Housing and Foster Care:
Team Abnormal Distribution

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nchcw
NATIONAL CENTER FOR HOUSING & CHILD WELFARE

Outline

Background

47%

Of families who have a child removed from their home have trouble paying for basic necessities

10%

Of removals nationwide are at least partly attributable to inadequate housing

30%

Of failed reunifications are due at least in part to a lack of safe housing

Key Takeaways

- Poverty and economic disadvantage make families more vulnerable to child protection intervention
- Black, Hispanic, and Native families are at higher risk of interaction with the child welfare system than their white and Asian peers
- Past analyses show clear links between supportive social welfare measures and improved child outcomes, including higher rates of reunification and lower rates of interaction and removal
- Housing is a critical piece of that social welfare puzzle – right now, the foster care system is bearing the burden of America's affordable housing crisis
- Beyond easy-to-measure variables, individual agency behavior has a huge impact on child outcomes

Definitions and Assumptions

Rate of Removal (RoR)

Number of children removed from their home into foster care in a given year per 1,000 children in that state

Housing Rate of Removal (Housing RoR)

Number of children removed from their home into foster care in a given year per 1,000 children in that state where housing was the only cause of removal

Geographic level of analysis

AFCARS foster and adoption data is only available at the county level for counties with more than 1,000 children served per year. This represents a biased sample of ~150 urban and very high-removal counties, so we focused on state-level analysis and recommendations

Focus of analysis

- Reducing number of children removed from families into foster care for lack of safe, stable, affordable housing
- Increasing the likelihood of family reunification if the reason for removal was housing

Problem Statement

THE PROBLEM

Children who are removed from their homes into foster care and children in care who are not reunified with their families or adopted experience worse social and economic outcomes than their peers.

Thousands of children are removed into foster care or not reunified with their families each year due to inadequate housing.

PROPOSED RESOLUTION

By **understanding drivers of housing-linked rates of removal of children into foster care** and **factors preventing reunification,** we can help child welfare agencies and federal funders identify the most effective types of housing support to keep families together.

THE OUTCOMES

Effective implementation could lead to:
▶ Reduced rates of removal and increased rates of reunification
▶ Cost savings for state and county child welfare agencies
▶ Improved social and economic outcomes for children and families in the child welfare system

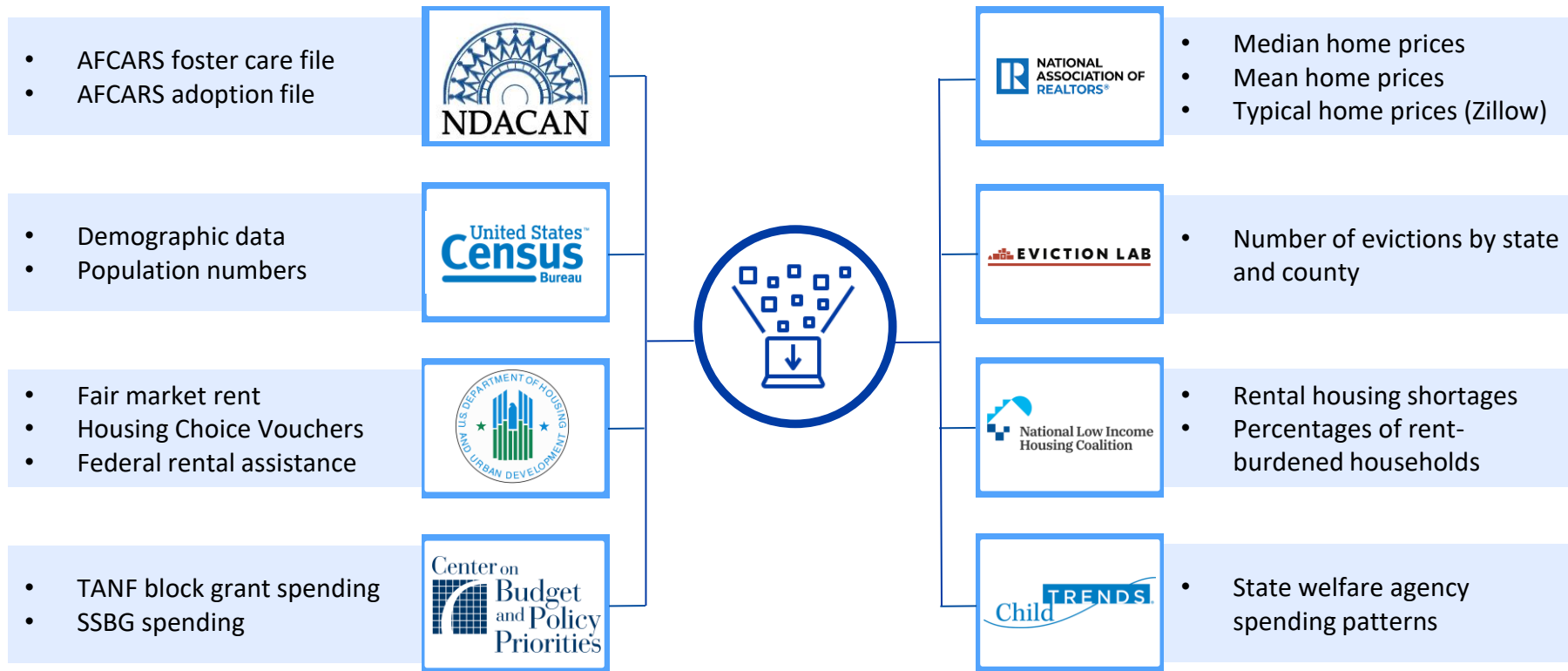1

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Analytical Framing

What types of support can help prevent entry into foster care for housing insecure children and encourage faster and more frequent reunification for children in out-of-home care?

- **1** Analyze housing rates of removal across time by state to identify states with highest and lowest rates of removal

- **2** Profile groups of states with similar rates of removal to understand which states' child welfare agencies behave similarly

- **3** Predict rates of reunification with families and rates of adoption for children from foster care based on child attributes to understand which factors make children most vulnerable to remaining in out-of-home care for long-term

- **4** Analyze trends over time and funding trends in case study states to understand which factors may be contributing to lower housing rates of removal

Data Sources

- AFCARS foster care file
- AFCARS adoption file

NDACAN

- Demographic data
- Population numbers

United States Census Bureau

- Fair market rent
- Housing Choice Vouchers
- Federal rental assistance

U.S. Department of Housing and Urban Development

- TANF block grant spending
- SSBG spending

Center on Budget and Policy Priorities

National Association of Realtors

- Median home prices
- Mean home prices
- Typical home prices (Zillow)

Eviction Lab

- Number of evictions by state and county

National Low Income Housing Coalition

- Rental housing shortages
- Percentages of rent-burdened households

Child Trends

- State welfare agency spending patterns

Methodology Selection

PROFILING APPROACH

- Given median values of rate of removal and housing rate of removal, we can manually cluster states to create shared profiles based on a large array of demographic, housing, and funding data.
- This flexible approach allows us to consider a wide range of variables to understand how states with similarly high rates of removal are related, and how they might respond to policy or funding changes.

PREDICTIVE MODELING APPROACH

- The AFCARS dataset contains information about whether a child is adopted or not. With many relevant factors such as age, length of stay in foster care, race, removal reason or reason of entry into foster care, we can predict whether a child will be adopted or reunified based on these factors.
- Decision trees are a popular machine learning algorithm used for classification and regression tasks, and are easy to understand and interpret. XGBoost is an implementation of gradient boosting decision trees designed for speed and performance. XGBoost can improve accuracy by combining multiple decision trees.

