Racial Discrimination in Child Protection[1]

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[1]Views expressed do not represent those of Michigan CPS, the Federal Reserve Bank of New York or the Federal Reserve System.

Child Protective Services (CPS)

- CPS investigates reported cases of child maltreatment, temporarily placing kids in foster care when future maltreatment risk is deemed high
  - High-stakes decision w/potentially large effects on children/families (Currie & Spatz Widom, 2010; Doyle, 2007; Doyle & Aizer, 2018; Gross & Baron, 2022)

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- CPS contact is both common and unequal
  - 28% of white children experience an investigation by age 18. 53% of Black children (Kim et al, 2017)
  - 5% of white children spend time in foster care by age 18. 10% of Black children (Wildeman & Emanuel, 2014)

Widespread Concerns of Racial Discrimination in CPS...



Racial Discrimination in Child Welfare Is a Human Rights Violation—Let's Talk About It That Way



The New York Times

Is N.Y.'s Child Welfare System Racist? Some of Its Own Workers Say Yes.

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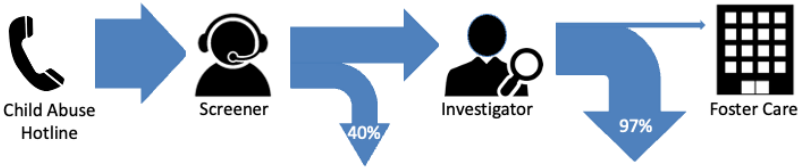
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... but disparities could also reflect underlying differences in need

Research Agenda

▶ **Step 1:** the first quasi-experimental study of racial discrimination in foster care placement decisions (focusing on Michigan CPS)

- Leverage investigator assignment to estimate placement disparities among children with identical potential for future maltreatment
- Leverage additional screener assignment to study how discrimination arises/perpetuates through the multi-phase system



Research Agenda

- **Step 2:** an analysis of appropriate policy response(s)
  - Extend quasi-experimental tools to measure discrimination in algorithmic recommendation tools (increasingly popular in CPS)
  - Discuss measurement and use of race identifiers in CPS systems



Los Angeles County
Department of Children and
Family Services

Open Referrals by days Open

referral_id	Referral Date	Response Time	Risk Flag	Days Open	Assigned Worker	Date of Face-to-Face Contact
5562	12/5/2019	immediate		27	CSW 1	12/5/2019
4445	12/7/2019	immediate		25	CSW 2	12/7/2019
5559	12/16/2019	immediate		16	CSW 2	12/16/2019
5556	12/18/2019	immediate	Complex Risk	14	CSW 2	12/18/2019

Roadmap

1. Empirical Strategy
2. Main Findings
3. Policy Response
4. Conclusion

Defining Racial Discrimination

▶ **CPS goal**: place children in foster care when the potential for future maltreatment in the home is high

▶ Discrimination measured by **unwarranted disparities (UDs)**: racial disparities in placement rates conditional on future maltreatment potential

- Aligns with notions of disparate impact / algorithmic unfairness
- For now, take racial categorization as given

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▶ We proxy subsequent maltreatment by a child's re-investigation for alleged maltreatment in the home within 6 months (Y_i^*)

- Cleanest (though still imperfect) proxy; results are robust to others
- Selection challenge: Y_i^* is only observed among kids left at home

Formalizing Unwarranted Disparity

- **UD in investigator j's decisions if:**

$$\Delta_{jy} \equiv E[D_{ij} \mid R_i = b, Y_i^* = y] - E[D_{ij} \mid R_i = w, Y_i^* = y] \neq 0$$

Key:

i child

j investigator

$D_{ij} \in \{0, 1\}$ foster care placement

$R_i \in \{b, w\}$ child race

$Y^* \in \{0, 1\}$ maltreatment potential

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- **Two types of UD:**
  - No maltreatment potential ($Y_i^* = 0$): Δ_{j0}
  - With maltreatment potential ($Y_i^* = 1$): Δ_{j1}

- **Aggregate UD**: case-weighted avg across investigators (for now, conditioning on screening-in)

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- **Challenge:** Y_i^* is unobserved when i is placed

- **Solution:** Estimate mean risk $E[Y_i^* | R_i = r] \equiv \mu_r$ and use this to address omitted variables bias

Key:

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j investigator

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Identification Strategy

▶ **Identification at Infinity** (Arnold et al. 2022): Quasi-random assignment to a hypothetical "supremely lenient" investigator who leaves all children at home would identify race-specific maltreatment risk μ_r

