Falling Through the Cracks?
The Distribution of ERAP Spending in New York State

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1. Introduction

The COVID-19 pandemic and corresponding economic fallout have compounded many of the longstanding housing stability and affordability issues faced by low-income households in the United States. According to the US Census Bureau Household Pulse Survey, nearly a quarter of renters in New York State—approximately 700,000 individuals—were behind on rent payments and had rental arrears as of October 11, 2021. Of these renters, 46 percent stated that they were somewhat or very likely to be evicted in the next two months.

In response to the accumulation of rent and utility arrears and fears of eviction faced by many households during the pandemic, Congress established the Emergency Rental Assistance (ERA) program to assist low-income households who are unable to pay for rent or utilities. The assistance has been administered by the US Department of Treasury through two separate programs: ERA1, which provided $25 billion in assistance under the Consolidated

Appropriations Act enacted in December 2020, and ERA2, which allocated $21.55 billion under the American Rescue Plan Act enacted in March 2021. These federal resources are distributed to states and localities to administer local rental and utility assistance programs to eligible households.[1]

In New York, the New York State Office of Temporary and Disability Assistance (OTDA) began administering the Emergency Rental Assistance Program (ERAP) in June 2021 using federal ERA funds and some state resources. As of the end of October 2021, New York State has obligated $2 bil-lion of the total $2.4 billion allocated for the program.[2] On November 12, 2021, the state requested an additional $996 million

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1. "Emergency Rental Assistance Program." *U.S. Department of the Treasury,* https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/emergency-rental-assistance-program
2. "Emergency Rental Assistance Program Surpasses 2.5 Million Payments to Renters and Landlords." *U.S. Department of the Treasury,* 29 Nov. 2021, https://home.treasury.gov/news/press-releases/jy0506

in federal funding.[3] However, as of January 11, 2022, the state has only received $27 million in reallocation funds, less than 3 percent of the request.[4] It is possible that the state could also be eligible to receive additional funds through a reallocation process from other states and jurisdictions that have not reached program spending obligations by the end of March 2022.[5]

Unfortunately, take-up rates for social service programs are often limited by information and administrative barriers, and rental assistance is no exception. This analysis identifies and describes the ZIP Codes in New York City and a subsample of New York State that received lower and higher than expected ERAP applications to inform decisions about how to prioritize areas for other interventions and the allocation of any additional ERA funds that may come to New York State in the future. For the regions of New York State outside of New York City, the ZIP Codes are limited to those jurisdictions that did not opt out of the State ERAP program and for which New York State Office of Court Administration data are available at the ZIP Code level. ZIP Codes meeting these two criteria are subsequently referred to as "the New York State subsample." To identify application outliers, we first use data from the US Census Bureau Household Pulse Survey and the American Community Survey (ACS) to estimate the total number of low-income renter households with rent arrears by ZIP Code. We compare these estimates to the number of ERAP arrears applications received in each ZIP Code (as reported by OTDA) to identify ZIP Codes with lower than predicted applications given the estimated

number of low-income renter households with arrears (low-application outliers) and higher than predicted applications given the estimated number of low-income renter households with arrears (high-application outliers). Finally, we describe and compare the demographic and housing market characteristics of these low- and high-application outlier ZIP Codes.

We find that low-application outlier ZIP Codes had relatively low rates of pre-pandemic eviction filings and unemployment. These results could suggest that low-application outlier ZIP Codes house populations that are more economically stable and less vulnerable to housing instability. However, it is also possible that communities with lower unemployment and eviction rates prior to the COVID-19 pandemic had weaker infrastructure in place to assist renters with ERAP applications than communities with longer-standing vulnerability. Compared to high-application outlier ZIP Codes, low-application outlier ZIP Codes had higher homeownership rates and lower proportions of homes subsidized by HUD, which might suggest a weaker pre-existing support infrastructure. Finally, in terms of demographics, low-application outlier ZIP Codes had lower shares of renter households who are Black and higher shares of residents who are foreign-born compared to high-application outlier ZIP Codes. It is possible that foreign-born residents were less aware of and connected to social services in general and may have been less likely to know about the availability of ERAP funding.

Future research into the specific local contexts of these communities–including the presence of community organizations, locations of industry clusters that experienced high unemployment rates during the pandemic, and rates of eviction filings after eviction moratoriums are lifted–will be important to determine the level of ongoing need across ZIP Codes.

3. "Governor Hochul Announces New York State Requests Additional Federal Funding for Emergency Rental Assistance." *NY.gov*, 12 Nov. 2021, https://www.governor.ny.gov/news/governor-hochul-announces-new-york-state-requests-additional-federal-funding-emergency-rental

4. "Statement from the Office of Temporary and Disability Assistance on the Emergency Rental Assistance Program." *New York State Office of Temporary and Disability Assistance*, January 11, 2021, https://otda.ny.gov/news/2022/2022-01-11.asp

5. "New York State Rent Relief Funding: Spotlight on New York City." *Office of the New York State Comptroller*, Aug. 2021, https://www.osc.state.ny.us/reports/osdc/new-york-state-rent-relief-funding-spotlight-new-york-city.

