

# Social Determinants of Health Status, Access to Health Care and Health Care Utilization Among Ohioans with Medicaid and Ohioans Potentially Medicaid Eligible

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Brown

#OMAS2015

# BACKGROUND

- Social determinants of health (SDOH)
  - “the circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness.”<sup>1</sup>
- Health outcomes to be examined
  - Seven self-reported health related outcomes: fair/poor health; Mental Health-Related Impairment (MHI); no Usual Source of Care (USOC); ER is USOC; 3+ ER visits; 2+ hospitalizations; >12 months since doctor visit

# OBJECTIVES

- Examine the relationship between SDOH and health related outcomes for Ohioans, ages 19-64, with incomes  $\leq$  138% Federal Poverty Level (FPL)
- Examine Medicaid status, predictors of Medicaid status and outcomes associated with Medicaid status among Ohioans 19-64 with incomes  $\leq$  138% FPL

# METHODS

- Spatial regression modeling
  - Geographic analysis of outcomes by zip code and clusters
- Individual level modeling
  - Estimates the adjusted odds ratios of outcomes
- Data sources
  - 2008 Ohio Family Health Survey (OFHS), 2015 Ohio Medicaid Assessment Survey (OMAS), external sources

# METHODS

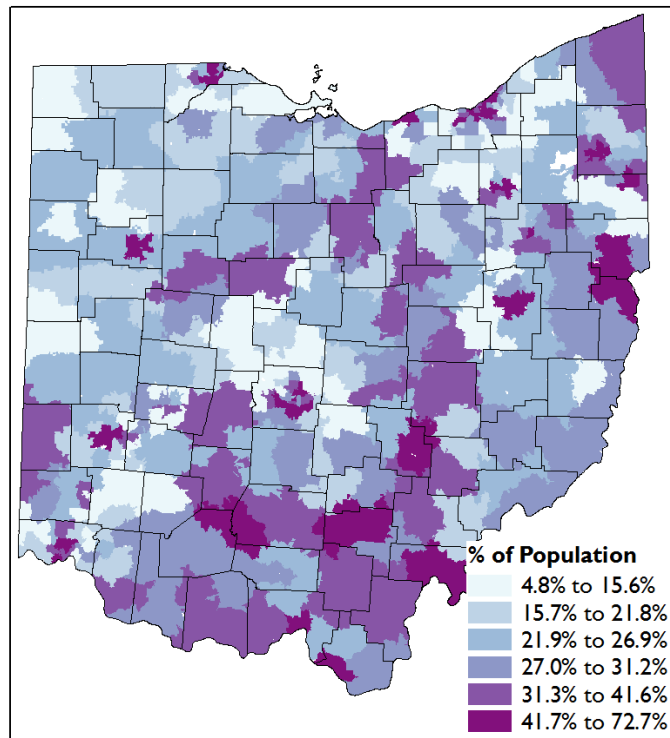
- Conceptual model: Dahlgren and Whitehead (1993) “Determinants of Health” policy rainbow<sup>2</sup>



## KEY FINDINGS: PREVALENCE RATES $\leq$ 138% FPL IN 2015

- Southeastern, Eastern, North Central and parts of the metropolitan counties have the highest concentration of the  $\leq$  138% FPL population.
- The  $\leq$  138% FPL population has much higher rates for each of the outcomes studied, except not having a doctor visit in the last 12 months.

# GEOGRAPHIC CONCENTRATION OF OHIOANS WITH INCOMES $\leq$ 138% FPL IN 2015



# PREVALENCE OF HEALTH STATUS INDICATORS FOR OHIOANS ,AGE 19-64: >138% FPL and ≤138% FPL IN 2015

Year Outcome	2015:>138%FPL 95% (CI)	2015:≤138% FPL 95% (CI)
Health: Fair/Poor	11.2% (10.7, 11.7)	32.0% (30.8, 33.3)
MHI	3.4% (3.1, 3.7)	13.4% (12.5, 14.4)
No USOC	9.1% (8.6, 9.6)	12.5% (11.6, 13.4)
USOC - ER	4.0% (3.6, 4.3)	15.1% (14.1, 16.2)
3+ ER Visits	3.2% (2.9, 3.5)	13.9% (13.0, 14.9)
2+ Hospitalizations	2.7% (2.4, 2.9)	7.3% (6.6, 8.0)
>12 Months Since Last Doctor Visit	11.1% (10.6, 11.7)	12.6% (11.7, 13.6)



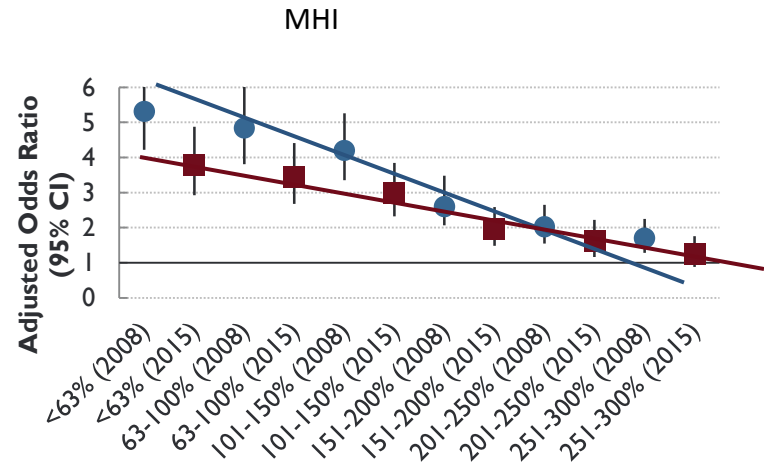
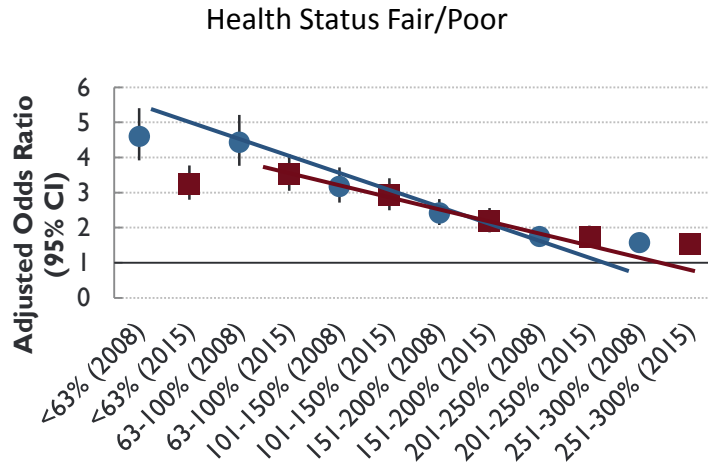
# KEY FINDINGS: SDOH PREDICTORS FOR HEALTH OUTCOMES

- The lower the income the greater the odds of poorer health outcomes.
- The impact of race and ethnicity varies across the outcomes.
- The lower the level of education the greater the odds of poor health outcomes.
- The impact of education on outcomes is less in the  $\leq 138\%$  FPL population.