- No selective observability; rates generalizable to all race-r children

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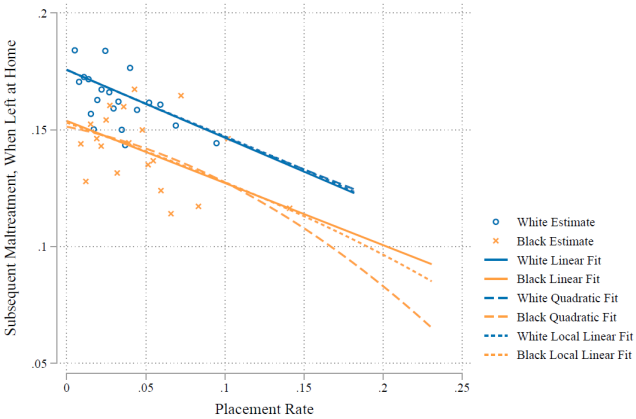
▶ **Implementation:** Extrapolate at-home maltreatment rates across quasi-randomly assigned investigators with low placement rates

- Credible estimates of μ_r when placement rates are low (3% overall)
- Does not require monotonicity / a model for placement decisions
- Also construct non-parametric bounds, without extrapolation

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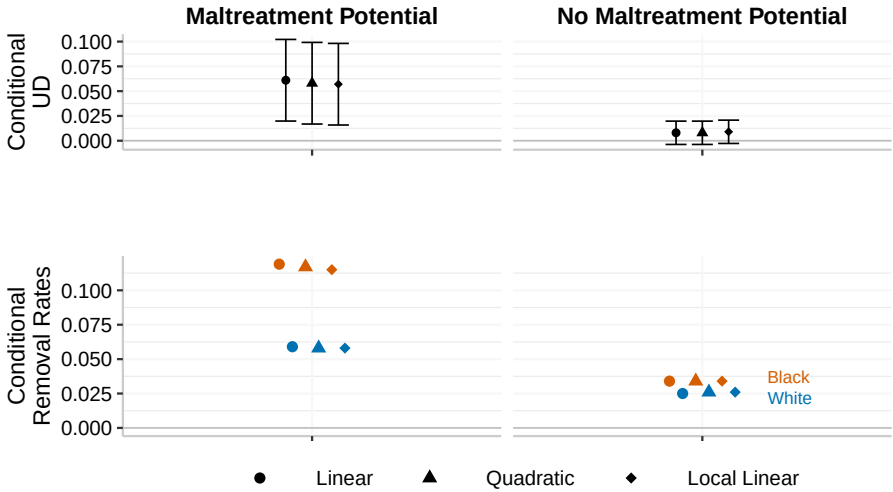
Placement and Future Maltreatment Rates by Race (μ_r)



Binned scatter of 699 investigators, each investigating 200+ cases from 2008 to 2016

Estimates adjust for ZIP code and year fixed effects.

Unwarranted Disparity by Maltreatment Potential (Δ_{jy})



Interpretation

▶ Findings add nuance to ongoing policy discussions (e.g., UN, ABA) which focus on the "over-placement" of Black children

- UD is concentrated among high-risk cases, where foster care improves short- and long-term outcomes for children (Gross and Baron, 2022)

Interpretation

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- UD is concentrated among high-risk cases, where foster care improves short- and long-term outcomes for children (Gross and Baron, 2022)

▶ While Black children are placed at higher rates than white children with identical risk, white children may be harmed by "under-placement"

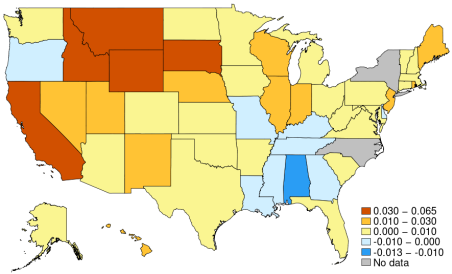
- Disproportionate leniency afforded to white parents may, perhaps counterintuitively, lead to worse outcomes for their children

Additional Results

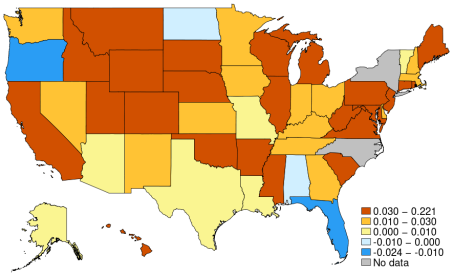
- **Robustness** to alternative proxies of maltreatment potential →
- **Similar findings** with extrapolation-free bounds →
- **No heterogeneity** by child sex / age or by abuse vs. neglect →
- **Driven** by racial bias, not statistical discrimination/non-race traits →
- **Racial concordance**: UDs concentrated among white investigators →
- **Similar patterns** across other US states (using more limited data) →