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2. Background on New York State ERAP

In New York, the New York State Office of Temporary and Disability Assistance (OTDA) established the Emergency Rental Assistance Program (ERAP) to administer federal ERA program resources. While cities and counties with populations above 200,000 residents were eligible to receive a direct federal allocation of rent assistance resources and administer their own program,[6] all but seven jurisdictions in New York State[7] opted to participate in the State program.[8] The state program received an initial ERA1 allocation of $1,282,268,820.[9,10] An additional $1,014,599,304 was allocated for ERA2 under the American Rescue Plan.[11]

Following the federal program guidance, the New York State ERAP program was initially limited to rental households with current income or calendar year 2020 income at or below 80 percent of Area Median Income (AMI), which is determined by the OTDA at the county level and by household size.[12] Starting September 15, 2021, the program utilized State funds to raise the income threshold to include renter households with gross income between 80 and 120 percent AMI. However, OTDA program reports indicate that approximately 70 percent of applicants in New York City and 60 percent of applicants in the rest of New York State have incomes below 30 percent AMI.[13] There are no immigration status requirements to participate in the ERAP program. Both landlords and tenants are eligible to apply to the ERAP program. However, ERAP payments are made directly to the landlord on behalf of the tenant.

3. Data and Methods

Data on ERAP arrears applications come from the New York State Office of Temporary and Disability Assistance (OTDA). (While the OTDA ERAP summary reports include ZIP Code-level filing records for prospective rent and utility arrears, the sample is limited to arrears applications to avoid double counting applicants who apply for a combination of rent arrears, prospective rent, and utility arrears assistance.) OTDA released publicly available reports totaling the number of arrears applications per ZIP Code across all participating jurisdictions in New York State. This analysis uses ZIP Code level application data through October 31, 2021. The seven jurisdictions that received funding for emergency rental assistance directly from the federal government and opted to administer their programs separately from New York State are excluded from the analysis. The ZIP Code level application data only include the number of applications per ZIP Code and do not include the number of approved applications.

In order to estimate the number of renter households in each ZIP Code who may be in need of rental assistance, we use two datasets from the US Census Bureau. First, we draw on the Household Pulse

6. "U.S. Department of the Treasury Emergency Rental Assistance Program | Data and Methodology for State, Local Government, and Territory Allocations." *U.S. Department of the Treasury*, 11 Jan. 2021, https://home.treasury.gov/system/files/136/Emergency-Rental-Assistance-Data-and-Methodology-1-11-21.pdf

7. These jurisdictions include the City of Rochester and Monroe County, the City of Yonkers, Onondaga County and the towns of Hempstead, Islip and Oyster Bay.

8. "Emergency Rental Assistance Program." *U.S. Department of the Treasury*, https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/emergency-rental-assistance-program

9. "New York State Rent Relief Funding: Spotlight on New York City." Office of the New York State Comptroller, Aug. 2021, https://www.osc.state.ny.us/reports/osdc/new-york-state-rent-relief-funding-spotlight-new-york-city

10. "U.S. Department of the Treasury Emergency Rental Assistance Program | Payments to States and Eligible Units of Local Government." *U.S. Department of the Treasury*, 26 Jan. 2021, https://home.treasury.gov/system/files/136/Emergency-Rental-Assistance-Payments-to-States-and-Eligible-Units-of-Local-Government.pdf

11. "U.S. Department of the Treasury Emergency Rental Assistance Program | Allocations to States and Eligible Units of Local Government." *U.S. Department of the Treasury*, 7 May 2021, https://home.treasury.gov/system/files/136/ERA2_Allocations_Eligible_Entities_572021.pdf

12. "Emergency Rental Assistance Program (ERAP)." *New York State Office of Temporary and Disability Assistance*, http://otda.ny.gov/programs/emergency-rental-assistance/Default.asp

13. "Emergency Rental Assistance Program (ERAP) | New York State Emergency Rental Assistance Program Reports." *New York State Office of Temporary and Disability Assistance*, https://otda.ny.gov/programs/emergency-rental-assistance/program-reports.asp