Outline
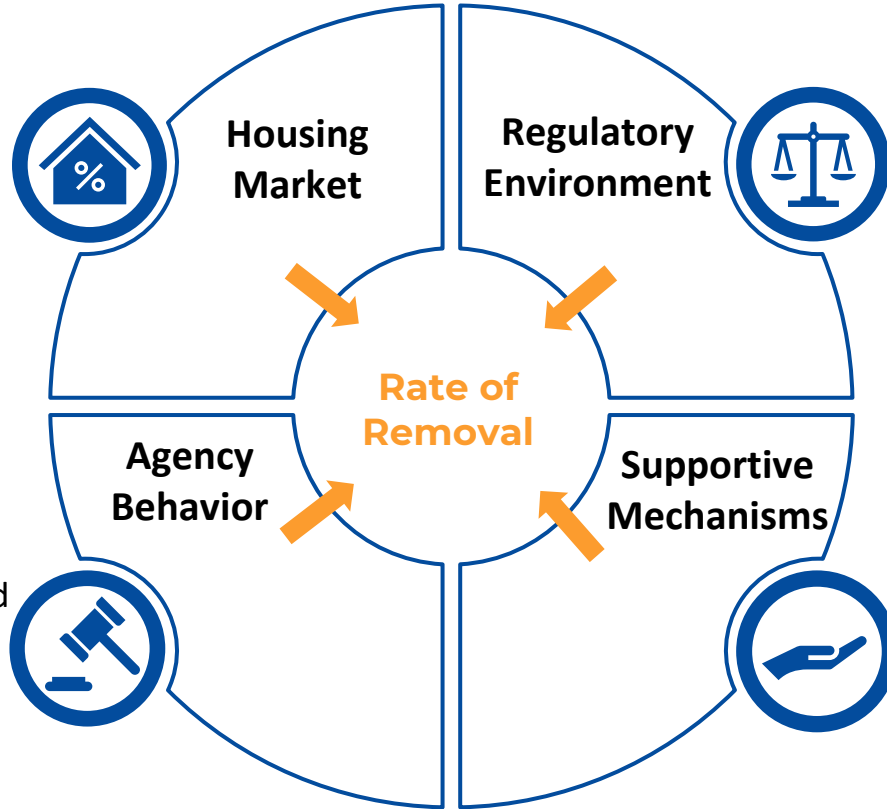
AFCARS Data Dashboard

[Click here to access](#)

2021 Rate of Removal by State
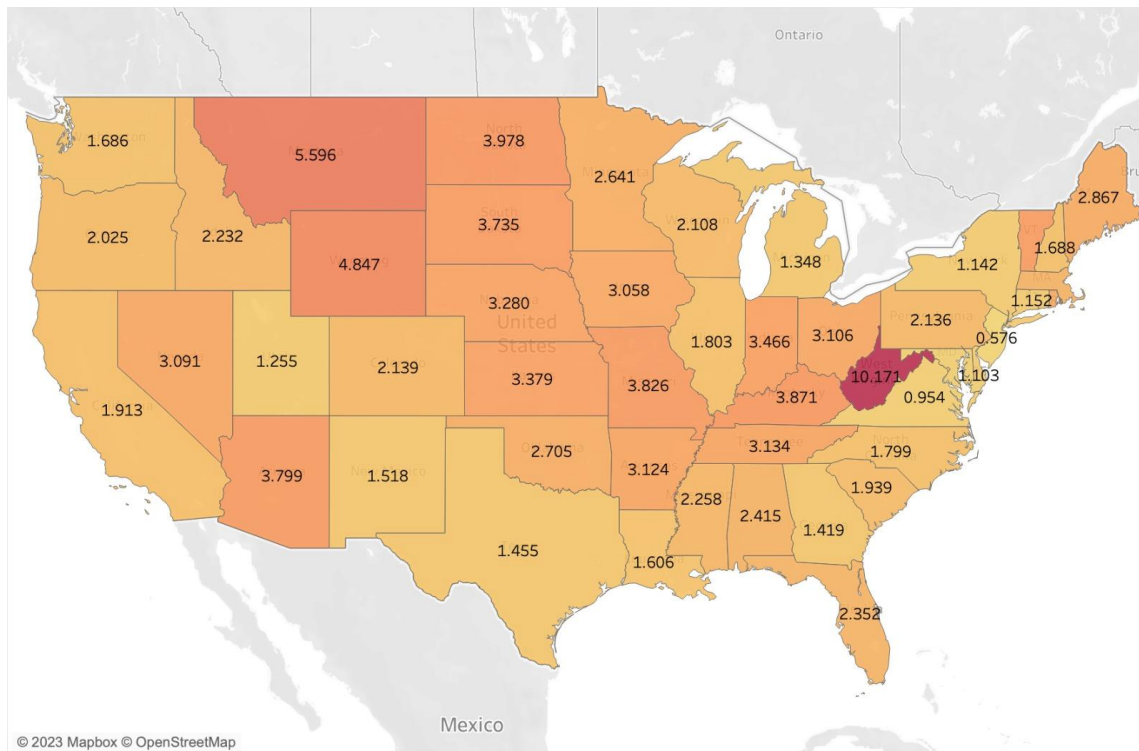
Key Insights

- **154,884 children** were removed into foster care in 2021
- West Virginia leads the nation in rate of removal into foster care, followed by Minnesota and Wyoming
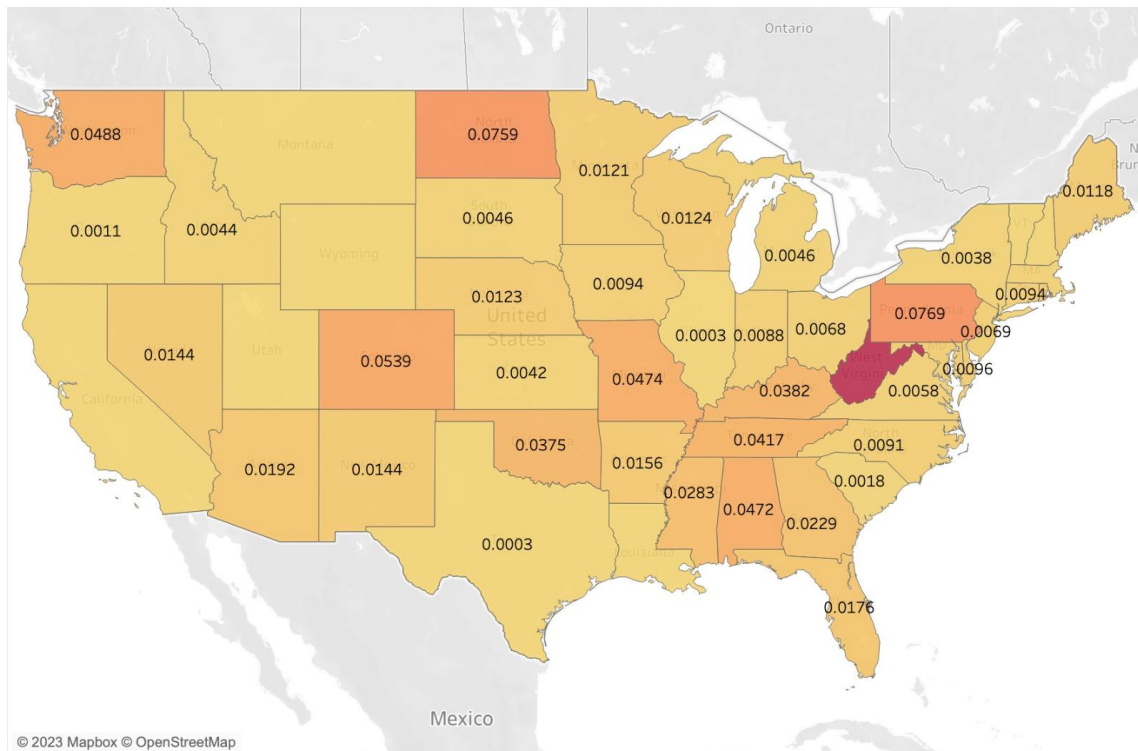- With some exceptions, wealthier states like New Jersey and California tend to have lower rates of removal than poorer states like Kentucky and Arizona

