

2023 APPAM Fall Conference

November 11, 2023

Atlanta, Georgia

Families' Length of Stay in the New York City Shelter System

**Identifying Factors and Conditions
Associated with Long-Term Shelter Stays**

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Background

- The NYC Department of Homeless Services (DHS) administers temporary emergency shelter services, serving 13,000 families with children as of January 2023.
 - Since *McCain v. Koch* (1986), families with children are conferred a legal right to shelter in NYC. However, families must apply for shelter at an intake center and prove that they do not have an alternative housing option available. Families are placed in shelter under ‘conditional’ status until their application is deemed ‘eligible’; otherwise, they may re-apply while in shelter.
- At the end of Fiscal Year 2022, the publicly reported average length of stay (LOS) among families with children in shelter was 534 days. This represents an increase of more than 50% since FY 2012, when the average was 337 days.¹
 - This measure of LOS takes a **point-in-time approach** (e.g., is calculated for families who were in shelter as of June 30th) and **excludes families in conditional status**. While longitudinal changes are meaningful, these criteria may obscure other underlying dynamics in family shelter stays.

Measuring Length of Stay (LOS)

- This study adopted different criteria for measuring LOS, taking a **cohort-based approach** (following family entrants up to two years from their application date), and **including families in conditional status** (i.e., those who were not found eligible for shelter during the study period), in addition to eligible families.
- Similar to the official LOS metric, any shelter spells that are separated by less than 30 days are collapsed into one continuous stay.* The LOS end date will be marked when a family exits shelter and does not return for 30 days; any re-entries to shelter after 30 days are not captured in this study.
 - E.g., a family enters shelter on January 1st and exits on March 15th (*spell 1*); returns on April 1st and exits on July 31st (*spell 2*); and enters on September 1st, staying through the end of the year (*spell 3*). For this analysis, length of stay is calculated as such:

$$\text{LOS}_{\text{spell1}} (73 \text{ days}) + \text{LOS}_{\text{spell2}} (121 \text{ days}) \text{ *not counting spell 3* } = \text{LOS}_{\text{total}} (194 \text{ days})$$

Research Objectives

- Prior studies of the NYC family shelter system have explored demographic factors associated with long-term stays,² as well as a ‘tradeoff’ between shelter length of stay and exit type.³
- This study aimed to analyze shelter stay trends, leveraging administrative data to identify the median length of stay across two entry cohorts (pre-COVID and COVID) and explore factors predicting ‘long-term stays’ among families with children.
- Research questions include:
 - Among the two cohorts of families with children entering DHS shelters, what is the median length of stay (i.e., the length of time by when half of entrants had left shelter)?
 - What is LOS among families who exited more quickly (i.e., the 25th percentile) or more slowly (the 75th percentile)? How do LOS patterns differ across cohorts?
 - What factors are associated with a *long-term stay*, e.g., LOS at or above the 75th percentile?

Data Sources and Methods

- This study analyzed a sample of families with children (FWC) composed of **14,160 families across two cohorts**:
 - FWC who entered DHS shelter between April 1, 2019 and September 30, 2019 (n=9,378), and
 - FWC who entered DHS shelter between April 1, 2020 and September 30, 2020 (n=4,782).
- A Kaplan-Meier survival analysis was applied to observe the overall distribution of time in shelter up to two years following entry, and to identify *long-term stays* as those exceeding the 75th percentile distribution.
- A logistic regression model was tested to explore the association between long-term stays and number of factors, including the demographics of the head of case (e.g., age, gender), household characteristics (e.g., family size, pregnancy status) and circumstantial factors (e.g., reason for shelter entry, type of exit from shelter).

Key Findings

- Taking a cohort-based approach to measuring length of stay (LOS), this study found that the median family entering shelter in 2019 and 2020 exited within 209 days.
- A quarter of families (25th percentile) exited within 30 days, and a quarter of families (75th percentile) remained in shelter at 521 days.
 - A greater share of the pre-pandemic cohort exited within 30 days. However, after ~250 days in shelter, the pandemic cohort saw a relatively faster rate of exits.
- The factor most associated with a longer length of stay (521+ days) was having a head of case who lacked a Social Security number. Other factors associated with longer stays included having 2+ adults, older children (5+ years), and a head of case who was older (35+ years), male, non-White, Spanish-speaking, and / or lacking a high school degree. Families whose previous housing was their *own* rented/owned space were less likely to record a long-term stay.
 - Regression models explained only a small amount of the variation in LOS, suggesting that other unobserved factors influenced the likelihood of long-term stays.