Main Findings Are Not Unique to Michigan CPS

No Maltreatment Potential

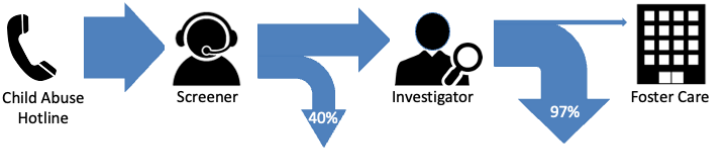


Maltreatment Potential



Note: UD estimates based on non-parametric bounds, using national (NCANDS) data

A Systems-Based Analysis of UDs in Foster Care



▶ We next extend our approach to study how discrimination arises/perpetuates through the multi-phase CPS system

- Leverages quasi-random screener assignment (a new source of variation in this setting) alongside investigator assignment
- Novel Kitagawa-Oaxaca-Blinder decomposition (Bohren et al. 2022)

Systems-Based Analysis: Findings

- **Main findings hold across both phases**
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  - Investigators place few $Y_i^* = 0$ kids, mitigating UD in low-risk calls
  - But investigators amplify screener UDs in high-risk cases
- **Screeners account for up to 14%** of potential "under-placement" of white children (i.e. the overall $Y_i^* = 1$ UD)
  - Addressing discrimination requires a systemic accounting for disparities in both phases...

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Algorithmic Counterfactuals

- Algorithmic guidance systems are increasingly deployed in CPS, partly to promote racial equity
  - Can such a policy reduce the UDs we find in Michigan CPS?

Algorithmic Counterfactuals

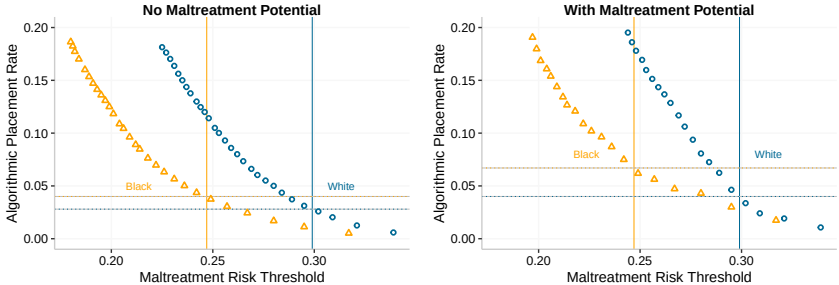
▶ Algorithmic guidance systems are increasingly deployed in CPS, partly to promote racial equity

- Can such a policy reduce the UDs we find in Michigan CPS?

▶ We will extend our empirical framework to estimate UDs for algorithmic placement decisions, building on Arnold et al. (2021)

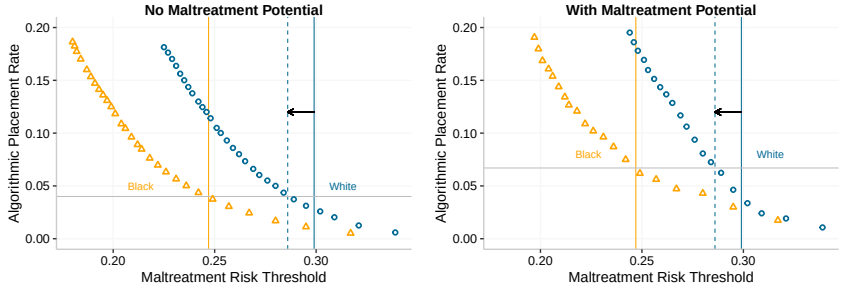
- Explore both race-blind and race-conscious algorithms, varying risk thresholds for placement
- Systems-based analysis: how can algorithmic placement decisions offset initial disparities in (human) screening decisions?

Reducing UDs with Algorithmic Guidance (Preliminary)



Note: vertical lines are risk thresholds for status quo race-specific placement rates

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Race Measurement

- Screeners and investigators infer a child's race from different sources
  - Race coding seems stable across time/investigators within CPS
  - Plan to study coding mismatch between CPS and other administrative sources (e.g. educational records)

- With multi-dimensional race coding of children, decisions are needed to map into fewer racial buckets
  - Will consider how appropriate policy responses change with different codings or more granular race measurement

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Conclusion

- **The first quasi-experimental analysis of racial discrimination in foster care placement decisions**
  - Rich data & low placement rates allow for precise estimates of discrimination and heterogeneity analyses
- **The first quasi-experimental study of how unwarranted disparity is mitigated/amplified across a multi-phase system**
  - Novel variation (two-step quasi-randomization) solves OVB problems
- **Next steps: formulating appropriate policy responses**
  - Goal: framework for addressing discrimination in multi-phase systems