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Survey, which was launched in April 2020 and was designed to gather data on how households are being affected by the COVID-19 pandemic. The Census Bureau disseminates these data every two weeks.[14] The survey asks questions related to health, employment, spending, and housing, including whether a household is caught up on rent.[15] This analysis uses responses from Week 30–Week 39 of the survey (May 12, 2021–October 11, 2021) for households in the New York City metropolitan area and then separately for the balance of New York State. We use the Pulse Survey data to estimate the share of low-income[16] renter households in a) the New York City metropolitan area and b) the balance of New York State who have arrears by age and level of education, since we expect that older adults and those with Bachelor's degrees were less likely to experience job and income losses during the pandemic and therefore less likely to face difficulties paying rent.[17] Specifically, we estimate the share of low-income renter households who have arrears for four groups: (i) low-income renter householders below the age of 65, (ii) low-income renter householders age 65 or above, (iii) low-income renter householders with below a Bachelor's degree, and (iv) low-income renter householders with a Bachelor's degree or higher. We average the share estimates across the 10 weeks of data.

We then apply these estimates to ZIP Code counts of low-income renter households who fall within each of these age and education categories using data from the 2015-19 ACS to obtain a ZIP Code

level estimate of the number of low-income renter households with arrears. Additional details on our methodology are included in the Appendix.

The analysis also incorporates other demographic data from the ACS as well as data from New York State Office of Court Administration on the average annual number of eviction filings from 2017-2019 by ZIP Code Tabulation Area (ZCTA), or ZIP Code. The data include non-payment cases from all types of housing, including New York City Housing Authority (NYCHA) properties. Our analysis includes the 365 ZIP Codes across the state that are covered in both the eviction data and the ERAP applications data. 79 percent of all renter households in the state live in these 365 ZIP Codes.

4. Identifying ZIP Codes with lower and higher than predicted ERAP applications

We identify ZIP Codes with lower and higher than predicted applications based on the estimated number of renter households with arrears in order to describe and contrast their characteristics. Because 84 percent of estimated low-income renter households with arrears in the sample live in New York City, we generate separate estimates of predicted applications for New York City and the New York State subsample.

We estimate the predicted number of applications for each ZIP Code by multiplying the estimated number of low-income renter households with arrears in that ZIP Code by the average application rate in the relevant region, or the ratio of ERAP applications to low-income renter households with arrears across all ZIP Codes in the New York City or New York State subsample. We then calculate the difference between the actual number of ERAP applications and the expected number of ERAP

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14. The Household Pulse Survey is administered in Phases. Phase I began on April 23, 2020. The current Phase—Phase 3.3—began on December 1, 2021 and is scheduled to continue until February 7, 2022.

15. During the weeks of the survey used in this analysis, the survey question stated "Is the household currently caught up on rent payments?" Note that the survey does not ask for the dollar amount of arrears.

16. For this analysis, low-income renter households are defined as those earning below $100,000 if the household lives in the New York City metro area or earning below $75,000 if the household lives in the rest of New York State

17. The limited demographic data in the Pulse data do not permit an examination of other attributes that might be associated with job and income losses.

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applications for each ZIP Code. ZIP Codes in the top 10 percent of lower than predicted applications in the relevant region are considered low-application outliers and those in the top 10 percent of higher than predicted applications in the relevant region are considered high-application outliers.