LENGTH OF STAY PATTERNS AMONG FAMILIES WITH CHILDREN IN SHELTER

Among the sample of families who entered in 2019 and 2020, the median length of stay was 209 days. Differences in the length of stay distribution were observed between the cohorts, with pandemic entrants less likely to record long-term stays.

Roughly a third of families recorded 'conditional-only' shelter stays.

In these cases, families exited shelter after being found ineligible for shelter or prior to an eligible determination.

The distribution of eligible and conditional-only entrants did not vary substantially between the two cohorts.

Entry cohort	Eligible stayers	Conditional-only stayers
Pre-pandemic entrants (n=9,378)	6,326 (67%)	3,052 (33%)
Pandemic entrants (n=4,782)	3,343 (70%)	1,439 (30%)
Total (n=14,160)	9,669 (68%)	4,491 (32%)

Including both eligible and conditional-only stayers, the median length of stay across both entry cohorts was 209 days.

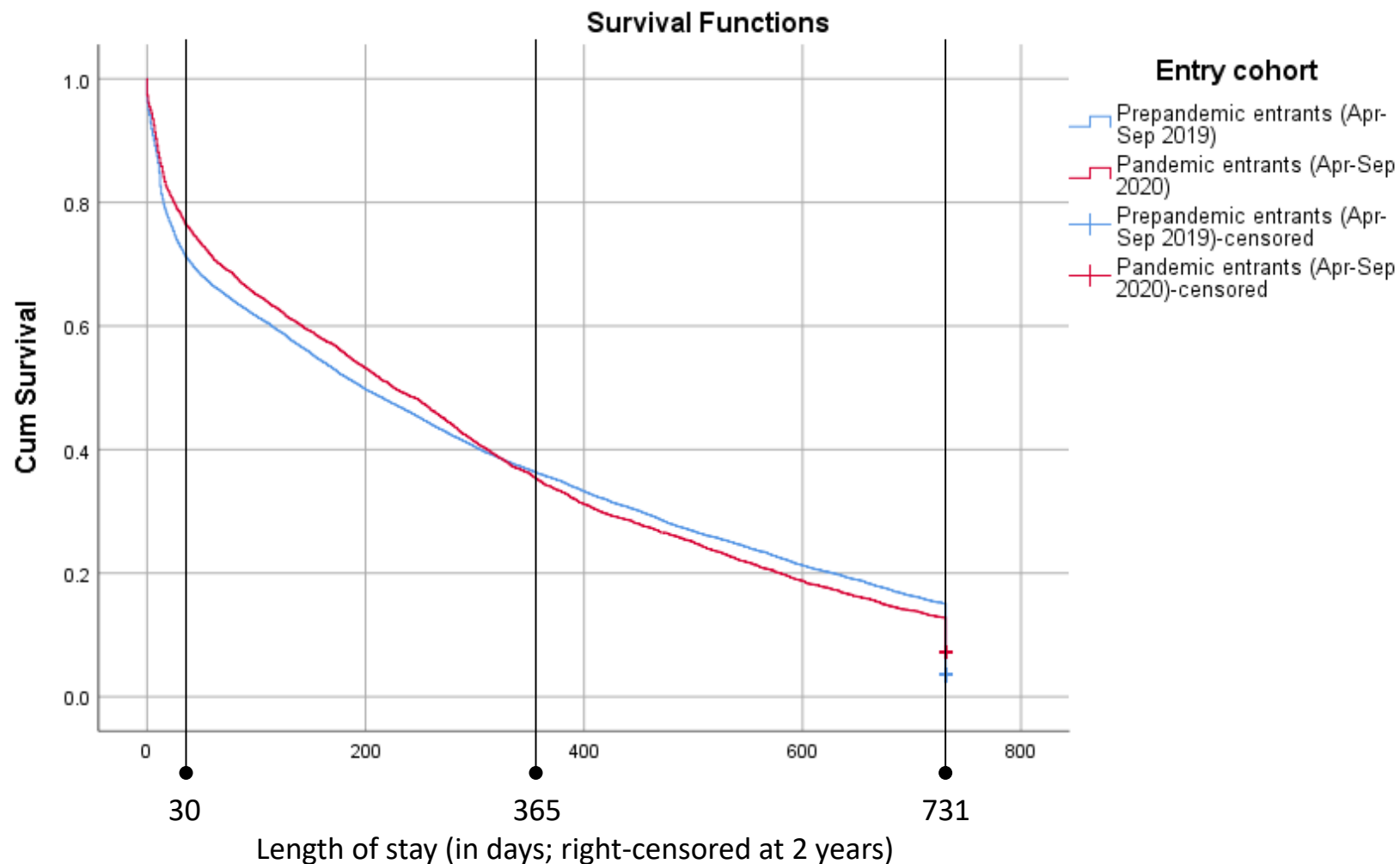
The 25th percentile LOS (at which point a quarter of families had exited) was 30 days, and the 75th percentile was 521 days.