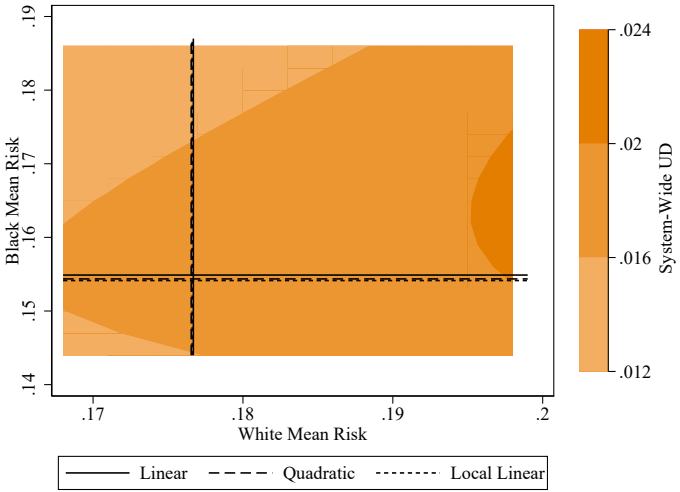
Thank You!

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Alternative Measures of Maltreatment ←

	(1) Baseline	(2) Inv. within 5 months	(3) Inv. within 4 months	(4) Inv. within 3 months	(5) Inv. within 2 months	(6) Confirmed victim within 6 months	(7) Abuse inv. within 6 months	(8) Placed within 6 months
				Panel A: Mean maltreatment risk by race				
Black children	0.154***	0.131***	0.110***	0.086***	0.059***	0.039***	0.017***	0.004***
	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)
White children	0.177***	0.153***	0.129***	0.099***	0.067***	0.049***	0.019***	0.005***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
				Panel B: System-wide UD				
Mean	0.017***	0.016***	0.016***	0.016***	0.015***	0.015***	0.016***	0.016***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
N	699	699	699	699	699	699	699	699

Non-Parametric Bounds ←



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	(1) From 0.03 Placement Rate	(2) From 0.02 Placement Rate	(3) From 0.01 Placement Rate
	Panel A: Mean maltreatment risk by race		
Black children	[0.146***, 0.176***]	[0.148***, 0.168***]	[0.151***, 0.161***]
	(0.002,0.002)	(0.002,0.002)	(0.002,0.002)
White children	[0.167***, 0.197***]	[0.170***, 0.190***]	[0.173***, 0.183***]
	(0.001,0.001)	(0.001,0.001)	(0.001,0.001)
	Panel B: System-wide UD		
Mean	[0.014***, 0.020***]	[0.016***, 0.019***]	[0.016***, 0.018***]
	(0.002,0.002)	(0.002,0.002)	(0.002,0.002)
N	699	699	699

UDs Are Similar Across Subgroups ←

	(1) All Children	(2) Male Children	(3) Female Children	(4) Young Children	(5) Old Children	(6) Phy. Abuse	(7) Neglect
	Panel A: Mean maltreatment risk by race						
Black children	0.154***	0.156***	0.150***	0.154***	0.148***	0.140***	0.155***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.006)	(0.002)
White children	0.177***	0.174***	0.176***	0.196***	0.155***	0.145***	0.182***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.006)	(0.002)
	Panel B: System-wide UD						
Mean	0.017***	0.013***	0.015***	0.018***	0.011***	0.010**	0.015***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.005)	(0.002)
N	699	701	661	691	571	229	807

Hierarchical MTE Results ←

	(1) White Children	(2) Black Children	(3) Diff.
Mean Risk	0.216***	0.192***	0.024***
	(0.001)	(0.002)	(0.002)
Mean Marginal Outcome	0.929***	0.875***	0.053**
	(0.018)	(0.019)	(0.026)
Mean Signal Quality	4.579	3.049***	1.530
	(2.992)	(1.126)	(3.219)
Marginal Outcome Std. Dev.	0.178***	0.229***	-0.051**
	(0.019)	(0.014)	(0.022)
Number of investigators	699	699	–

UDs Not Driven by Non-Race Characteristics ←

	(1) Linear extrapolation	(2) Quadratic extrapolation	(3) Local linear extrapolation
	Panel A: Mean maltreatment risk by race		
Black children	0.140***	0.142***	0.140***
	(0.002)	(0.002)	(0.003)
White children	0.165***	0.153***	0.163***
	(0.002)	(0.002)	(0.003)
	Panel B: System-wide UD		
Mean	0.016***	0.016***	0.016***
	(0.001)	(0.001)	(0.001)
N	699	699	699

Racial Concordance in Unwarranted Disparity (Δ_{j1})