# 2021 Housing Rate of Removal by State

Key Insights

- **1,104 children** were removed for inadequate housing alone in 2021
- **Nine states** had no housing removals in 2021 at all*
- West Virginia, Pennsylvania, and North Dakota, and Colorado have the highest housing RoRs
- High RoR does not necessarily track with high housing RoR

*Montana does not track housing as a reason for removal

Housing and Related Removal Factors
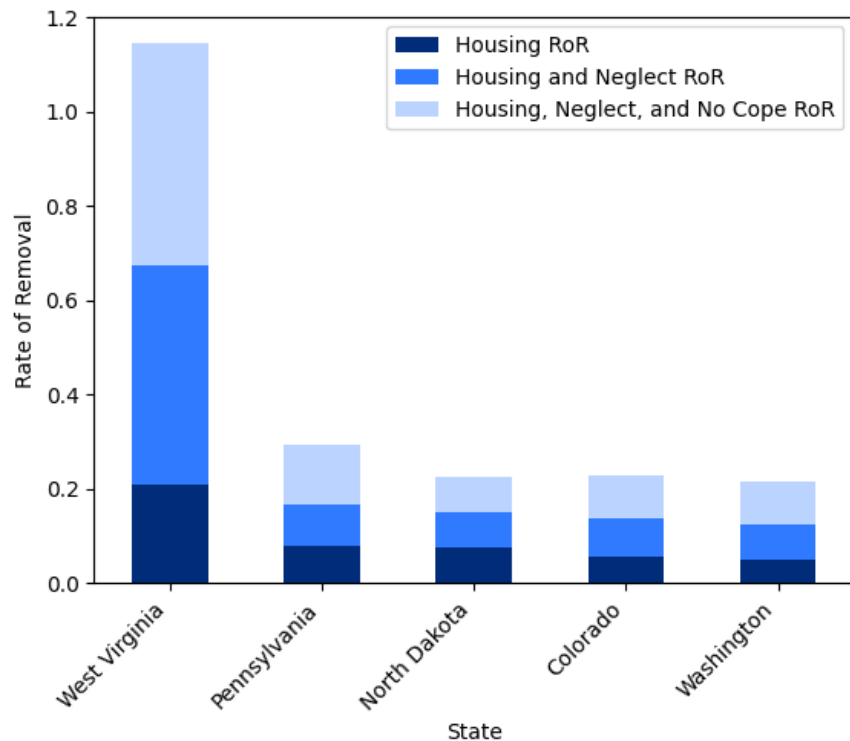
Key Insights

- Our analysis focuses on cases where housing is the **only** reason for removal, as this is the only way to be certain it is the **primary** reason
- This graph shows states with high housing rates of removal and their even higher removals when the housing flag appears with neglect and no cope
- Alleviating housing burdens has the potential to significantly decrease other burdens on the family and therefore decrease removals for other flags, particularly neglect and no cope

Race and Rates of Removal
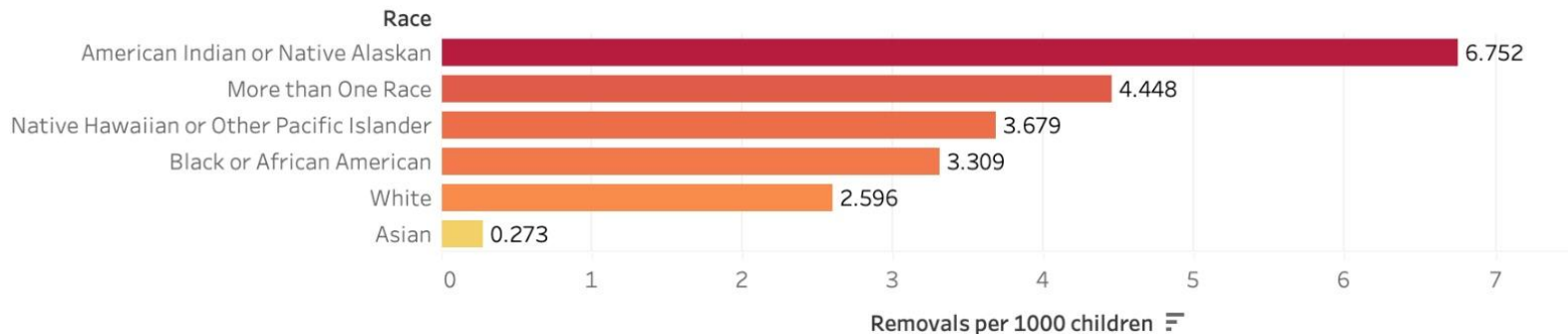
Key Insights

- **Persistent racial disparities** across the U.S. and in the child welfare system mean that American Indian and Native Alaskan children are most likely to be removed from their families into foster care by a significant margin, followed by interracial children and Native Hawaiian or Pacific Islander children.
- White and Asian children are least likely to be removed.