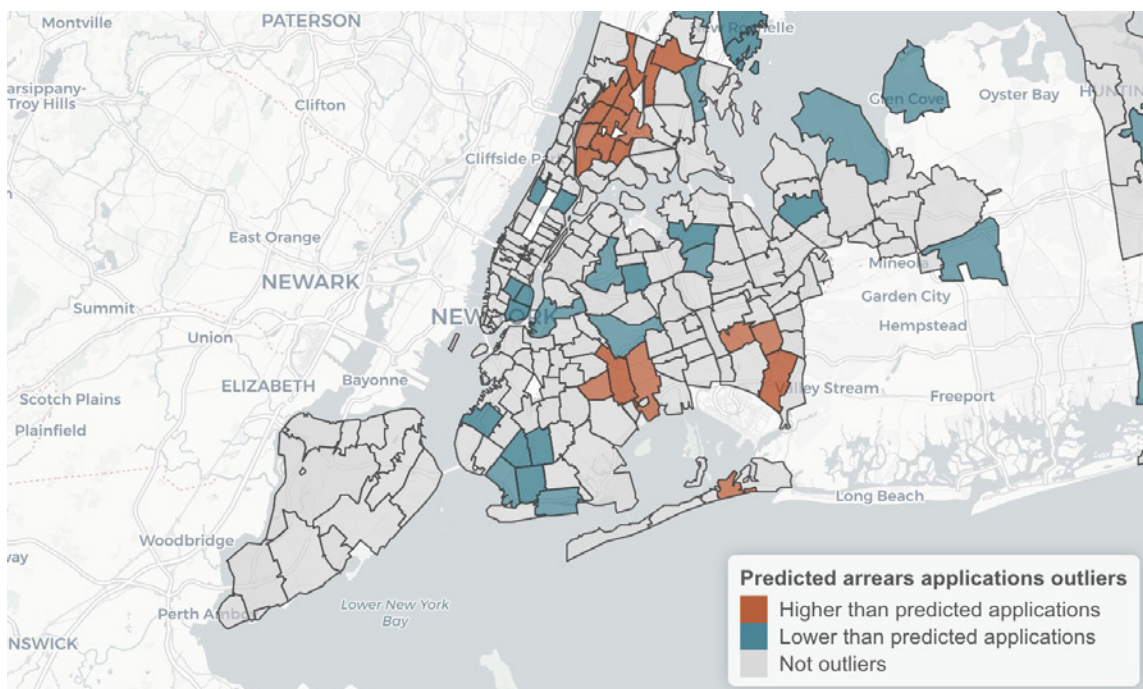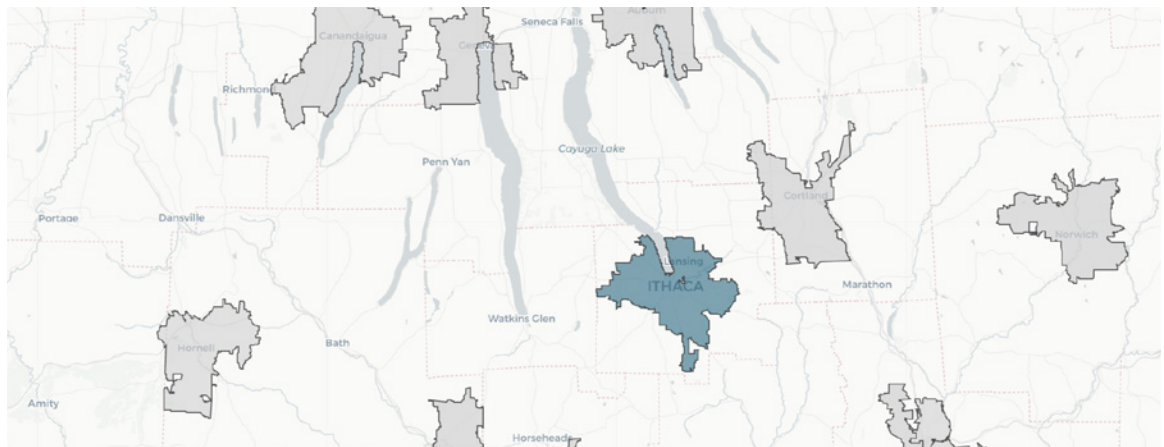**Figure 1: High- and Low-Application Outlier ZIP Codes in New York City and Immediate Suburban Areas**

Predicted arrears applications outliers
- Higher than predicted applications
- Lower than predicted applications
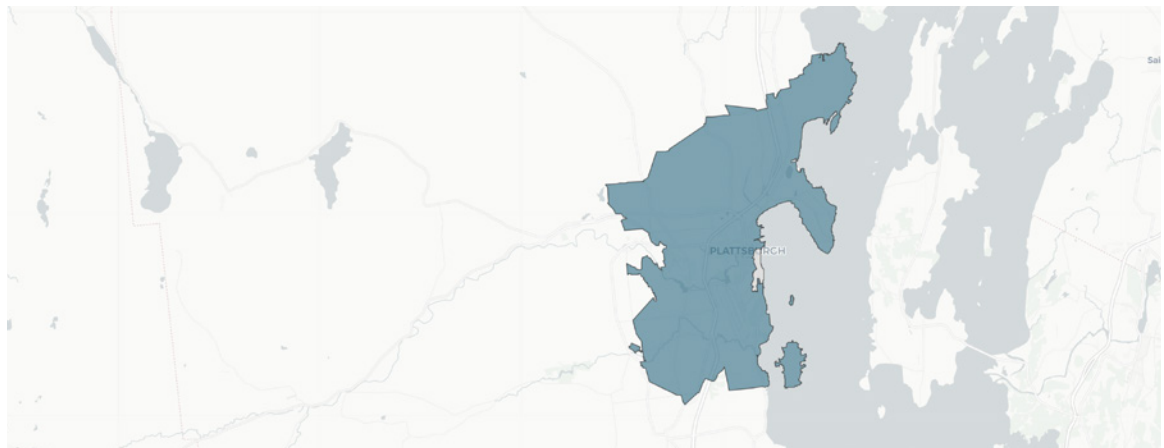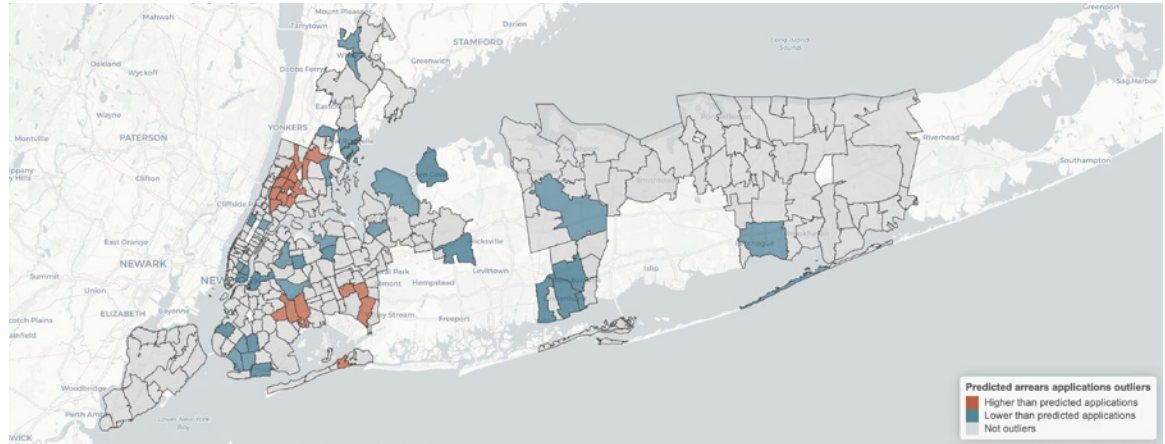- Not outliers

