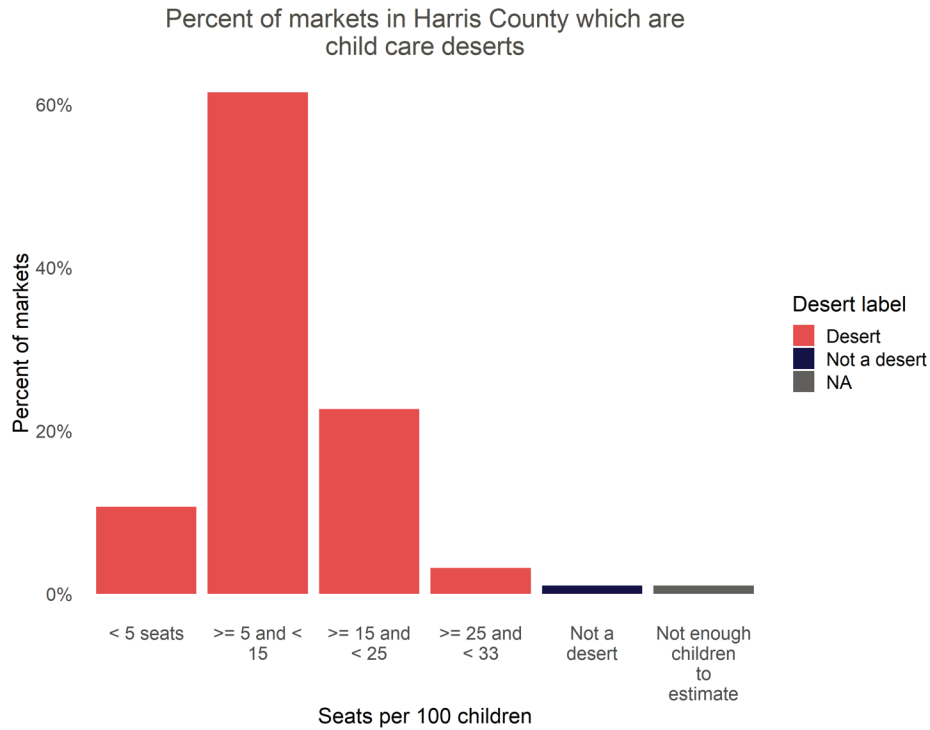
As the graphs below illustrate:

- 83% of Harris County child care markets are subsidy-accepting deserts

- 98% are quality rated provider deserts

- 99% are high quality provider deserts

Please note that the first four categories in the graphs below, i.e., [<5, 5-15, 15-25, 25-33] seats per 100 low-income children of working parents, are considered child care deserts. We show four categories to illustrate varying degrees of severity of child care deserts.
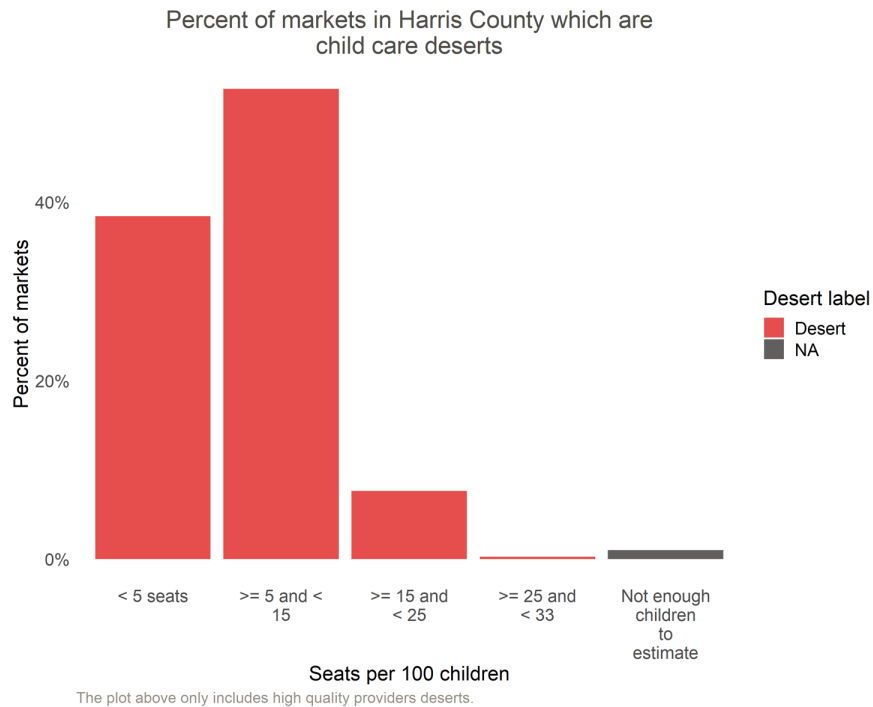
83% of Harris County child care markets are subsidy-accepting deserts

Percent of markets in Harris County which are child care deserts

The plot above only includes subsidy accepting providers deserts.