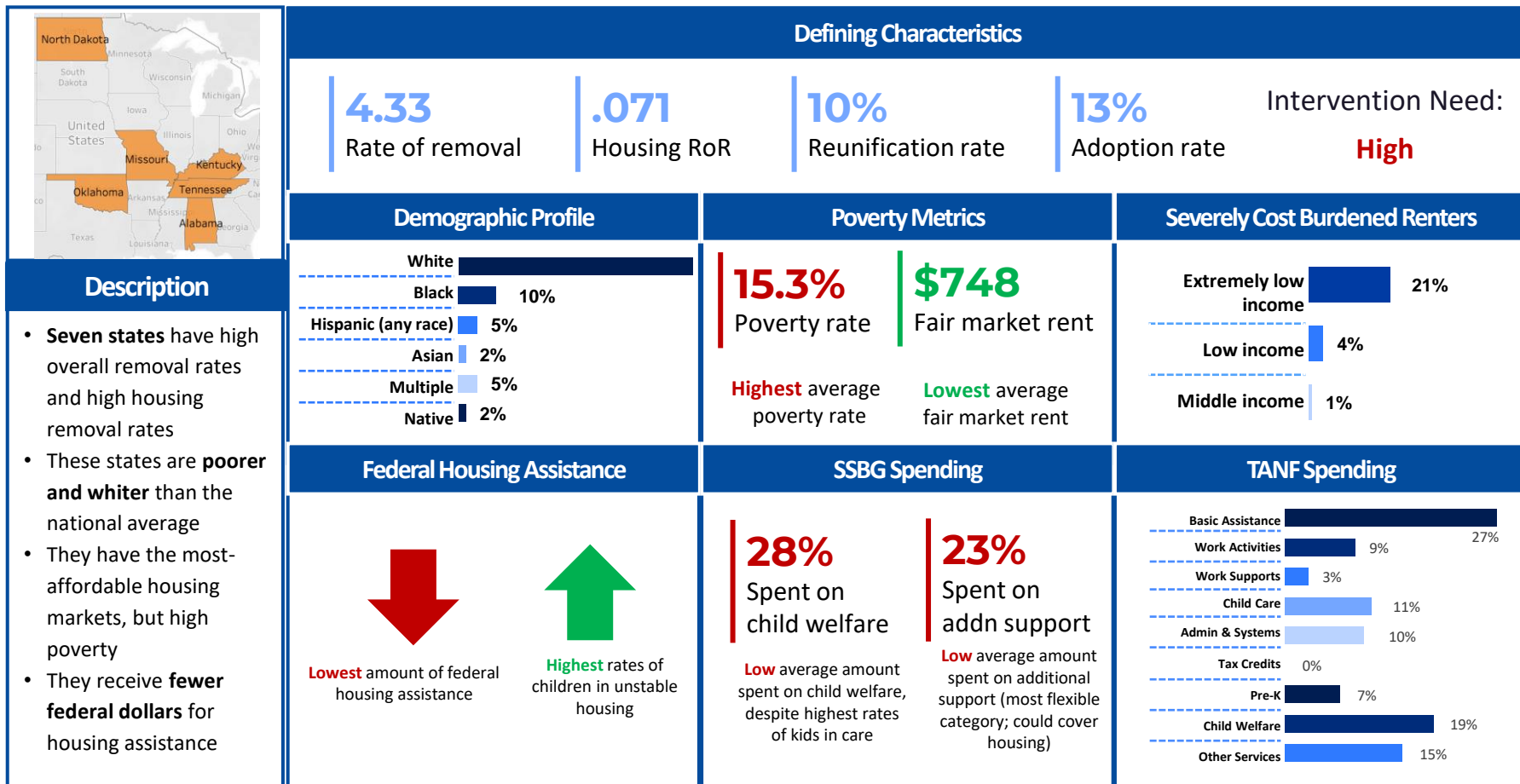# Outline

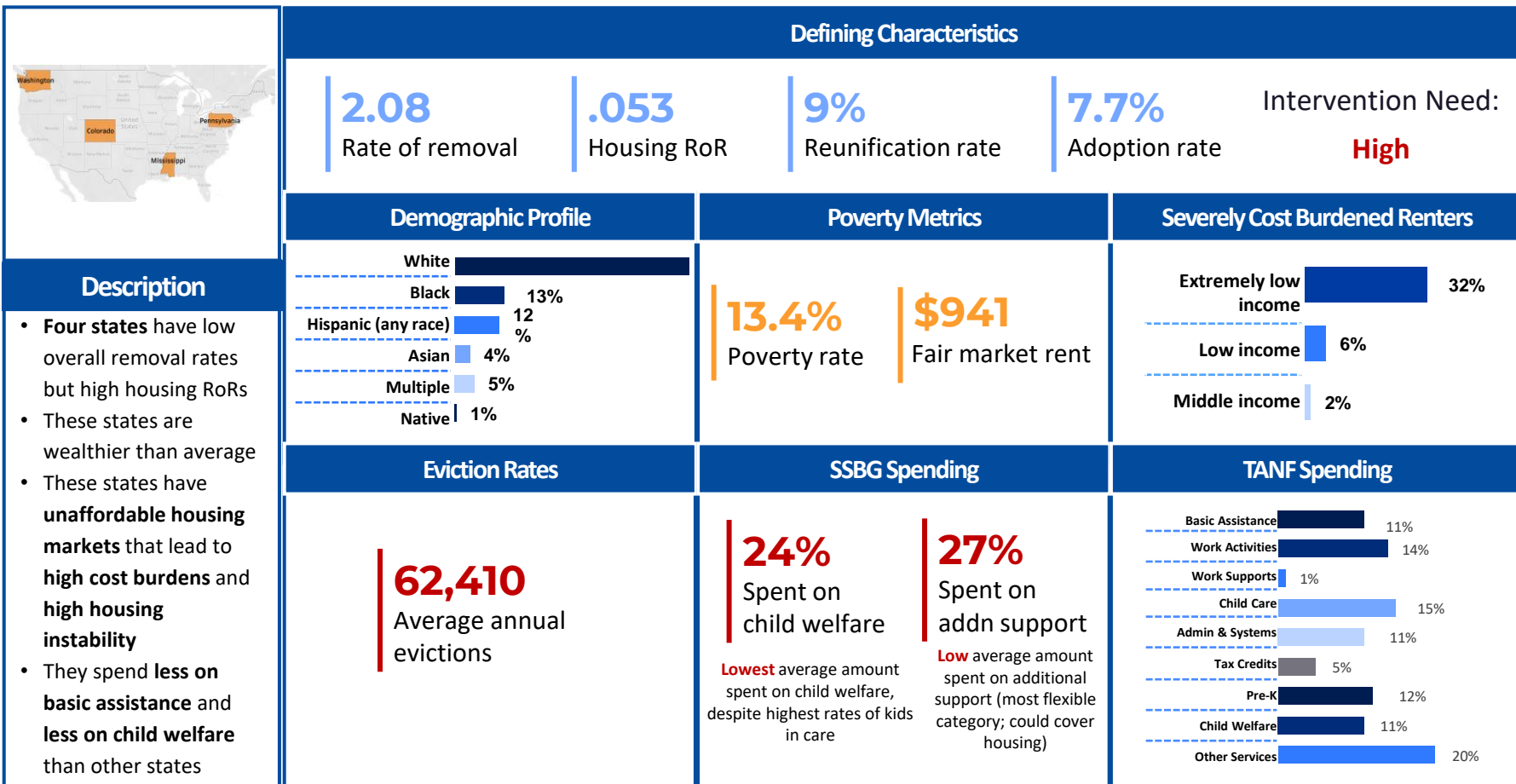# Rates of Removal and Housing Rates of Removal
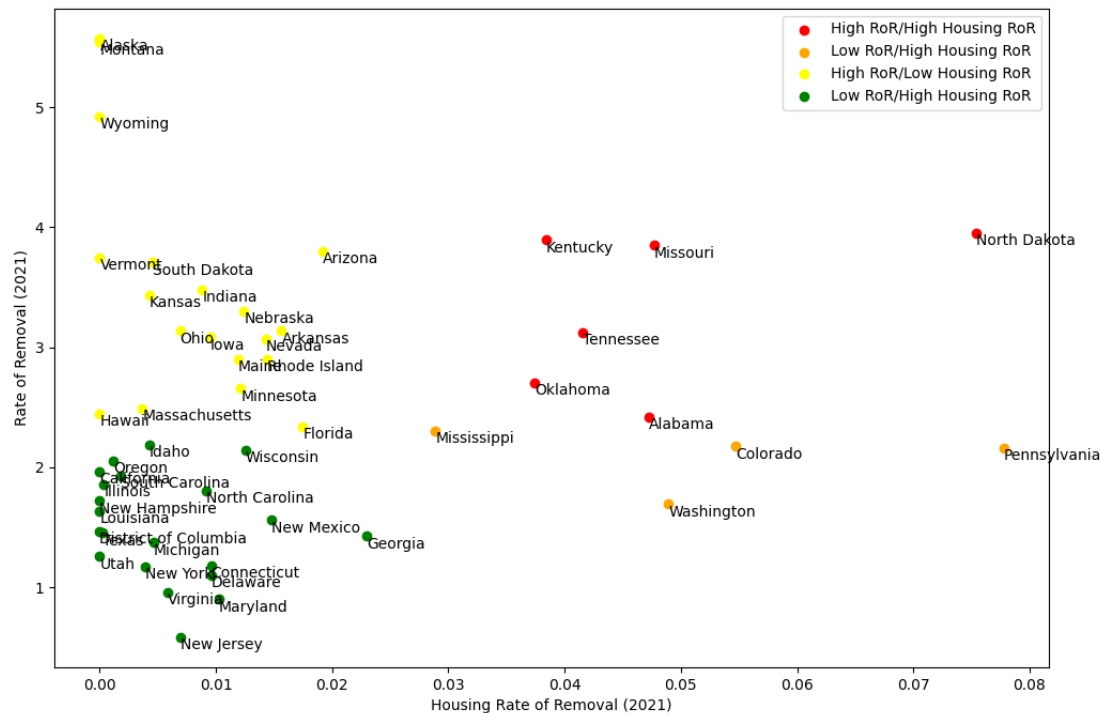
Key Insights