## KEY FINDINGS: SDOH PREDICTORS FOR HEALTH OUTCOMES

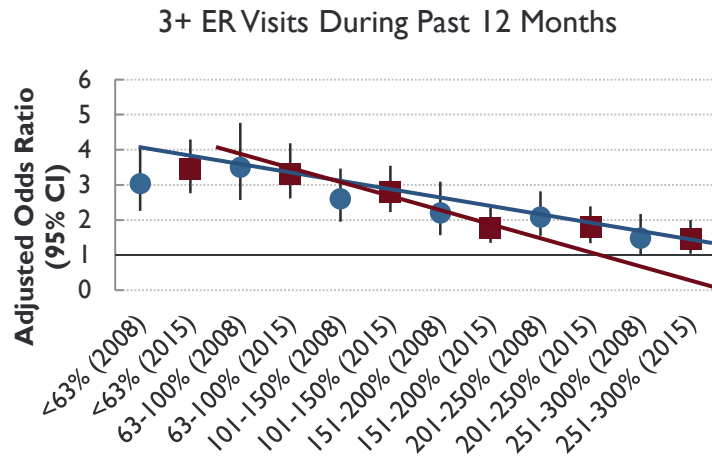
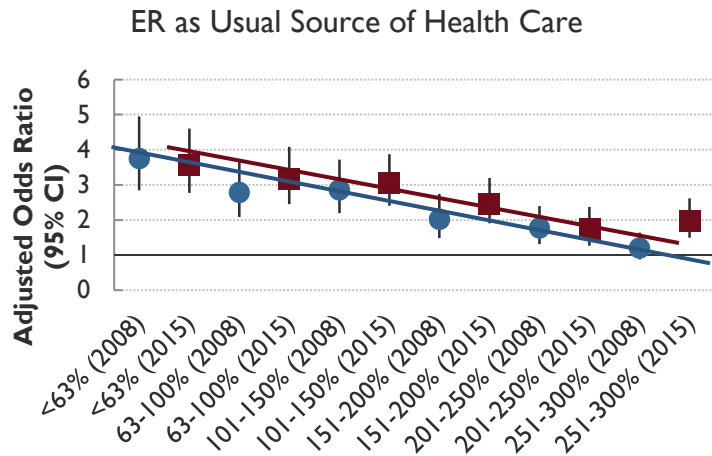
- Those who are working have much better odds for most of the outcomes studied.
- Those with private insurance have much lower odds of poor health outcomes.
- The impact of having private insurance is much less in the population with incomes  $\leq 138\%$  FPL.

# POVERTY AS A PREDICTOR OF FAIR/POOR HEALTH AND MHI FOR ALL OHIOANS IN 2008 AND 2015



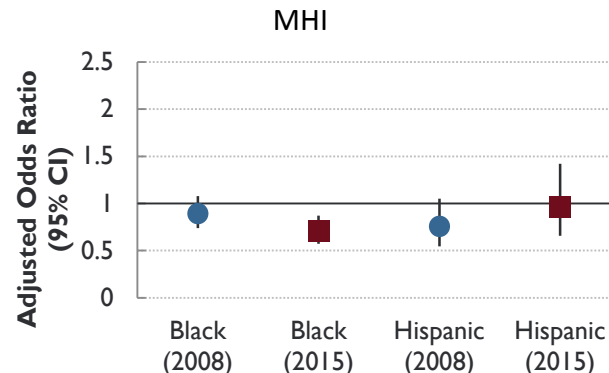
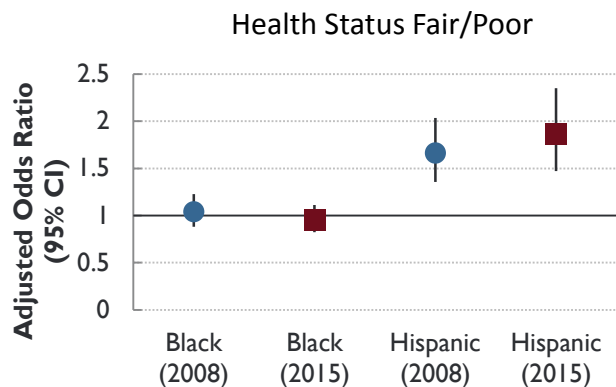
The reference group is Ohioans with incomes >300% FPL.

# POVERTY AS A PREDICTOR OF ER AS THE USUAL SOURCE OF HEALTH CARE AND 3+ ER VISITS DURING PAST 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015