98% of Harris County child care markets are quality rated provider deserts

Percent of markets in Harris County which are child care deserts

Desert label
- Desert
- Not a desert
- NA

Seats per 100 children

The plot above only includes quality rated providers deserts.

99% of Harris County child care markets are quality rated provider deserts

Percent of markets in Harris County which are child care deserts

Desert label
- Desert
- NA

Seats per 100 children

The plot above only includes high quality providers deserts.

Where are child care desert markets in Harris County?

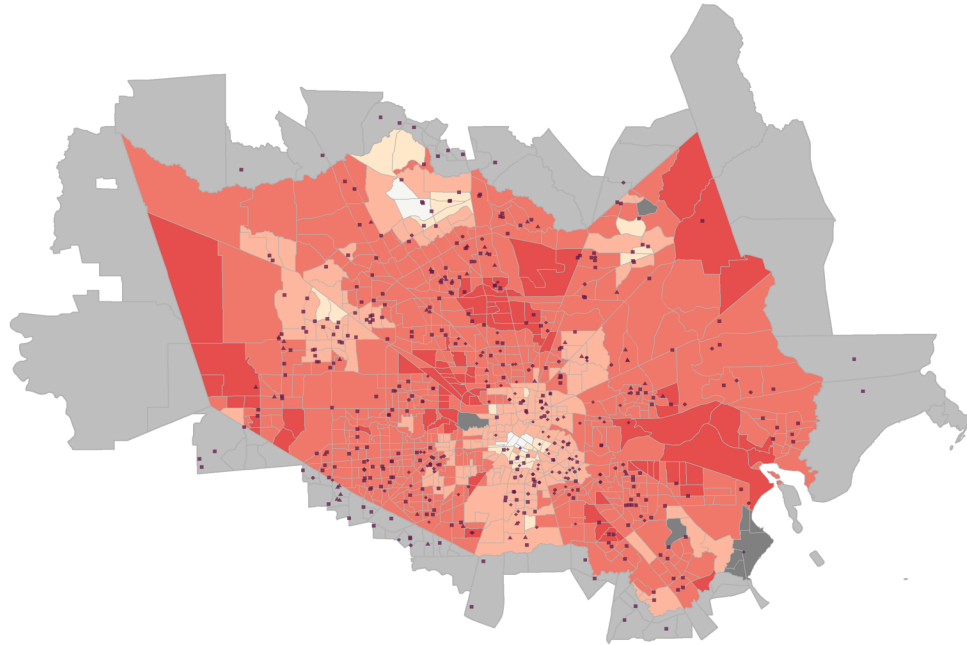Harris County Subsidy Accepting Providers Deserts With Providers

Harris County Quality Rated Providers Deserts With Providers
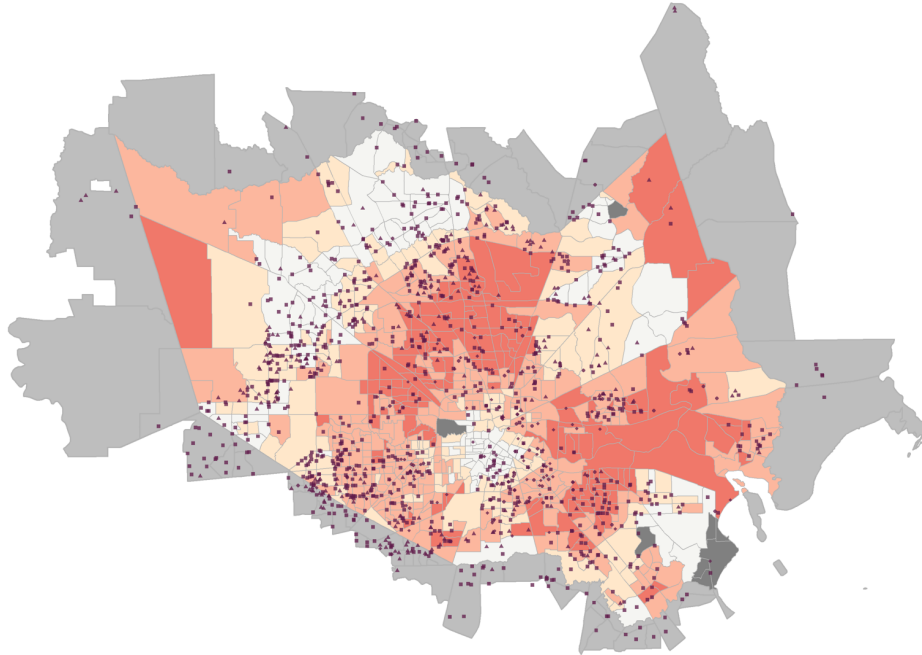
Provider type   · Center   ·   Head Start, Center   ·   Home   ·   Pre-K