- West Virginia is excluded as an outlier from this chart, but has by far the highest RoR and housing RoR in the country
- States with high RoRs but low housing RoRs may have effective housing-supportive resources
- States with high housing RoRs but low RoRs are key areas of focus for more housing-supportive resources

Cluster Profile | High RoR, High Housing RoR

Defining Characteristics

4.33 Rate of removal

.071 Housing RoR

10% Reunification rate

13% Adoption rate

Intervention Need: **High**

Description

- **Seven states** have high overall removal rates and high housing removal rates
- These states are **poorer and whiter** than the national average
- They have the most-affordable housing markets, but high poverty
- They receive **fewer federal dollars** for housing assistance

Demographic Profile

- White
- Black **10%**
- Hispanic (any race) **5%**
- Asian **2%**
- Multiple **5%**
- Native **2%**

Poverty Metrics

15.3% Poverty rate

$748 Fair market rent

Highest average poverty rate

Lowest average fair market rent

Severely Cost Burdened Renters

- Extremely low income **21%**
- Low income **4%**
- Middle income **1%**

Federal Housing Assistance

Lowest amount of federal housing assistance

Highest rates of children in unstable housing

SSBG Spending

28% Spent on child welfare

23% Spent on addn support

Low average amount spent on child welfare, despite highest rates of kids in care

Low average amount spent on additional support (most flexible category; could cover housing)

TANF Spending

- Basic Assistance **27%**
- Work Activities **9%**
- Work Supports **3%**
- Child Care **11%**
- Admin & Systems **10%**
- Tax Credits **0%**
- Pre-K **7%**
- Child Welfare **19%**
- Other Services **15%**

Cluster Profile | Low RoR, High Housing RoR

Defining Characteristics

2.08
Rate of removal

.053
Housing RoR

9%
Reunification rate

7.7%
Adoption rate

Intervention Need:
High

Description

- **Four states** have low overall removal rates but high housing RoRs
- These states are wealthier than average
- These states have **unaffordable housing markets** that lead to **high cost burdens** and **high housing instability**
- They spend **less on basic assistance** and **less on child welfare** than other states

Demographic Profile

- White
- Black — 13%
- Hispanic (any race) — 12%
- Asian — 4%
- Multiple — 5%
- Native — 1%

Poverty Metrics

13.4%
Poverty rate

$941
Fair market rent

Severely Cost Burdened Renters

- Extremely low income — 32%
- Low income — 6%
- Middle income — 2%

Eviction Rates

62,410
Average annual evictions

SSBG Spending

24%
Spent on child welfare

Lowest average amount spent on child welfare, despite highest rates of kids in care

27%
Spent on addn support

Low average amount spent on additional support (most flexible category; could cover housing)

TANF Spending

- Basic Assistance — 11%
- Work Activities — 14%
- Work Supports — 1%
- Child Care — 15%
- Admin & Systems — 11%
- Tax Credits — 5%
- Pre-K — 12%
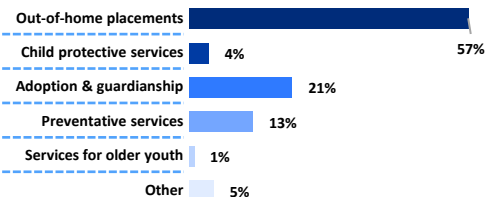- Child Welfare — 11%
- Other Services — 20%
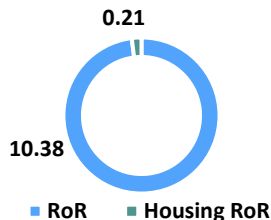
Case Study | West Virginia

Child Welfare in West Virginia

- With very high rate of substance abuse, West Virginia experiences high and growing rates of removal and prioritizes substance abuse treatment for preventative services.
- WV also has among the highest rates of out-of-state placements due to its limited in-state foster care resources.
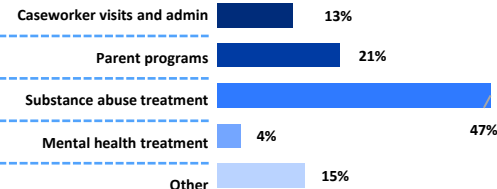- WV needs across-the-board support to counteract its high poverty rate and reduce removals in families with limited resources.

- High RoR
- High Housing RoR
- High Reunification Rate
- High Adoption Rate

Child Welfare Spending

Out-of-home placements	57%
Child protective services	4%
Adoption & guardianship	21%
Preventative services	13%
Services for older youth	1%
Other	5%

Rates of Removal

0.21

10.38

■ RoR ■ Housing RoR

Preventative Services Funding

Caseworker visits and admin	13%
Parent programs	21%
Substance abuse treatment	47%
Mental health treatment	4%
Other	15%

RECOMMENDATIONS

1. Advocate for utilizing a measure of FFPSA funding for basic family assistance and housing support services.

2. Increase portion of child welfare funding for preventative services, especially basic assistance and parent programs.

3. Reduce and eventually eliminate out-of-state placements; children placed out-of-state are less likely to be reunified, and out-of-state facilities have faced repeated instances of neglect and abuse.

"We're talking about lost generations. We're talking about the future economy of the state."
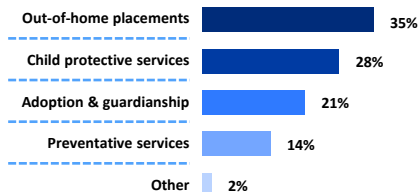- *West Virginia social worker*
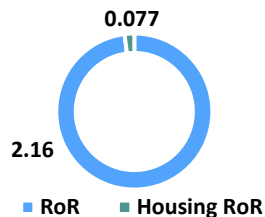
Case Study | Pennsylvania

Child Welfare in Pennsylvania

- Pennsylvania is one of nine county-administered child welfare systems in the country, meaning each county has its own administration and systems.

- PA has long struggled with high housing-linked removals, but in recent years, many counties are striving to reduce these rates through innovative housing support policies.

- Most housing removals happen in rural counties, not urban centers; these counties may not have as extensive resources or housing support.

🟢 Low RoR

🔴 High Housing RoR

🟢 High Reunification Rate

🟠 Low Adoption Rate

Child Welfare Spending

Out-of-home placements	35%
Child protective services	28%
Adoption & guardianship	21%
Preventative services	14%
Other	2%

Rates of Removal

0.077

2.16

■ RoR   ■ Housing RoR

Preventative Services Funding

Caseworker visits and admin	32%
Parent programs	53%
Substance abuse treatment	1%
Mental health treatment	5%
Financial supports	11%
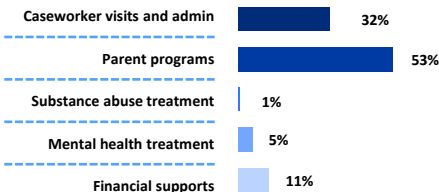
RECOMMENDATIONS

1. Support county-level housing agencies and welfare workers in understanding what housing resources and creative housing solutions are available for families without adequate housing, especially in rural counties.

2. Increase portion of preventative services funding that go to direct financial supports.

❝ "We've figured out that removing kids into care is more expensive than finding a way to house them. We're getting creative; moving parents in with grandparents, moving families in with families."
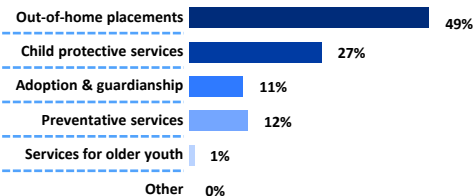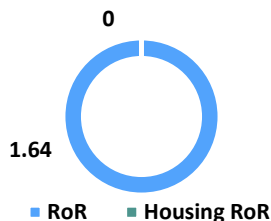- *Pennsylvania social worker* ❞

Case Study | Louisiana

Child Welfare in Louisiana

- Louisiana has a similar demographic and income profile to states in the high RoR/high housing RoR cluster, but both its rates are low; its foster care system is effectively preventing removals despite high poverty rates

- LA ranks very low in children well-being (49th) and consistently underfunds its child welfare agency compared to other states.