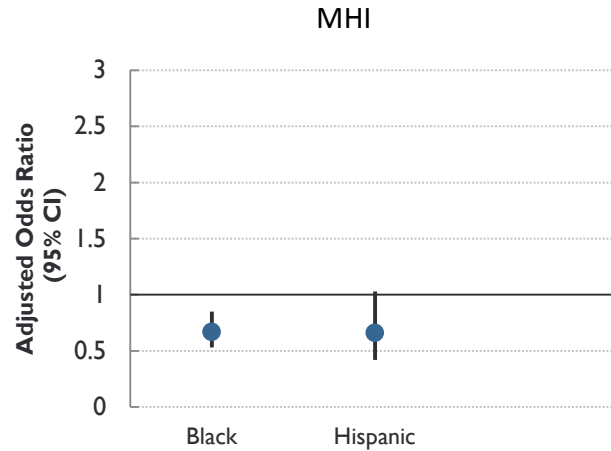
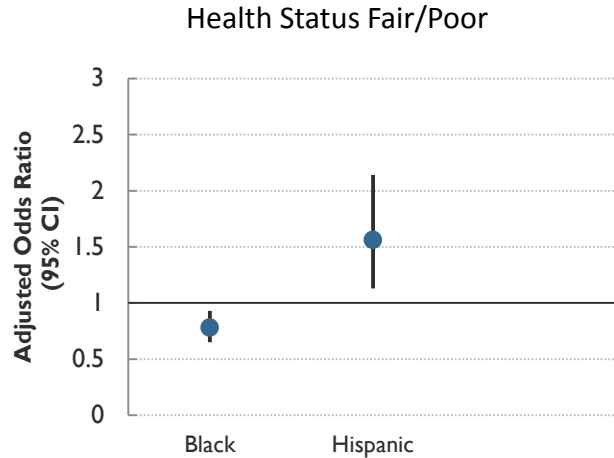
The reference group is Ohioans with incomes >300% FPL.

# RACE AS A PREDICTOR OF FAIR/POOR HEALTH AND MHI FOR ALL OHIOANS IN 2008 AND 2015



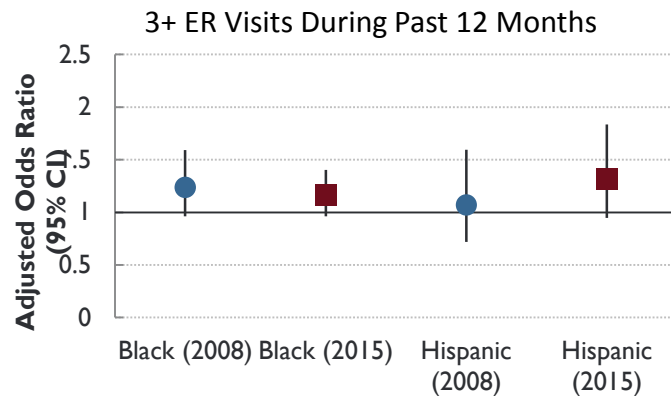
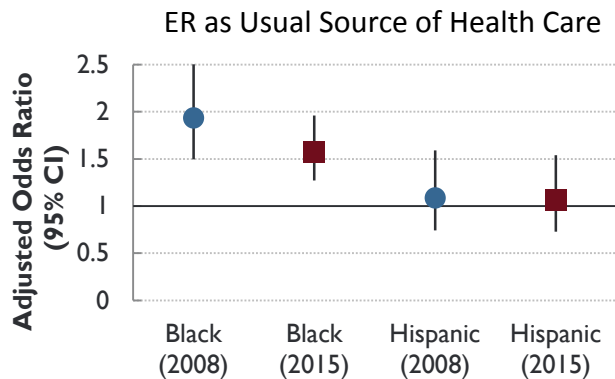
The reference group is White.

# RACE AS A PREDICTOR OF FAIR/POOR HEALTH AND MHI FOR OHIOANS $\leq$ 138% FPL IN 2015



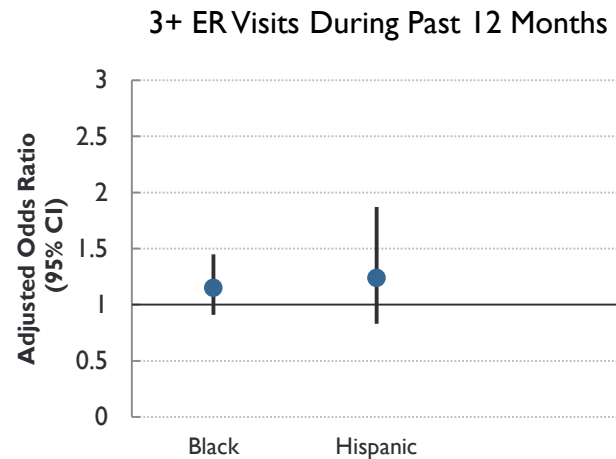
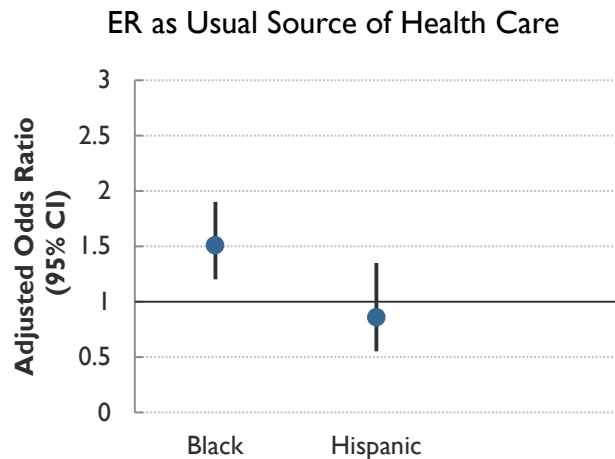
The reference group is White.

# RACE AS A PREDICTOR OF ER AS THE USUAL SOURCE OF HEALTH CARE AND 3+ ER VISITS DURING PAST 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015



The reference group is White.