Child care seats per 100 children

< 5 seats	>= 15 and < 25
>= 5 and < 15	>= 25 and < 33
Not a desert	
Not enough children to estimate	

Harris County High Quality Providers Deserts With Providers

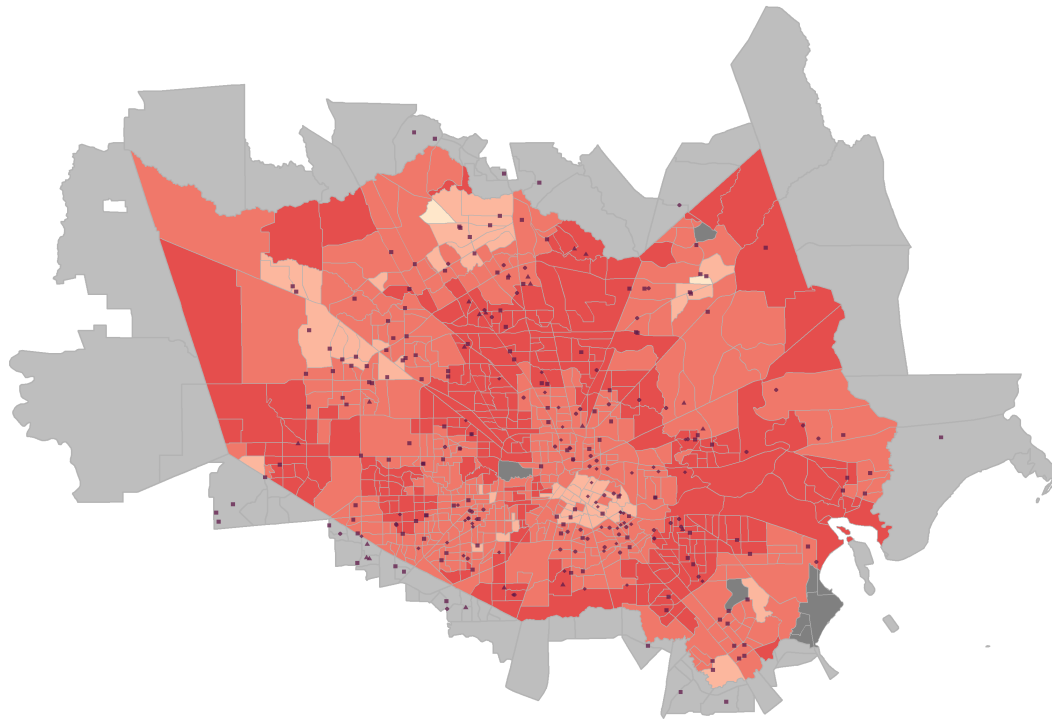Provider type · Center · Head Start, Center · Home · Pre-K

Child care seats per 100 children
- < 5 seats
- >= 5 and < 15
- >= 15 and < 25
- >= 25 and < 33
- Not a desert
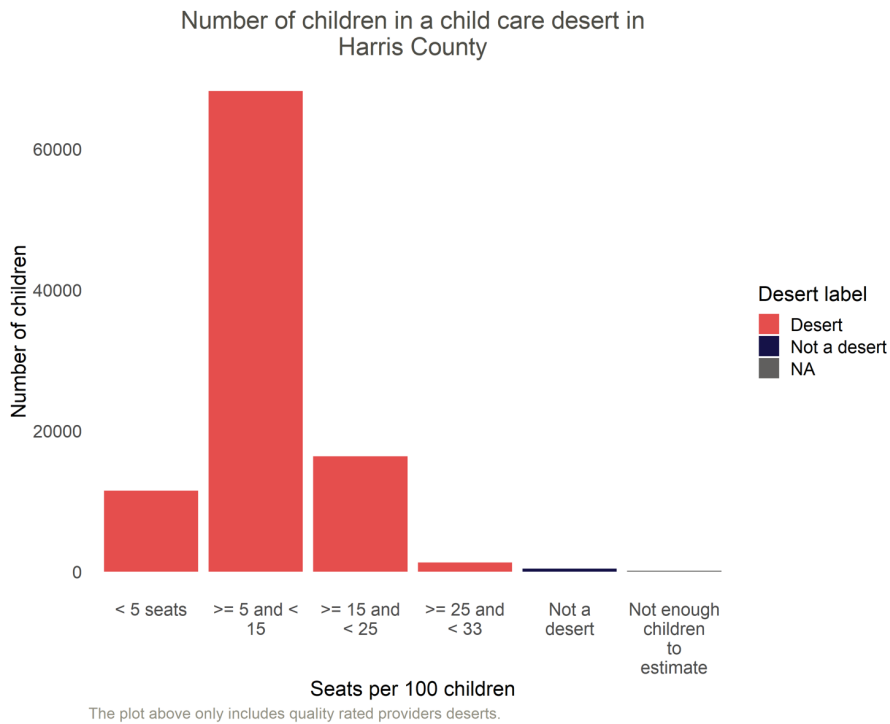- Not enough children to estimate
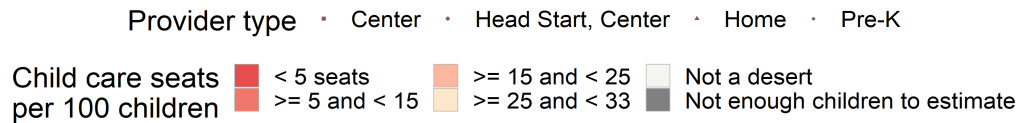
How many low-income children live in child care markets characterized as deserts?