- Perhaps in part due to limited state funding, it is a national leader in percentage of SSBG funding going to children and youth services (83%).

🟢 Low RoR

🟢 Low Housing RoR

🟢 High Reunification Rate

🟠 Low Adoption Rate

Child Welfare Spending

Out-of-home placements	49%
Child protective services	27%
Adoption & guardianship	11%
Preventative services	12%
Services for older youth	1%
Other	0%

Rates of Removal

0

1.64

🟦 RoR 🟩 Housing RoR

Preventative Services Funding

Caseworker visits and admin	14%
Parent programs	39%
Substance abuse treatment	24%
Mental health treatment	24%
Financial supports and other	0%
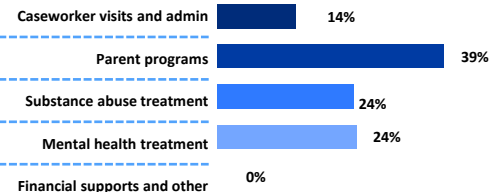
RECOMMENDATIONS

1. Explore closer partnerships with Louisiana child welfare workers and agencies to understand the types of housing-supportive resources they offer families with inadequate housing.

2. Consider replicating Louisiana's "Improving Access to Child Care for Homeless Louisiana Families" Act, which has been effective at helping homeless or precariously housed families access housing-supportive resources, childcare, and other key services that help keep children from out-of-home care.
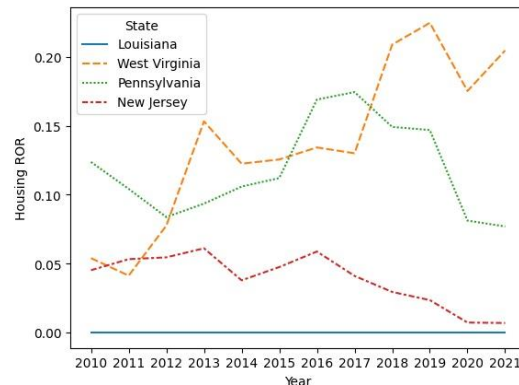
Trend Analysis

Change in RoR Over Time

Change in Housing RoR Over Time
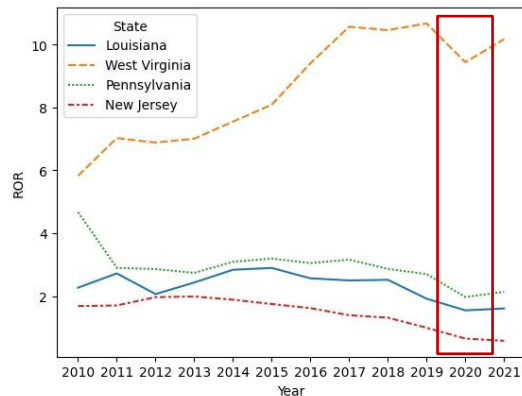
- COVID impacts led to significant decreases in removals in all states, as child welfare agencies struggled to reach as many families under pandemic conditions
- West Virginia has seen rapidly increasing removals as the opioid crisis has accelerated

- Many Pennsylvania county agencies are prioritizing reducing removals due to housing
- New Jersey has also seen significant decreases in removals due to housing over the last ten years

Outline

Reunification Rates by State
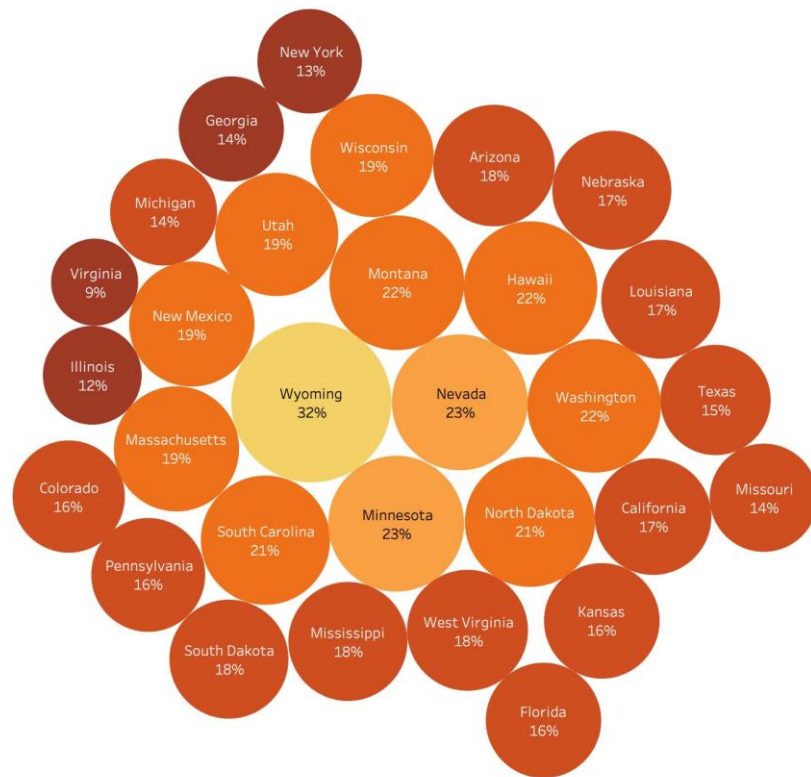
Initial Insights

- Overall, rates of reunification are low; on average, less than 20% of children are reunified with their families each year
- States with high rates of removal tend to also have higher rates of reunification
- Data is not available explaining why a child could not be reunified

Predicting Child Reunification

- **Reunification likelihood** refers to the probability or chance that a child in foster care will be successfully reunified with their parents or principal caretaker(s) after a period of time.
- Used XGBoost, CatBoost, and Random Forest models to analyze child reunification.
- The dataset had an imbalance of 80% majority class and 20% minority class, corrected by undersampling. The XGBoost model performed slightly better than the other models, possibly due to its superior regularization and feature selection capabilities.
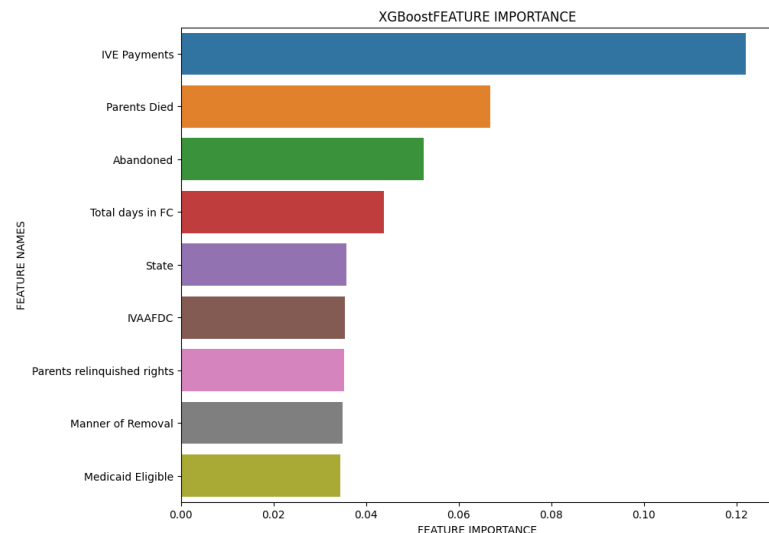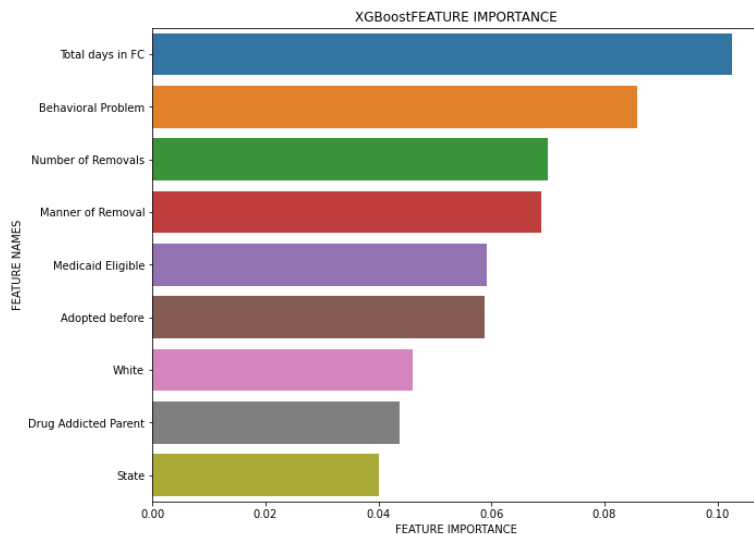
| Model Performance	
F1 Score	.71
ROC AUC Score	.70
Precision Score	.69
Recall Score	.73