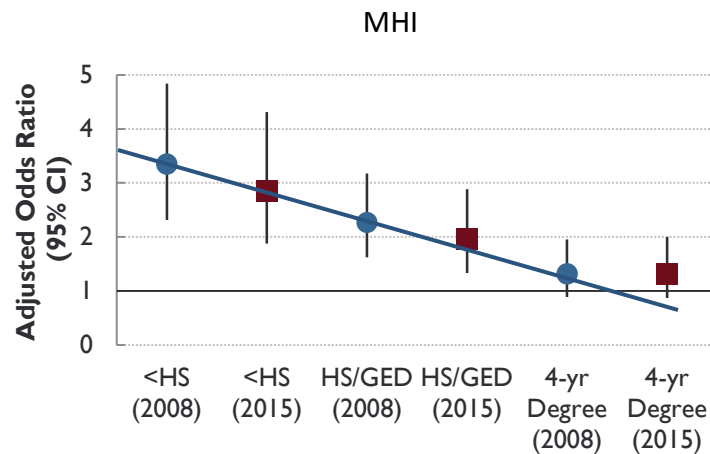
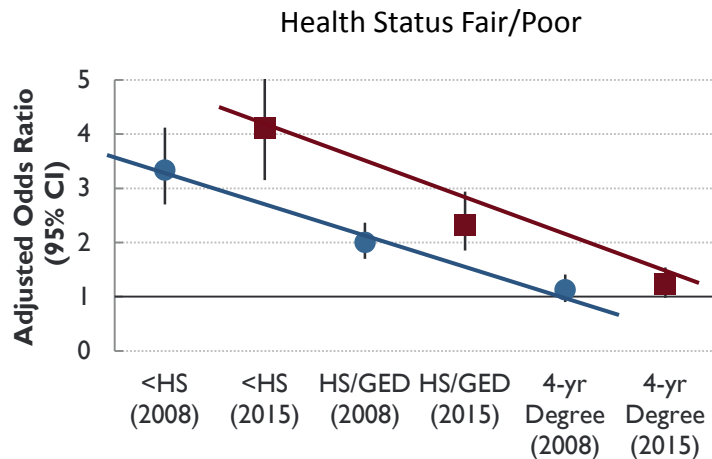
# RACE AS A PREDICTOR OF ER AS THE USUAL SOURCE OF HEALTH CARE AND 3+ ER VISITS DURING PAST 12 MONTHS FOR OHIOANS <138% FPL IN 2015



The reference group is White.

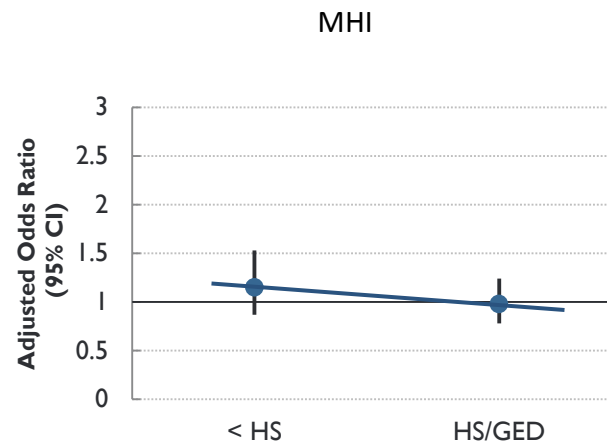
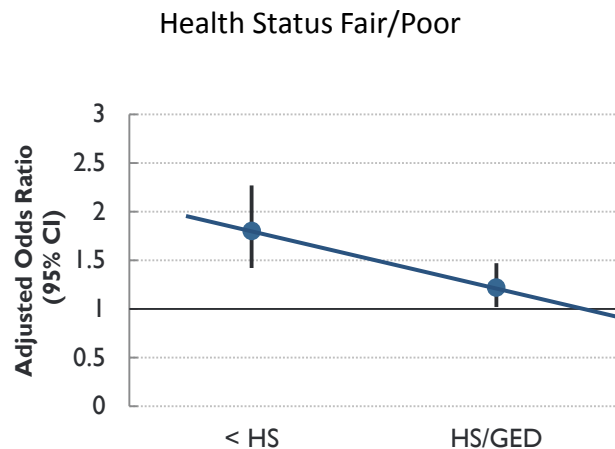


# EDUCATION AS A PREDICTOR OF FAIR/POOR HEALTH AND MHI FOR ALL OHIOANS IN 2008 AND 2015



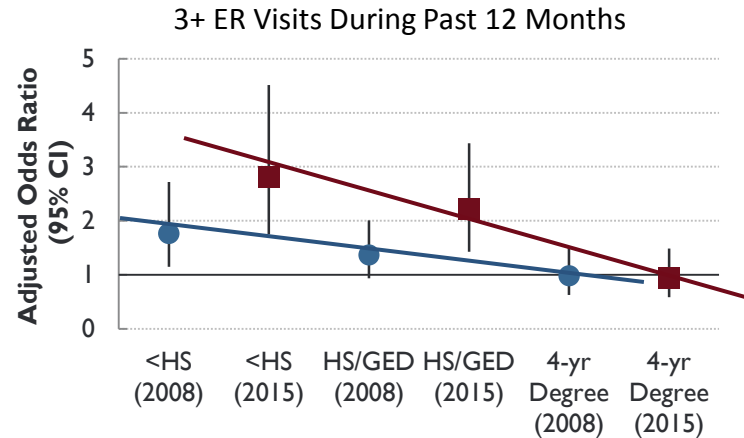
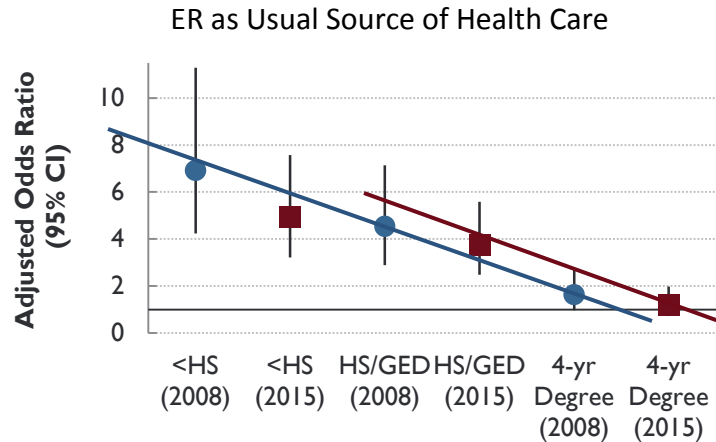
The reference group is advanced degree.