Figure 1 provides a map of the location of the low- and high-application outlier ZIP Codes in New York City. Among the 18 low-application outlier ZIP Codes, seven were located in Brooklyn (Sunset Park, Bensonhurst, Midwood, Gravesend, Brighton Beach, Manhattan Beach, and Williamsburg), five were located in Manhattan (Lower East Side, Alphabet City, East Village, Upper West Side, and Upper East Side), five were in Queens (Woodside, Elmhurst, Ridgewood/Glendale, Flushing, and East Flushing) and one was in the Bronx (Co-Op City). High-application outlier ZIP Codes were more geographically concentrated. Among the 18 high-application outlier ZIP Codes, a majority were located in the Bronx (11), covering the neighborhoods of Kingsbridge, Morris Heights, Concourse, Morrisania, Claremont Village, Mount Hope, Belmont, East Tremont, High Bridge, Norwood, Bedford Park, and West Farms. Additionally,

there were three high-application outlier ZIP Codes in Brooklyn (East New York, New Lots, and Brownsville) and four in Queens (Laurelton/Brookville, St. Albans, Jamaica, and Edgemere).

For the New York State subsample (Figure 2), 16 of the 19 low-application outlier ZIP Codes were in the New York City metro area. A majority (9) of those ZIP Codes were in Long Island, covering the localities of Great Neck, Dix Hills/Huntington, West Babylon, Lindenhurst, Port Washington, Westbury, Glen Cove, and Patchogue. Additionally, six were located in Westchester County, including the localities of White Plains, Amityville, Mount Vernon, Peekskill, and New Rochelle. Outside of the metro area, there were also low-application outlier ZIP Codes in suburban Buffalo and in the smaller cities of Plattsburgh and Ithaca.
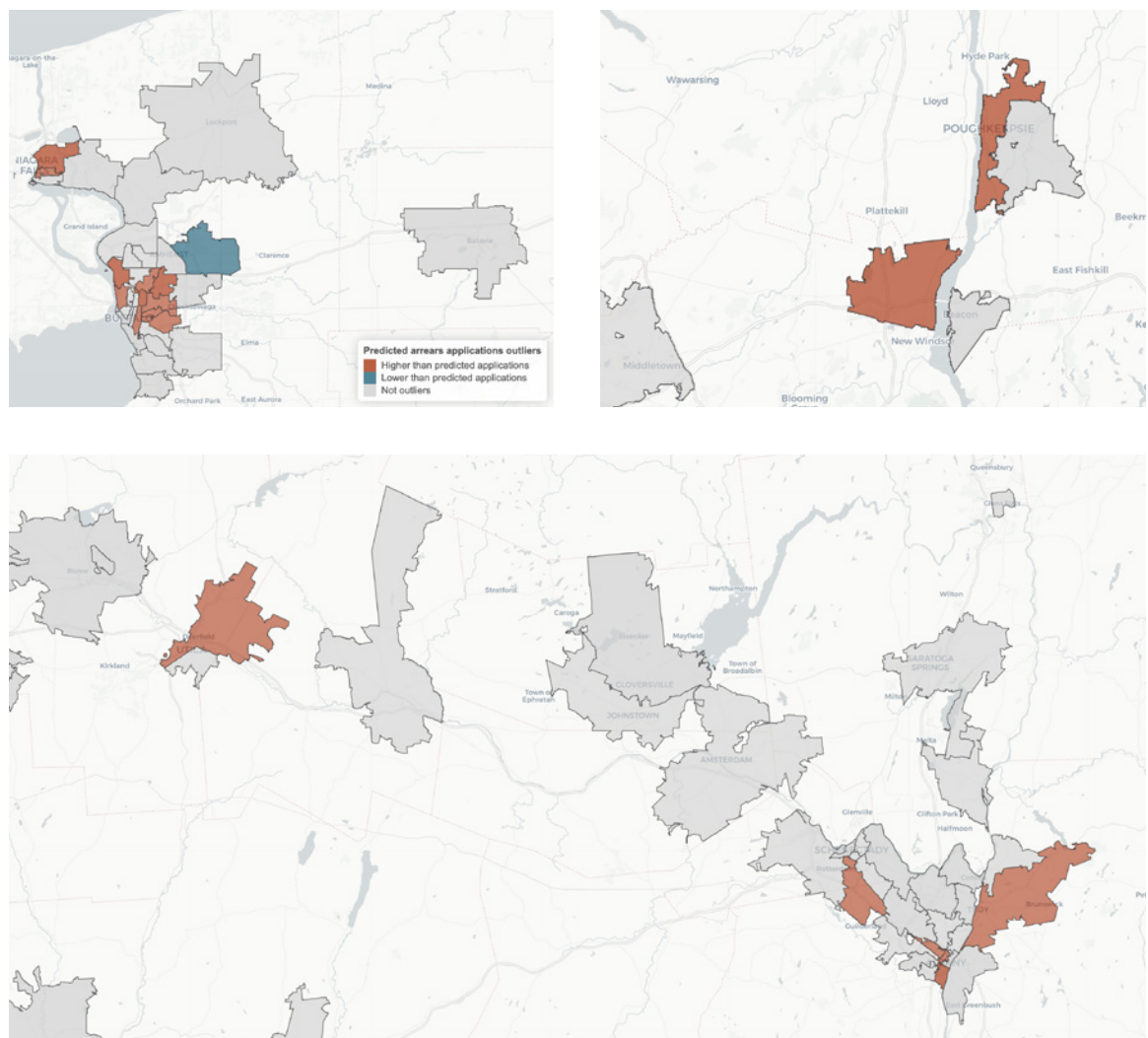
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Figure 2: Low-Application Outlier ZIP Codes in the New York State Subsample

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By contrast, high-application outlier ZIP Codes were largely concentrated in urban areas of Upstate New York (Figure 3). Among the 19 high-application outlier ZIP Codes, about half (nine) were located in north and central Buffalo and two were in central and northern Niagara Falls.