XGBoostFEATURE IMPORTANCE
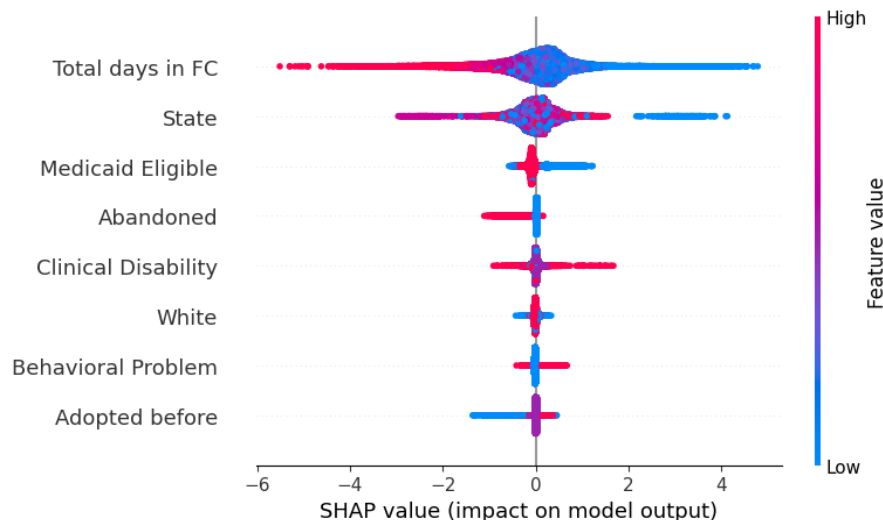
Predicting Child Adoption

- **Adoption likelihood** refers to the probability or chance that a child in foster care will be successfully adopted by relatives, foster parents, or other unrelated individuals.
- Adoption is a goal of the child welfare system when reunification with the child's birth family is not possible or not in the child's best interest. Adoption provides a permanent and stable home for the child and legal rights and responsibilities to the adoptive parents.
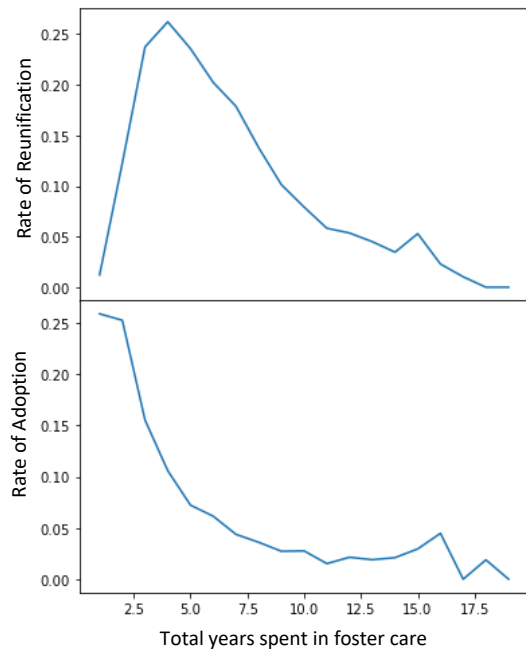
Model Performance	
F1 Score	.82
ROC AUC Score	.80
Precision Score	.77
Recall Score	.87

XGBoostFEATURE IMPORTANCE
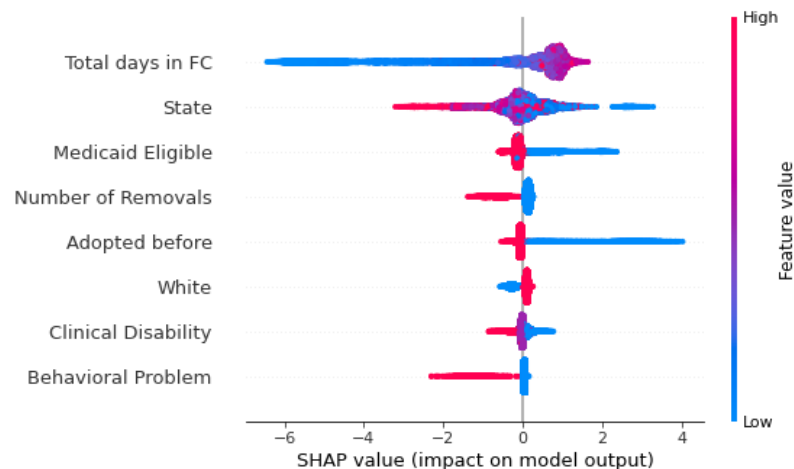
Key Findings

Adoption and Reunification Rates

Increasing Reunification Likelihood

- Low-income children eligible for Title IV-E and Medicaid payments are less likely to be reunified, reinforcing poverty's role in family's ongoing separation

Increasing Adoption Likelihood

- White children are more likely to be adopted than children of other races
- Children with behavioral problems are significantly less likely to be adopted
- Children who have experienced a failed adoption before are also less likely to be adopted

Inadequate housing is not a significant predictor in either model

Title IV-E AA Funding

- Title IV-E AA is federal funding provided to families who adopt children from foster care that meet certain criteria (the primary one being that they came from a low-income household)
- Due to how the Title IV-EE funding variable was derived in the AFCARS dataset, it was not possible to include as a factor in the final model
- However, eligibility for Title IV-E AA funding is highly correlated with future adoption, demonstrating the effectiveness of this program to incentivize adoption

Outline

Family First Prevention Services Act of 2018

Federal policy change designed to shift the focus of the child welfare system toward keeping children with their families instead of relying on out-of-home care

Major Areas Funded by FFPSA

- Mental health
- Substant abuse treatment
- Kinship care navigation
- In-home parent skill-based programs

Implications for Reducing Housing Rates of Removal

- FFPSA allows states to use prevention services funds for "services and programs to improve parenting skills, including parent education, and to strengthen and support families, such as respite care and crisis intervention services." This could include basic family assistance and connecting families with housing resources.

- States are still implementing changes from FFPSA, and the data **has not caught up** to potential benefits from this policy change.