# EDUCATION AS A PREDICTOR OF FAIR/POOR HEALTH AND MHI FOR OHIOANS $\leq$ 138% FPL IN 2015



The reference group is any college degree

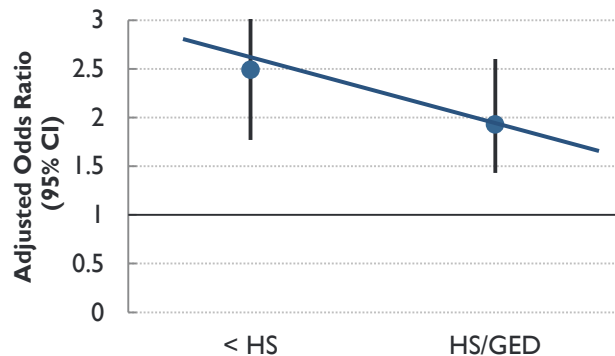
# EDUCATION AS A PREDICTOR OF ER AS THE USUAL SOURCE OF HEALTH CARE AND 3+ ER VISITS DURING PAST 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015



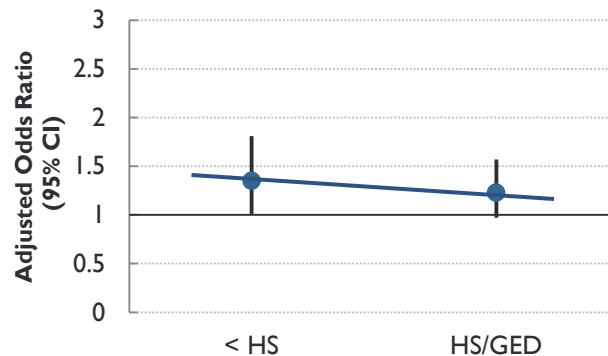
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# EDUCATION AS A PREDICTOR OF ER AS THE USUAL SOURCE OF HEALTH CARE AND 3+ ER VISITS DURING PAST 12 MONTHS FOR OHIOANS $\leq$ 138% FPL IN 2015

ER as Usual Source of Health Care

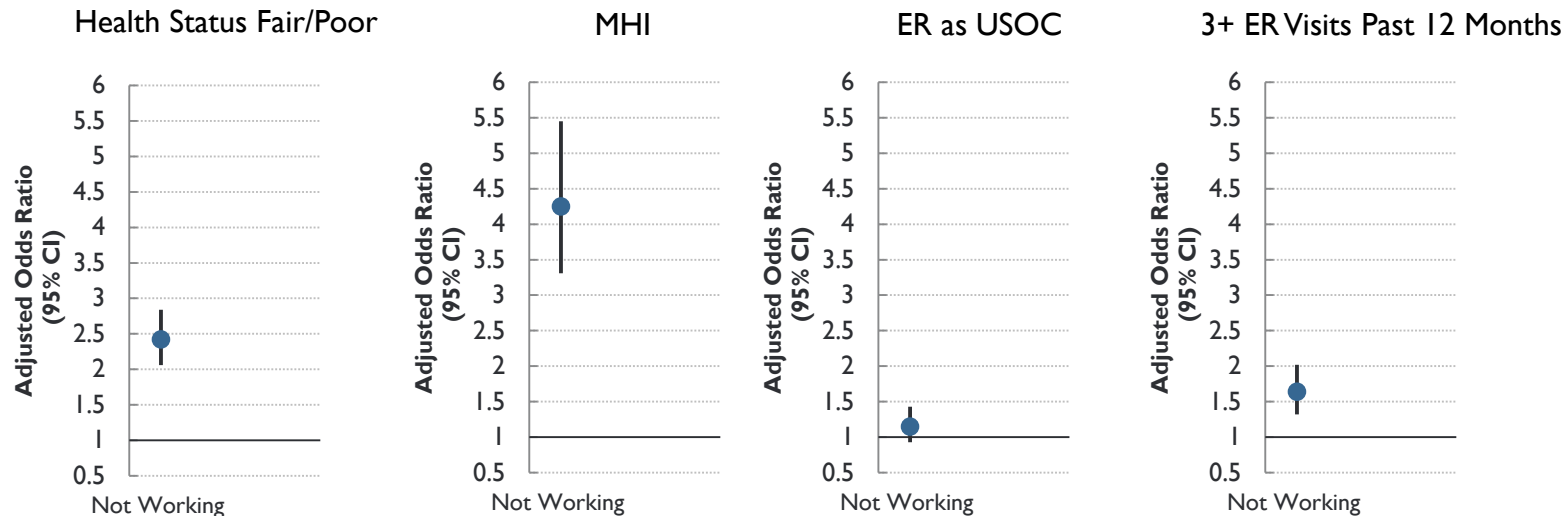


3+ ER Visits During Past 12 Months



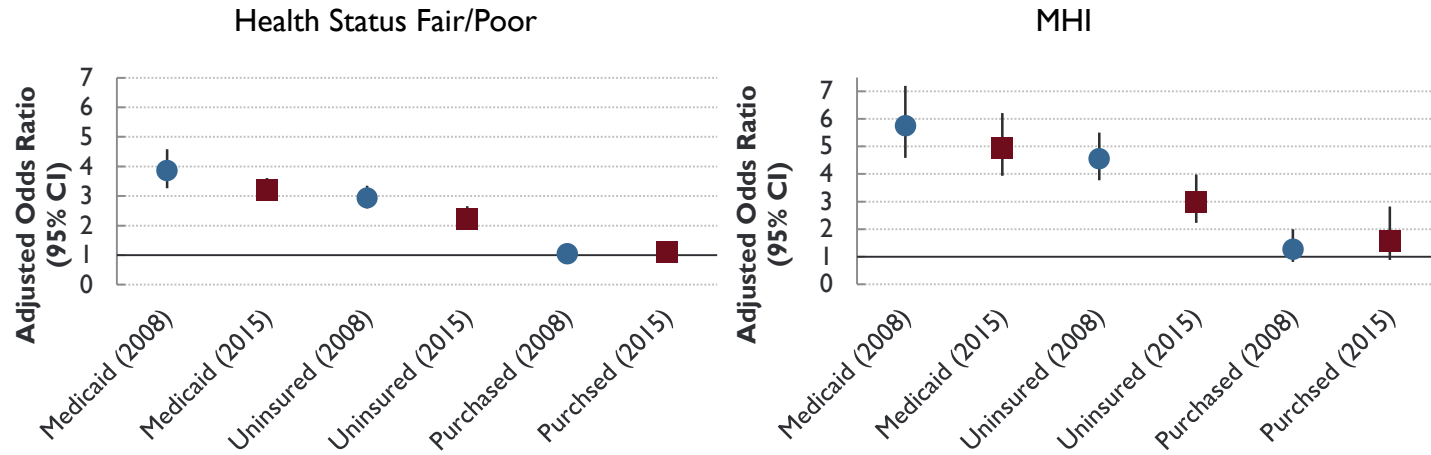
The reference group is any college degree.