Outside of Western New York, there were high-application outlier ZIP Codes in central Albany, Troy, Schenectady, and Utica in the Capital Region and Newburgh and Poughkeepsie in the Hudson Valley.

Figure 3: Low- and High-Application Outlier ZIP Codes in the New York State Subsample

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5. Comparing demographic and housing market characteristics of low- and high-application outlier ZIP Codes

Figure 4 provides demographic characteristics and pre-pandemic eviction filing rates (2017-19) for low- and high-application outlier ZIP Codes in both New York City and the New York State sub-sample, as well as the remaining non-outlier ZIP Codes. These demographic and housing charac-teristics describe *all* households living in low- and high-application outlier ZIP Codes, not simply the households who applied for ERAP assistance.

Figure 4: Baseline housing and demographic characteristics of low- and high-application outlier ZIP Codes in New York City (NYC) and the New York State (NYS) subsample

	High-application outliers ZIP Codes–NYC	Low-application outliers ZIP Codes–NYC	High-application outliers ZIP Codes–rest of NYS	Low-application outliers ZIP Codes–rest of NYS	Not outlier ZIP Codes
Count of ZIP Codes	18	18	19	19	291
Renters households who are Black (%)	46.3%	9.5%	43.2%	16.8%	23.2%
Renters households who are Asian (%)	1.8%	21.4%	3.2%	8.0%	8.5%
Renters households who are Hispanic/Latino (%)	52.8%	27.1%	12.9%	22.2%	24.0%
Renters households who are white (Non-Hisp.) (%)	3.5%	41.2%	38.4%	51.0%	43.6%
Households who are for-eign-born (%)	38.0%	44.7%	12.0%	22.5%	26.8%
Renter occupied housing units (%)	81.9%	72.4%	54.3%	38.6%	53.5%
Rent burdened (%)	60.2%	52.6%	54.0%	55.5%	48.9%
Unemployed (%)	10.6%	5.2%	7.5%	4.5%	5.5%
Rental units in buildings with 10+ units (%)	73.0%	65.7%	20.2%	40.6%	57.0%
Renters with children under 18 (%)	38.9%	26.1%	33.3%	27.7%	26.2%
Rental units that are HUD subsidized (%)	32.3%	15.2%	25.6%	14.5%	16.1%
Annual eviction filin s per 100 low-income renter households	21.3	7.1	21.5	6.8	11.3

Source: New York State ERAP Application Figures as of 10/26/21 (NY OTDA), New York State Office of Court Adminis ation eviction filing ecords (2017-19), and 2015-2019 5-year American Community Survey, NYU Furman Center.