Even among eligible families, the median LOS was a little over a year (373 days).

Family Eligibility Status	Length of stay – quartile distribution (in days)		
	25 th percentile	Median	75 th percentile
Conditional-only (n=4,491)	5	13	32
Eligible (n=9,669)	191	373	664
Total (14,160)	30	209	521

LOS distribution differed between cohorts in the short and long-term.

A greater share of the **pre-pandemic cohort** exited within 30 days. However, after ~250 days in shelter, the **pandemic cohort** saw a relatively faster rate of exits.



IDENTIFYING FACTORS ASSOCIATED WITH LONG-TERM STAYS IN SHELTER

Regression results suggest that certain characteristics of the head of case and household, along with prior housing type, have a strong effect on the likelihood of long-term stays. These effects hold true across both cohorts.

When accounting for all variables, demographic and household characteristics had a significant effect on the likelihood of long-term stays.*

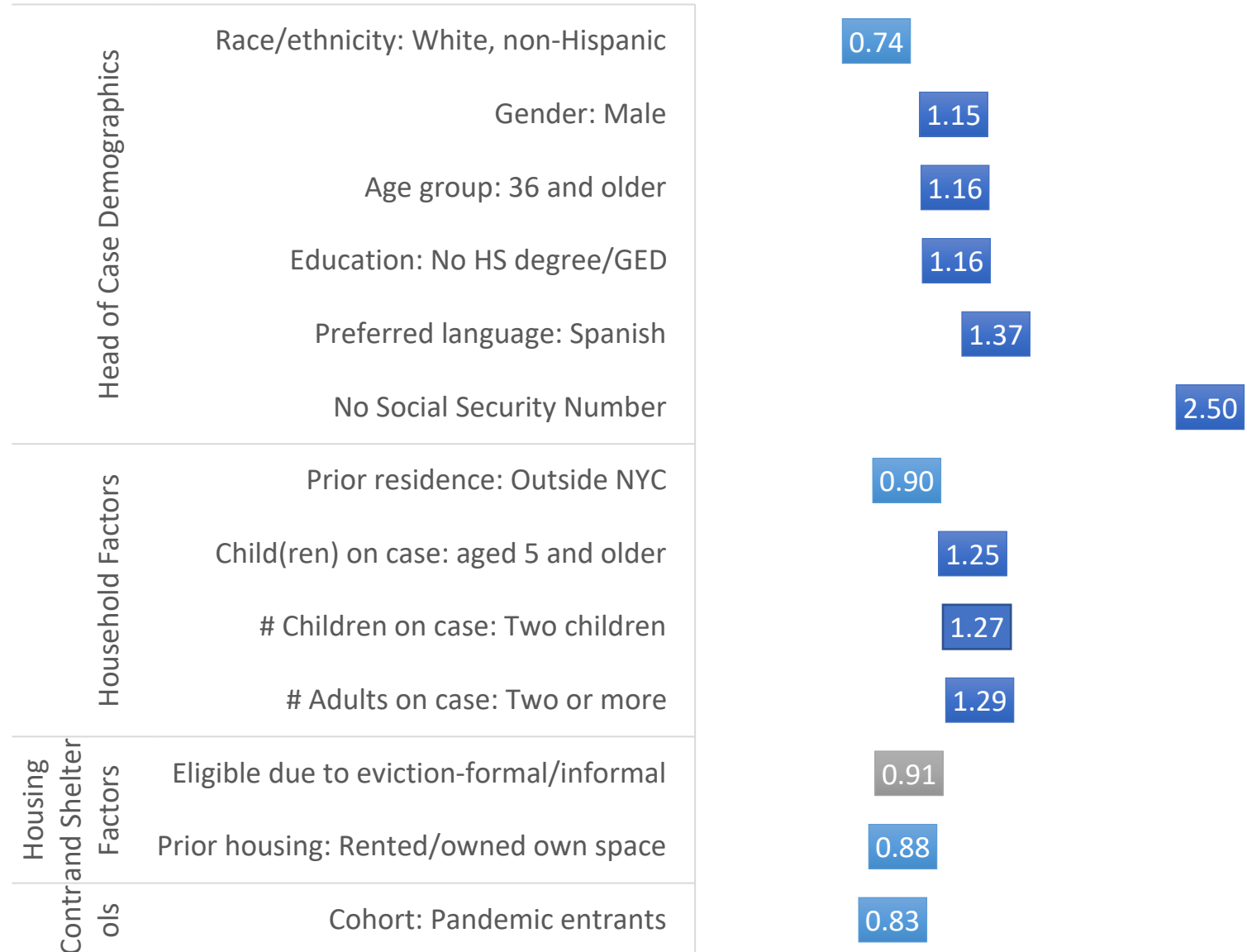
Long-term stays in shelter were more likely when a family head was Spanish-speaking or did not have a Social Security Number recorded on their case; or when the family had no children under 5 years old, two children, or two or more adults.