# WORK STATUS AS A PREDICTOR OF FAIR/POOR HEALTH, MHI, ER AS USUAL SOURCE OF HEALTH CARE, 3 OR MORE ER VISITS FOR OHIOANS $\leq$ 138% FPL IN 2015



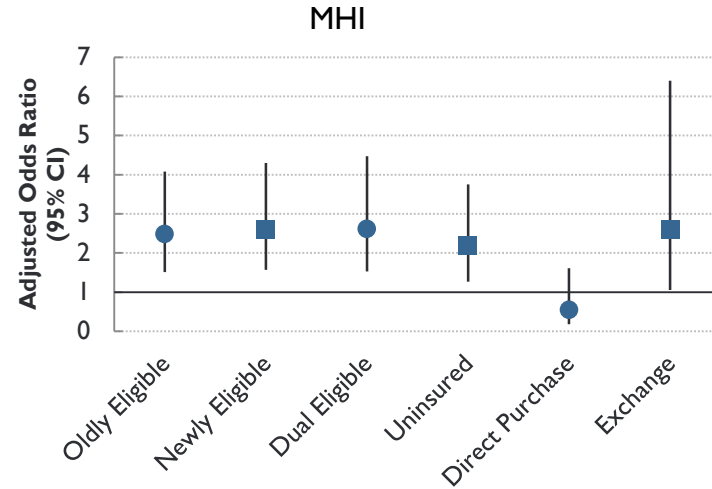
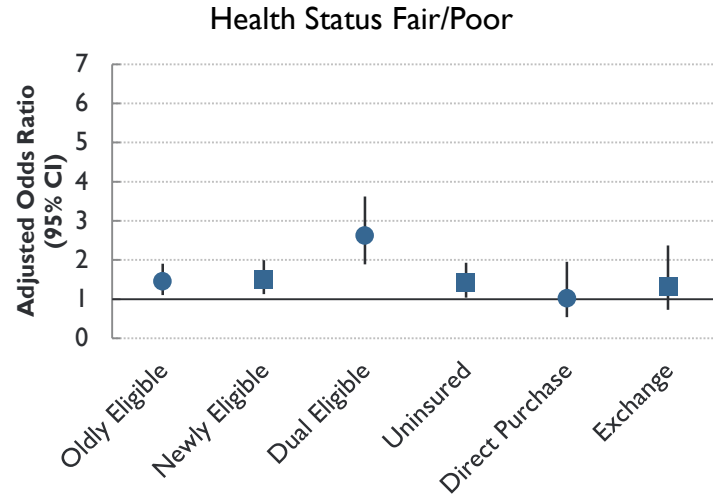
The reference group is working.

# INSURANCE STATUS AS A PREDICTOR OF FAIR/POOR HEALTH AND MHI FOR ALL OHIOANS IN 2008 AND 2015



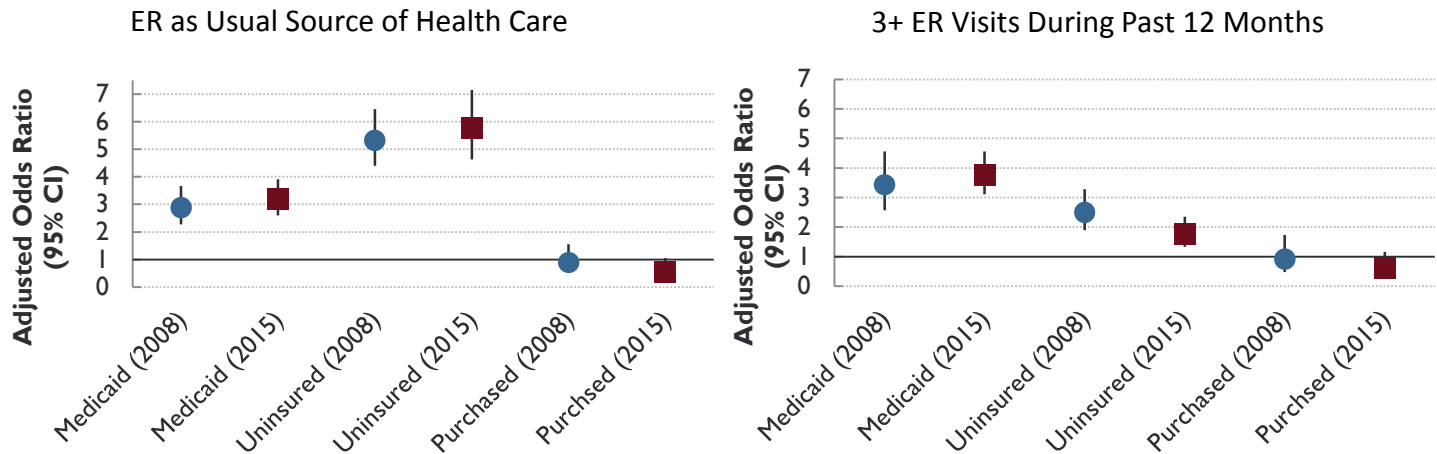
The reference group is job-based coverage.

# INSURANCE STATUS AS A PREDICTOR OF FAIR/POOR HEALTH AND MHI FOR OHIOANS $\leq$ 138% FPL IN 2015



The reference group is job-based coverage. Ohioans may be newly or oldly eligible for Medicaid or Dual eligible and eligible for both Medicaid and Medicare.