Note: These fi ures are calculated by aggregating households who live in each group of outlier ZIP Codes rather than averaging the individual ZIP Code characteristics. For example, the foreign-born estimate for high-application outlier ZIP Codes in NYC is the sum of all foreign-born residents living in the high-application outlier ZIP Codes in NYC divided by the total number of households in those ZIP Codes (for whom foreign-born status is identifie).

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There are substantial differences in the baseline demographic characteristics of households living in low- and high-application outlier ZIP Codes in New York City. Across ZIP Codes with lower than predicted application rates (low-application outlier ZIP Codes) in New York City, a lower share of renter households were Black and Hispanic (9.5% and 27.1%, respectively) compared to households in high-application outlier ZIP Codes (46.3% and 52.8%, respectively), and a much higher proportion were Asian and non-Hispanic white (21.4% and 41.2% compared with 1.8% and 3.5%). The share of foreign-born renter households was slightly higher (44.7%) across low-application outlier ZIP Codes in New York City than across high-application outlier ZIP Codes (38.0%). The share of renter households with children under 18 was lower across low-application outlier ZIP Codes (26.1% compared to 38.9%), and the share of renter households age 65 or older was higher in low-application outlier ZIP Codes.

Pre-pandemic unemployment rates and eviction filing rates suggest that low-application outlier ZIP Codes housed renters who were less economically vulnerable before the start of the pandemic. The pre-pandemic unemployment rate (as measured by the 2015-19 ACS) was considerably lower in low-application outlier ZIP Codes (5.2% compared to 10.6%). Additionally, the average annual eviction filing rate per low-income renter household was three times lower for households in low-application outlier ZIP Codes (7.1%) than high-application outlier ZIP Codes (21.3%) in New York City.

We observe some similar, if not identical, differences in the New York State subsample covered in the analysis. A lower share of renter households in low-application outlier ZIP Codes in the New York State subsample were Black compared to high-application outlier ZIP Codes (16.8% vs 43.2%), and a higher share of renter households were Asian, non-Hispanic white, and Hispanic compared to high-application outlier ZIP Codes. Similar to New York City, low-application outlier ZIP Codes in the New York State subsample had lower pre-pandemic unemployment rates, lower shares of renter households with children, lower eviction rates, and lower shares of units subsidized by HUD compared to high-application outlier ZIP Codes. Low-application outlier ZIP Codes in the New York State subsample also had a higher share of renter householders who were age 65 or older and a higher foreign-born share compared to high-application outlier ZIP Codes.

Somewhat surprisingly, we see little evidence that renters living in smaller rental buildings were less likely to apply for emergency rental assistance. In New York City, ZIP Codes with fewer than expected applications had a somewhat lower share of rental units in larger buildings than high-application outlier ZIP Codes, but the difference was small. In the New York State subsample, low-application outlier ZIP Codes actually had a higher share of rental units in buildings with 10 or more units than high-application outlier ZIP Codes.

6. Discussion

Our analysis identified ZIP Codes in New York City and the New York State subsample with lower and higher than predicted ERAP applications based on the estimated number of households with arrears. Low-application outliers were identified in parts of Manhattan (Lower East Side, parts of the Upper East Side and Upper West Side) and parts of Brooklyn and Queens, as well as certain ZIP Codes in Long Island, Plattsburgh, and Ithaca. High-application outliers were identified in the Bronx and parts of Brooklyn and Queens, as well as areas of Schenectady and Buffalo.

Low- and high-application outlier ZIP Codes tend to differ from one another based on several demographic and housing market characteristics. A key difference between low- and high-application outlier ZIP Codes is the rate of eviction filings in the years prior to the COVID-19 pandemic. The pre-pandemic eviction filing rate was lower across low-application outlier ZIP Codes compared to high-application outlier ZIP Codes. It is possible that low-application outlier ZIP Codes simply house populations that are less economically vulnerable and have lower levels of housing instability, corresponding to less need for rental assistance overall. Our analysis is not able to fully control for unobserved factors such as industry and job types that may correspond to a higher likelihood of income loss and rental assistance need. However, it could also be the case that high-application outlier ZIP Codes with longer-standing housing instability and high eviction filings prior to the pandemic are also the ZIP Codes with established community organizations already in place that may have been able to conduct outreach about the ERAP program and provide application assistance to tenants. Low-application outlier ZIP Codes with relatively lower pre-pandemic eviction filings but which now have low-income renter households with arrears (as estimated in the analysis) may not have the same presence of community organizations able to assist low-income tenants in arrears with the ERAP application process, which could contribute to the lower than expected number of ERAP applications in these communities.