On the other hand, long-term stays were less likely when a family head was White; or when the family's prior housing was their own rented/owned space.

This model explains ~20% of the variation in the likelihood of long-term stays.

Likelihood of Long-term Stay - Full Model Effects (n=12,939)

Decrease in likelihood Increase in likelihood No significant effect ($p > .1$)



* The full model recoded all variables to be binary, e.g., households with two children were more likely than households with any other number of children on the case; households whose prior housing was their own rented/owned space were less likely than households with any other prior housing type.

While findings were largely consistent across cohorts, eligibility due to eviction (formal/informal) was associated with a *higher* risk of long-term stay (compared to a combined group of ineligible + eligible for other reasons) in the pandemic cohort, and a *lower* risk pre-pandemic.

Some demographic and household factors were stronger for the pre-pandemic cohort, such as the head of case race/ethnicity and educational attainment.

Among pandemic entrants, there were more pronounced effects from the household’s prior residence and prior housing type.

Likelihood of Long-term Stay – Full Model Effects by Cohort

Variable	Subgroup	Pre-pandemic entrants (n=8,611)	Pandemic entrants (n=4,328)
Head of Case Demographics	Race/ethnicity: White, non-Hispanic	0.70**	0.83
	Gender: Male	1.15**	1.20*
	Age group: 36 and older	1.21**	1.09
	Education: No HS degree/GED	1.19***	1.10
	Preferred language: Spanish	1.42***	1.46***
	No Social Security Number	2.06***	3.16***
Household Factors	Prior residence: Outside NYC	0.95	0.82*
	Child(ren) on case: aged 5 and older	1.25***	1.21**
	# Children on case: Two children	1.25***	1.34***
	# Adults on case: Two or more	1.29***	1.28***
Housing and Shelter Factors	Eligible due to eviction—formal/informal	0.87*	1.43***
	Prior housing: Rented/owned own space	0.92	0.71***
Pseudo R ²		0.19	0.18

*** = regression coefficient statistically significant at 99% level.
 ** = regression coefficient statistically significant at 95% level.
 * = regression coefficient statistically significant at 90% level.

Implications

- Pandemic-related policy context likely shaped LOS differences across cohorts:
 - Exits within 30 days were less common among the pandemic cohort, as DHS allowed for remote re-applications from families in conditional status at the onset of COVID-19.
 - After ~250 days in shelter, the pandemic cohort saw a relatively faster rate of exits, perhaps in part due to more favorable housing market conditions in the first half of 2021.
- Exit type (e.g., subsidized vs. unsubsidized exits) and shelter type (e.g., traditional facilities vs. hotels) were strong predictors of long-term stays—however, these factors likely reflect the *conditions* of long-term stays more than the *causes* of them.
- Findings are designed to inform DHS rehousing efforts in identifying subgroups of FWC shelter families for targeted placements to permanent housing.

APPENDIX: LOS DIFFERENCES BY HOUSEHOLD CHARACTERISTICS AND FAMILY DEMOGRAPHICS

Families' length of stay diverged based on conditions both preceding and during shelter stays; length of stay also varied substantially across different demographic subgroups.

Families whose most recent shelter stay occurred at a non-Tier II facility (commercial hotels, billing sites) recorded shorter stays than families in Tier II facilities.*

Shelter Facility	Length of stay – quartile distribution (in days)		
	25 th percentile	Median	75 th percentile
All Families with Shelter Facility Data (n=11,875)	94	288	590
Non-Tier II shelters** (n=4,454)	60	203	419
All Tier II shelters** (n=7,421)	129	358	689

** Difference in quartile distribution between facility subcategory and “All Families with Shelter Facility Data” is statistically significant at 95% level.

Families who recorded a subsidized exit saw the longest LOS distribution—roughly two times as many days in shelter as those who recorded an unsubsidized exit.