# INSURANCE STATUS AS A PREDICTOR OF ER AS THE USUAL SOURCE OF HEALTH CARE AND 3+ ER VISITS DURING PAST 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015

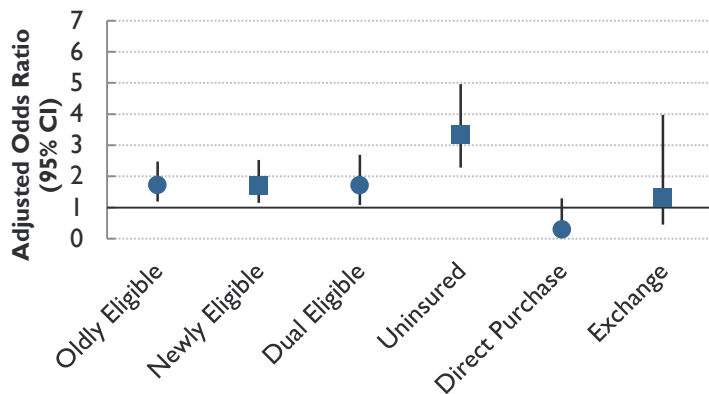


The reference group is job-based coverage.

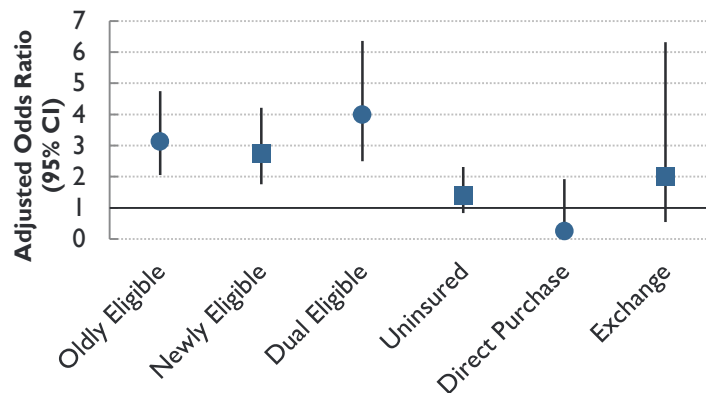


# INSURANCE STATUS AS A PREDICTOR OF ER AS THE USUAL SOURCE OF HEALTH CARE AND 3+ ER VISITS DURING PAST 12 MONTHS FOR OHIOANS $\leq$ 138% FPL IN 2015

ER as Usual Source of Health Care

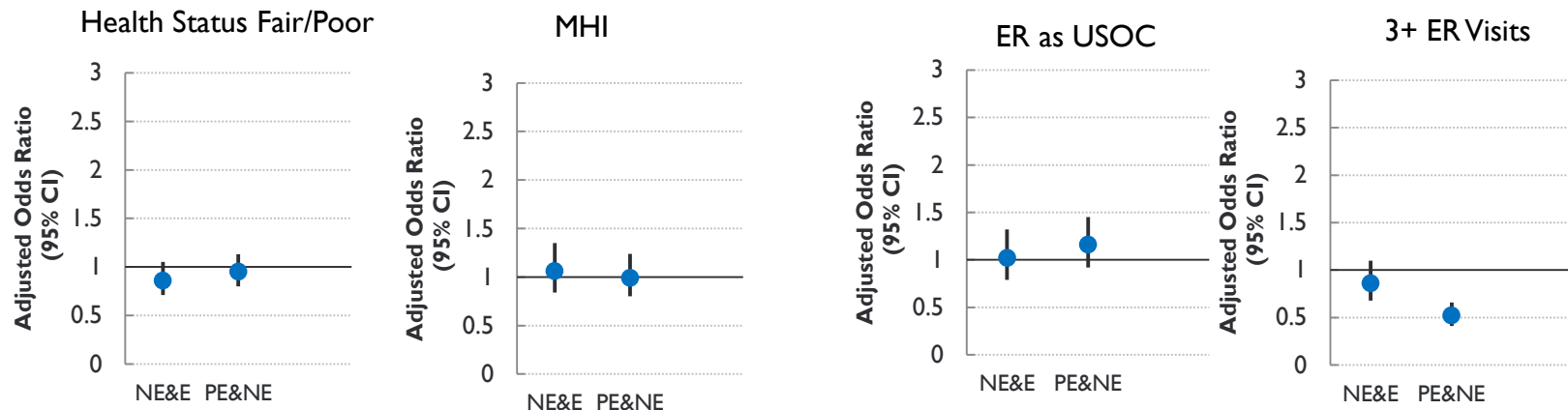


3+ ER Visits During Past 12 Months



The reference group is job-based coverage.

# MEDICAID STATUS AS A PREDICTOR OF FAIR/POOR HEALTH, MHI, ER AS USUAL SOURCE OF HEALTH CARE, 3 OR MORE ER VISITS FOR OHIOANS $\leq$ 138% FPL IN 2015



The reference group is oldly eligible and enrolled (OE&E). The other groups examined are Ohioans who are newly eligible and enrolled in Medicaid (NE&E) and those who are potentially eligible and not enrolled (PE&NE).