- Supporting states to take full advantage of FFPSA funding based on their unique needs is critical; state with high housing RoRs should consider allocating FFPSA funding for housing-supportive services.
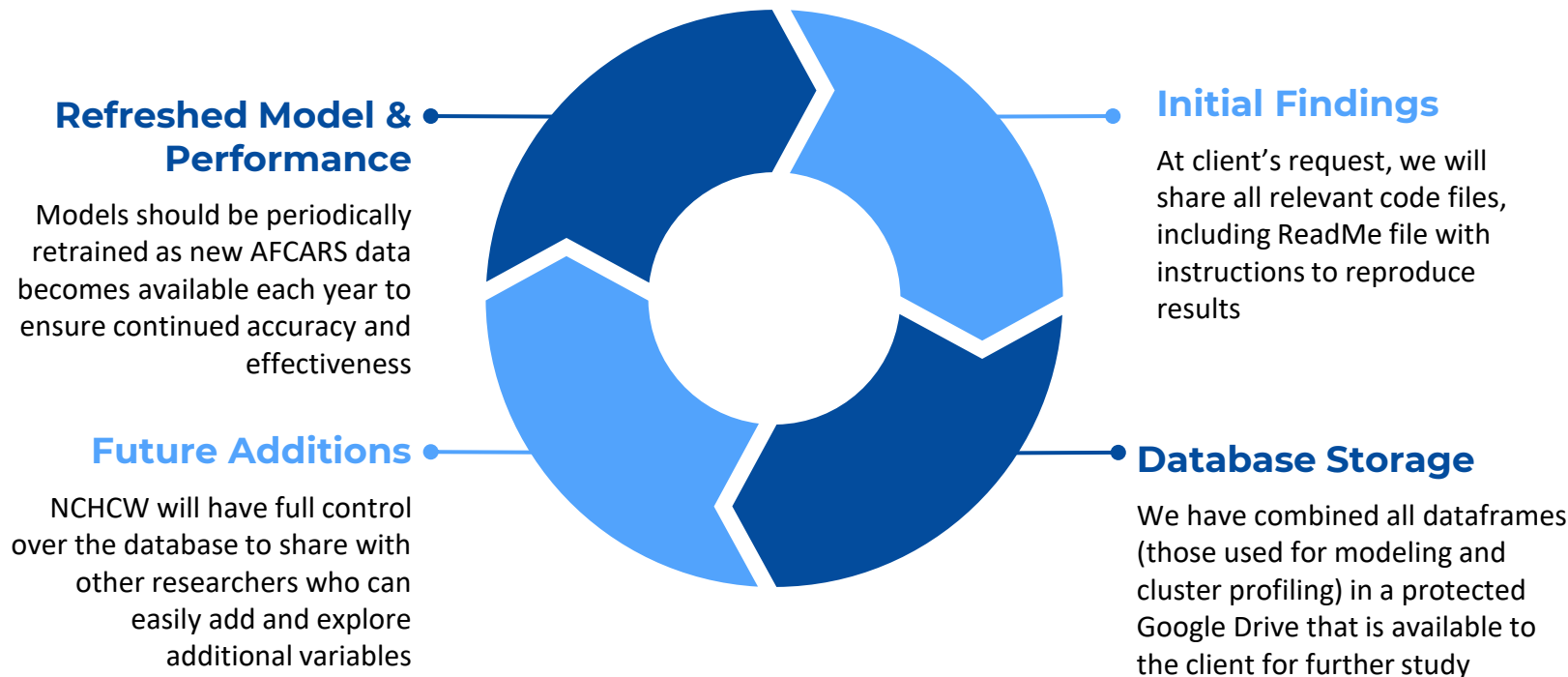
Family Unification Program
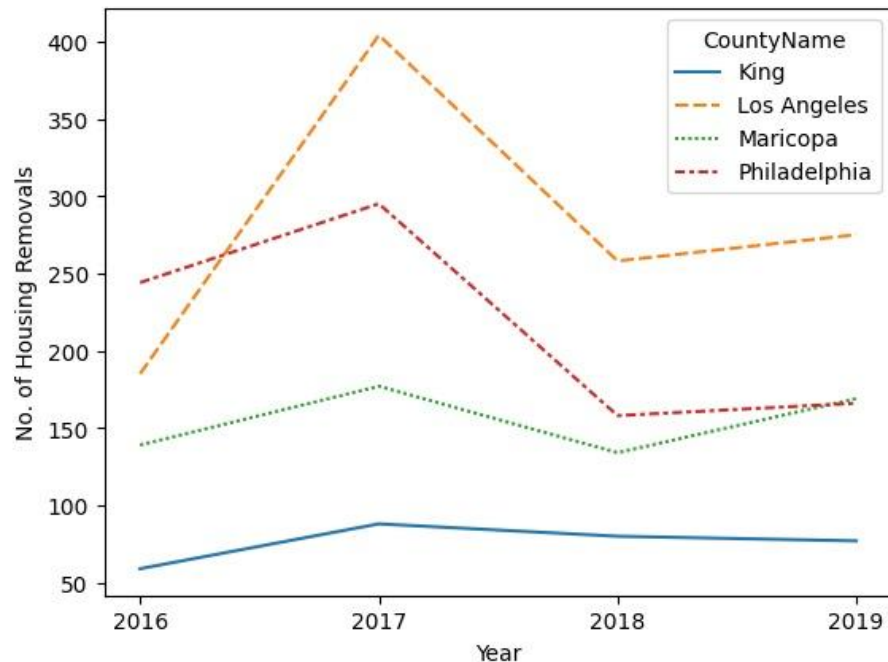
- The Family Unification Program is a program where Housing Choice Vouchers are specifically designated for families facing imminent placement of children in out-of-home care, or families attempting to reunify with their children.
- Local Public Housing Authorities (PHAs) must apply to receive these vouchers; 98 PHAs received them between 2017 – 2019.
- Every county that received FUP vouchers in this time period and had enough foster care records to aggregate on county code experienced a decline in housing-attributable removals after receiving the vouchers.

Priority Recommendations

Organization	Recommendations	Impact
NCHCW	• Focus resources and advocacy with state and county welfare agencies from states with high housing RoRs • Provide resources and information for PHAs in high housing RoR states to apply for FUP Housing Choice Vouchers	• Improve housing rates of removal in the states who are struggling the most with removals due to inadequate housing
HUD	• Expand and renew FUP Housing Choice Vouchers	• Provide direct housing assistance for families facing imminent separation for inadequate housing
HHS	• Expand eligibility of Title IX-EAA payments to more children waiting for adoption	• Further incentivize adoption for children where reunification is not possible
Child Welfare Agencies	• Increase portion of TANF and SSBG funding going to basic assistance • Prioritize spending and programming transition under FFPSA to increase preventative services, and include housing supportive resources as part of those services	• Ensure money is available for basic assistance for families, not just child welfare spending for kids in care, to get poverty-stricken families the support they need to keep their families together
State Legislatures	• Advocate for statutes preventing the removal of children from their families for inadequate housing	• Encourage welfare agencies to prioritize housing supports over removal

Maintaining the Models

Refreshed Model & Performance

Models should be periodically retrained as new AFCARS data becomes available each year to ensure continued accuracy and effectiveness

Initial Findings

At client's request, we will share all relevant code files, including ReadMe file with instructions to reproduce results

Future Additions

NCHCW will have full control over the database to share with other researchers who can easily add and explore additional variables

Database Storage

We have combined all dataframes (those used for modeling and cluster profiling) in a protected Google Drive that is available to the client for further study

Conclusions

- It is possible to accurately predict **adoption likelihood** and **reunification likelihood** based on a foster child's pre-adoption or pre-unification attributes.

- Housing as a reason for removal is not a highly predictive factor for reunification or adoption rates; however, we can see the importance of additional federal funding to increase adoption rates for children whose case goal is adoption.

- NCHCW can and should focus advocacy and interventions on the **11 states** with high housing-related removal rates.

- There is statistical evidence supporting the efficacy of specific policy interventions to reduce rates of removal into foster care for inadequate housing.

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