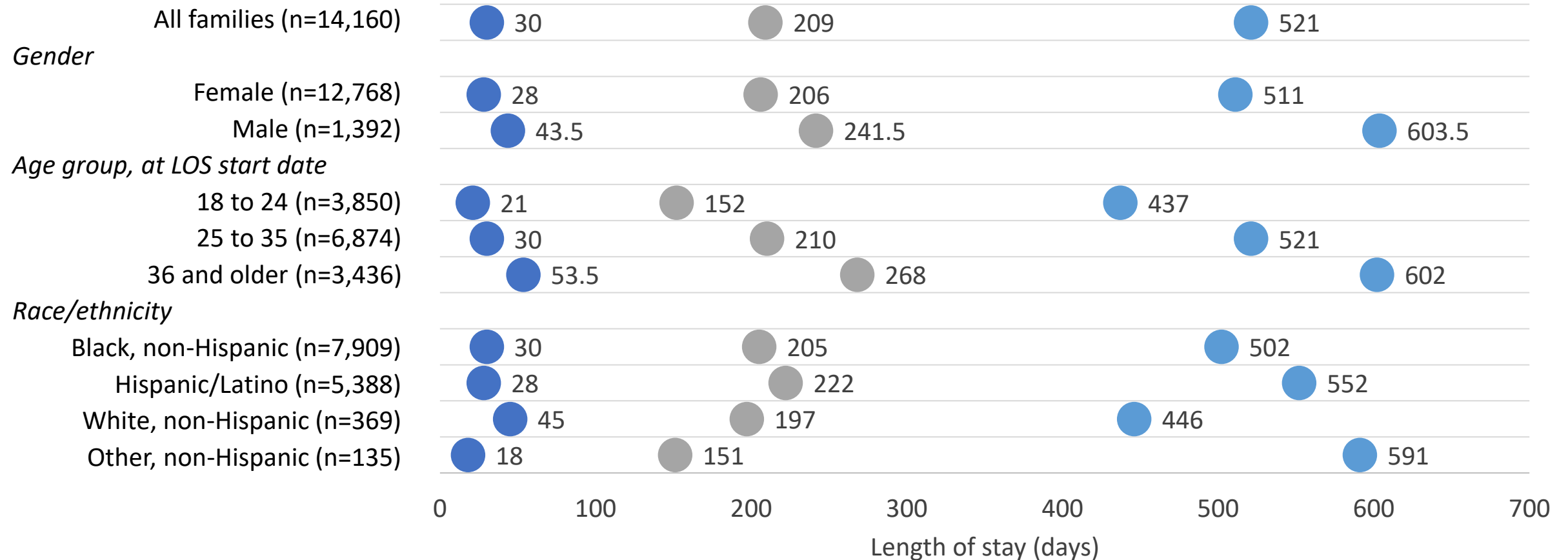
Exit type** (within 2 years of shelter entry)	Length of stay – quartile distribution (in days)		
	25 th percentile	Median	75 th percentile
Exit from conditional status (n=3,087)	7	15	42
Exit on own (n=2,928)	9	37	187
Unsubsidized exit (n=1,633)	95	199	354
Subsidized exit (n=4,488)	218	355	528
<i>No exit – still in shelter at 2 years (n=2,204)</i>			

** All differences in quartile distribution between exit types are statistically significant at 95% level.

Shelter stays were longer among families headed by a **male**, those **older than 35** at the time of application, or those who were **Hispanic/Latino** or **Other, non-Hispanic**.

Length of Stay - Distribution by Head of Case Demographics

● 25th percentile ● Median ● 75th percentile



Length of stay was substantially longer among families whose head of case **preferred language was Spanish** or **did not have a Social Security Number** recorded.

Length of Stay - Distribution by Head of Case Demographics

● 25th percentile ● Median ● 75th percentile

Preferred language

English (n=12,518)



Spanish (n=1,520)



Other (n=122)



Social Security Number

SSN on case (n=13,216)



No SSN on case (n=944)



0 100 200 300 400 500 600 700 800

Length of stay (days)

Length of stay skewed longer for families with **two or more adults** or **two children** on the case; families with **a pregnant member** at the time of application recorded relatively shorter stays.

Length of Stay - Distribution by Household Characteristics

● 25th percentile ● Median ● 75th percentile

Number of adults

Single adult household (n=10,049)

Two or more adults (n=4,111)

Number of children

One child or pregnant (n=8,570)

Two children (n=3,474)

Three or more children (n=2,116)

With children under 5

Without children under 5 (n=6,732)

With children under 5 (n=7,428)

With pregnant member on case

Without pregnant member (n=11,694)

With pregnant member (n=1,923)