There are ~105,400 low-income children under the age of 3 with working parents in Harris County. We estimate that 89,100 low-income children, ~85% of all low-income children, live in a market that is a subsidized child care desert. Approximately 97,500 (~92%) live in a market that is a quality rated provider desert, and ~97,900 (~93%) live in a market that is a high-quality provider desert. As the graphs below highlight, the majority of low-income children living in high-quality deserts are in very low supply circumstances, with only 5-15 seats per 100 low-income children.
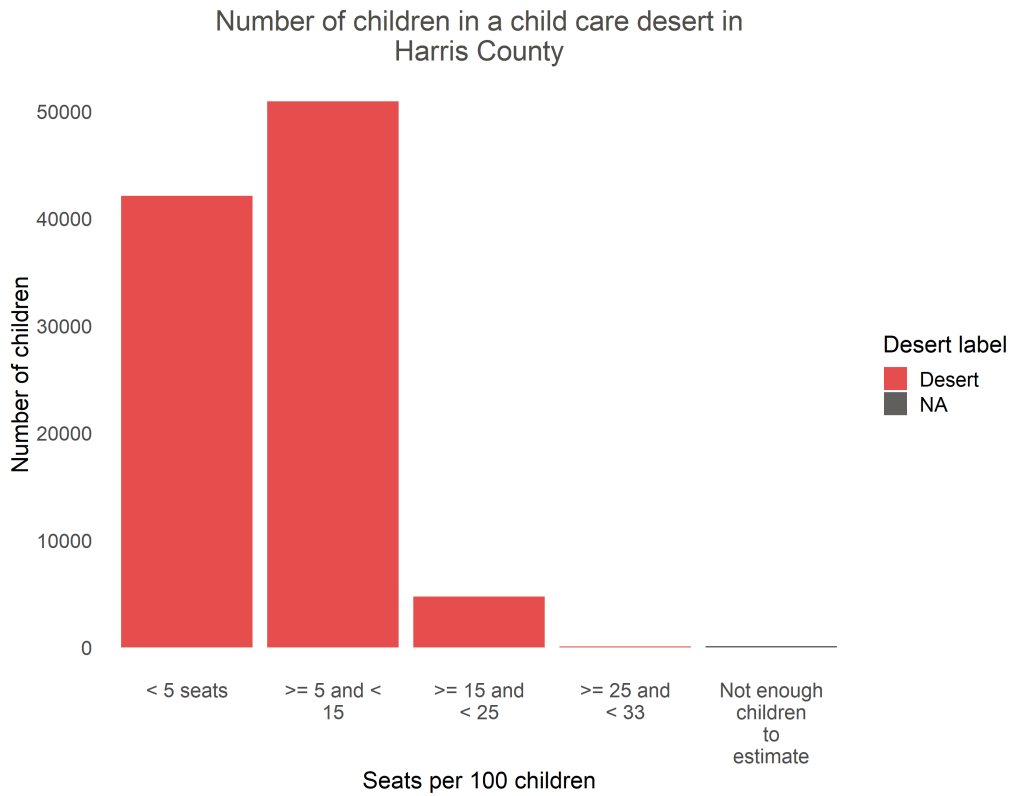
85% of low-income children live in a market that is a subsidized child care desert

Number of children in a child care desert in Harris County

The plot above only includes subsidy accepting providers deserts.

92% of low-income children live in a market that is a quality rated provider desert

Number of children in a child care desert in Harris County

The plot above only includes quality rated providers deserts.

93% of low-income children live in a market that is a quality rated provider desert

Number of children in a child care desert in
Harris County

The plot above only includes high quality providers deserts.