Compared to high-application outlier ZIP Codes, these low-application outlier ZIP Codes also had a lower share of renter households who are Black and higher shares of renter households who are white and Asian. This result could similarly reflect a disparity in the level of need for rental assistance between low- and high-application outlier ZIP Codes that is not fully captured in our analysis. According to analysis of recent Household Pulse Survey data from the Center on Budget and Policy Priorities, a disproportionately higher share of Black households were behind on rent as of October 2021. Additionally, Black workers have experienced a slower job recovery compared to white workers, with unemployment rates falling more slowly for Black workers than white workers in recent months.[18] Racial disparities in arrears and employment during the pandemic could contribute to higher levels of need for rent assistance in communities with higher shares of renter households who are Black.

Low-application outlier ZIP Codes also had higher homeownership rates as well as lower shares of rental units subsidized by HUD compared to high-application outlier ZIP Codes. It is possible that there may be less need for rental assistance among renter households in ZIP Codes with relatively few rental units and little subsidized housing. However, this result could also suggest that renters who live in unsubsidized rental housing or in high homeownership communities may have been less likely to learn about ERAP assistance, which could contribute to a low number of applications in these ZIP Codes.

18. "Tracking the COVID-19 Economy's Effects on Food, Housing, and Employment Hardships." *Center on Budget and Policy Priorities*, 10 Nov. 2021, https://www.cbpp.org/research/poverty-and-inequality/tracking-the-covid-19-economys-effects-on-food-housing-and

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7. Conclusions and Directions for Future Research

Take-up of social programs is often limited by information gaps and administrative burdens, and these burdens are generally not felt evenly. Thus, it is important for governments to track not only overall spending on various programs but also the distribution of that spending. Such an analysis is arguably even more important for ERAP, as programs across the country were set up quickly, and introduced during a pandemic when many of the normal channels of outreach were unavailable. Other states could replicate this analysis to identify areas that appear to be underserved.

Within New York State, future research should continue to explore the ongoing levels of need for rental assistance in high-application outlier ZIP Codes as well as possible unmet need for assistance in low-application outlier ZIP Codes. Over the coming months, as the state's eviction ban is lifted, it is particularly critical to identify areas of high need for additional rental assistance or other interventions. Analysis of where households employed in the industries hit hardest by the pandemic are located could provide further evidence. Further qualitative research could also examine the nonprofit and social infrastructure in low application outliers to better understand if low-income populations in those areas are missing out on critical public services.

Appendix

Household Pulse Survey–Household Weights and Small Sample Size

The Household Pulse Survey assigns person-level and household-level weights to each wave of the survey data in order to make the survey estimates representative of the population.[19] We use the household weights to calculate the estimated share of renter households with arrears for each relevant wave of the survey separately (Week 30 - Week 39). These separate estimates are then averaged to obtain our final share estimates. Although the household weights indicate how the survey respondents from each wave represent the broader population, the underlying sample size of the Household Pulse Survey is small. Subsetting the data by income and demographic characteristics further decreases the sample size and leads to higher standard errors when estimating the shares of households with arrears across these groups. Small sample sizes are a limitation of this analysis approach for calculating the share of households with arrears.

Because of the relatively small sample size of the Household Pulse Survey, the only available geographic identifiers are the 50 states and the 15 largest Metropolitan Statistical Areas (MSA). For this reason, we calculate Pulse estimates for the New York City MSA and for the balance of New York State.

Additional Details on ZIP Code Level Estimates using the ACS

To estimate the number of low-income renters with arrears in each ZIP Code, we apply the estimated arrears percentages from the Household Pulse Survey to ZIP Code level ACS counts of the number of low-income renter households who fall within each age and education category. Because the ACS summary data report age and education separately for renter households, we calculate separate counts for each category (some renter households may fall within more than one category). We first calculate the share of total renter households in each demographic category by ZIP Code, then multiply these shares by the total number of low-income renter households in the ZIP Code to obtain an estimate of the number of low-income renter households in each category. We assume that the shares of low-income renter households in each age and education category are the same as the shares for the total renter population. This assumption is necessary since age and education breakdowns by income are not available for renter households in the ACS summary data.

This leads to two separate estimates of the total number of households with arrears: one using the age categories, one using the education categories. We average these two separate estimates to obtain a final estimate of the number of low-income renter households with arrears by ZIP Code.

19. "Household Pulse Survey Technical Documentation." United States Census Bureau, https://www.census.gov/programs-surveys/household-pulse-survey/technical-documentation.html