Risk of Displacement Based on Neighborhood Level Socio-economic Factors Overtime Relates to Higher Depressive and Trauma Symptoms and Lower HIV Medication Adherence among Black Women Living with HIV in Miami, FL, USA

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BWLWH   Gentrification   Contribution   Outline   Spatial Econometrics   Methodology   Empirical Appl.   Conclusion
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Background

Background

- Black Women Living with HIV:
  - trauma, racism, HIV-related discrimination, sexism, and microaggressions are adverse experiences faced by Black Women Living With HIV (BWLWH) in the U.S.
  - BWLWH accounts for 64% of all new HIV diagnoses and Black individuals had a mortality rate of 43% among people living with HIV (PLWH) in the United States in 2018
  - 1 in 61 Black women are living with HIV compared to 1 in 490 Latino women or 1 in 1007 white women
  - this is due to intersectional systems of oppression that manifest at the neighborhood (e.g. housing), interpersonal (discrimination), and individual (mental health, health behaviors) levels to adversely impact the lived experiences of BWLWH

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Gentrification

Gentrification

- What is Gentrification?
    - the physical upgrading of neighborhoods and housing that accompanies an influx of wealthier residents
    - the process by which decline and disinvestments in marginalized neighborhoods are reversed

Gentrification

- *Economic benefits of reinvestment that comes with gentrification*:
  - generates more revenue (it expands the tax base)
  - better public services (infrastructure)
  - it creates attractive neighborhoods and hence provides basic amenities

BWLWH Gentrification Contribution Outline Spatial Econometrics Methodology Empirical Appl. Conclusion
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Gentrification

Displacement

- *Costs* of gentrification:
  - forced or involuntary movement of households from place of residence (displacement)
- Gentrification directly leads to displacement caused by rising rents, evictions, changes in the demographics of respective neighborhoods
  - negatively impacts individual's health outcomes (overlooked in the literature)

Contribution

- The current study:
  - examines how the "risk of displacement" is important in explaining variations in health outcomes of BWLWH
  - incorporates spatial econometrics to examine the influences of the characteristics of neighboring areas on health outcomes

BWLWH   Gentrification   Contribution   Outline   Spatial Econometrics   Methodology   Empirical Appl.   Conclusion
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outline

Outline for the rest of the presentation

1. Empirical Strategy
2. Results
3. Conclusion

BWLWH Gentrification Contribution Outline **Spatial Econometrics** Methodology Empirical Appl. Conclusion
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Spatial

Spatial Analysis

- Theoretical and empirical methodology designed to encapsulate the effects of potential geographic dependencies and their influences
- Important in explaining variation in health outcomes
- Relevant for policy designs to reduce health disparities

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Model

The Model

- The general model,

$$
\begin{aligned}
D_i &= f(G_i, S_i) + v_{1i} \text{ for } i = 1, \ldots, n, \quad (1) \\
H_i &= f(D_i, Z_i) + v_{2i} \text{ for } i = 1, \ldots, n. \quad (2)
\end{aligned}
$$

- D_i measures the risk of displacement
- G_i measures the impact of gentrification
- S_i measures the spatial influence of neighboring communities
- H_i is individual's health outcomes (continuous or discrete)
- Z_i is individual's characteristics (Age)

The model...

- The v's are random error terms
- $cov(v_1, v_2) \neq 0$ (allows for conditional correlation)
- The models are estimated jointly using the technique of Maximum Likelihood while accounting for robust standard errors

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Empirical

Data

- A cross-sectional data of 151 BWLWH residing in a metropolitan area in South Florida were recruited between October 2019 and January 2020 for the MMAGIC Study
- For baseline visit, participants completed (1) informed consent and (2) questionnaires using the Research Electronic Data Capture (REDCap) such as a self-report measure on medication adherence, the Post Traumatic Stress Disorder Checklist and the Center for Epidemiological Studies Depression Scale
- Participants received a $75 stipend
- Merged ACS and Airbnb - neighborhood variables
- Computed percentage change (variables) for the period, 2014-2019

Results...

- Table 1,

    Table: Displacement and HIV Medication Adherence

Thresholds	0.3	0.4	0.5	0.6
Age	0.00891	0.0123	0.00959	0.00491
Crime	−0.000415	−0.000201	−0.000114	−0.000497
Constant	4.064***	4.106***	3.506**	4.772***
Risk of Displaced	−1.513*	−1.946***	1.078	−1.828***
Rho	0.834	0.919[a]	−0.461	0.756[a]
Wald Stat	3.457*	9.646***	1.006	4.601**

- ***, **, * represent 1%, 5% and 10% levels of sig., respectively. "a" is significantly different from zero
- Risk of Displacement: fees (+, p-value<5%), White's households (+, p-value<5%), Rent (+, p-value<10%), ROH(-, p-value<5%)

Results...

- Table 2,

Table: Displacement and PTSD Symptoms

Thresholds	0.3	0.4	0.5	0.6
Age	-0.391^{**}	-0.281	-0.367^{**}	-0.280
Crime	0.0129	0.0170	0.0156	0.0211
Constant	48.98^{***}	34.36^{***}	39.01^{***}	30.31^{***}
Risk of Displaced	-11.81	33.33^{***}	24.03^{**}	29.47^{***}
Rho	0.451	-0.888	-0.767^{a}	-0.824^{a}
Wald Stat	1.068	6.819^{**}	5.288^{**}	13.63^{**}

- ***, **, * represent 1%, 5% and 10% levels of sig., respectively. "a" is significantly different from zero

- Risk of Displacement: White's households ($+$, p-value$<$1%), Bachelor's degrees ($+$, p-value$<$10%), OWO($+$, p-value$<$10%), Neighboring Bachelor's degrees (-, p-value$<$1%)

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Empirical

Results...

- Table 3,

Table: Displacement and Depressive Symptoms

Thresholds	0.3	0.4	0.5	0.6
Age	-0.401^{***}	-0.375^{***}	-0.379^{***}	-0.363^{***}
Crime	0.0202^{**}	0.0228^{***}	0.0208^{*}	0.0206
Constant	41.27^{***}	36.60^{***}	39.41^{**}	38.89
Risk of Displaced	-2.050	13.69^{*}	1.292	0.240
Rho	0.361	-0.693	-0.0396	-0.137
Wald Stat	0.00469	2.558^{*}	0.0001	0.0007

- ***, **, * represent 1%, 5% and 10% levels of sig., respectively. "a" is significantly different from zero
- Risk of Displacement: White's households ($+$, p-value$<$10%)

Conclusion

- Gentrification creates a larger tax base (generating more revenue) but it adversely affects longtime residents via *force* relocation

- This paper empirically shows that the risk of displacement is important in explaining variations in HIV medication adherence, PTSD and depressive symptoms of BWLWH in South Florida

- Future policies and interventions should be developed to address the negative impact of displacement (gentrification)

BWLWH Gentrification Contribution Outline Spatial Econometrics Methodology Empirical Appl. **Conclusion**
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conclusion

THANK YOU

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