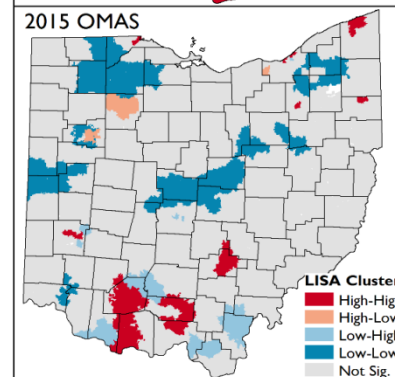
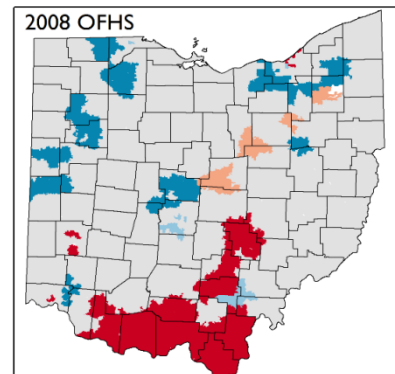
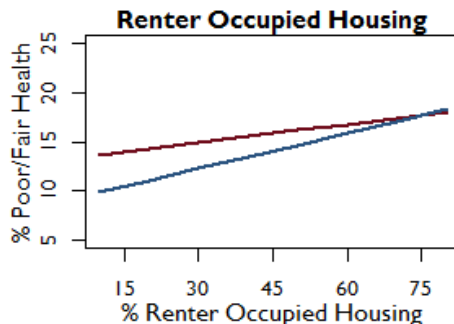
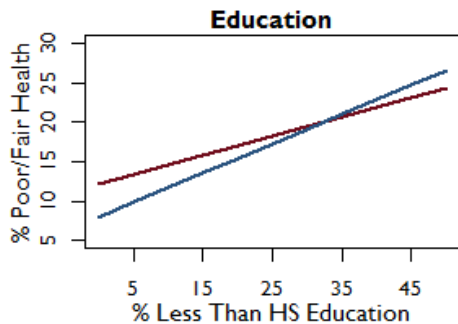
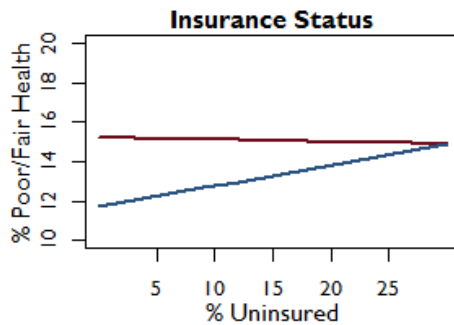
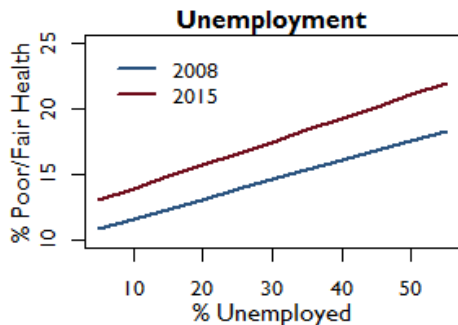
## KEY FINDINGS: GEOGRAPHICAL ANALYSIS FOR 4 OUTCOMES

- There were fewer areas with high clusters of poor outcomes in 2015 than there were in 2008
- Several area-level predictors of poor outcomes were present for more than one indicator, including:
  - % renter occupied
  - % unemployment
  - % uninsured

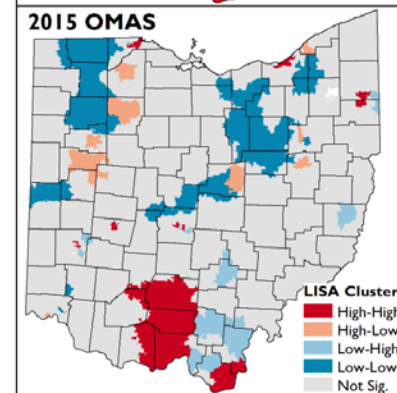
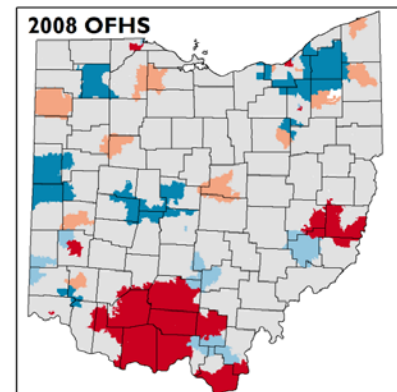
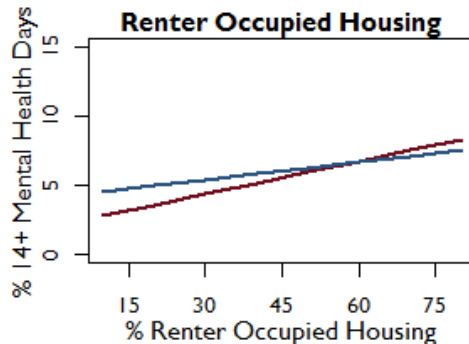
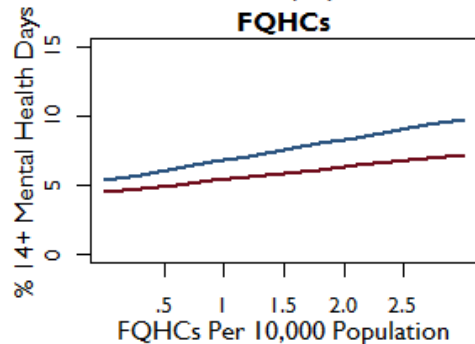
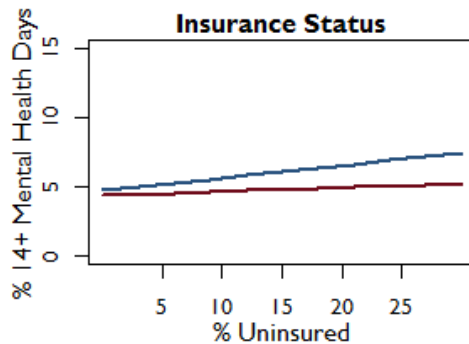
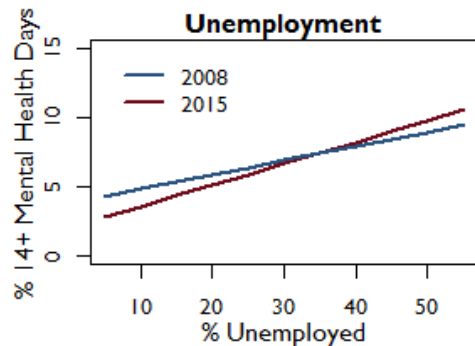
# LISA CLUSTER MAPS

- The maps display geographic locations where rates cluster together or are similar to each other
  - Statistically significant associations are designated on the maps by color (e.g. area with high rate next to another high rate area)
- The charts are prediction plots that display the relationship between area-level outcomes and area-level socioeconomic and resource variables.

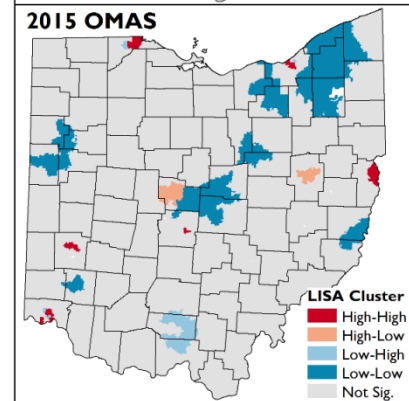
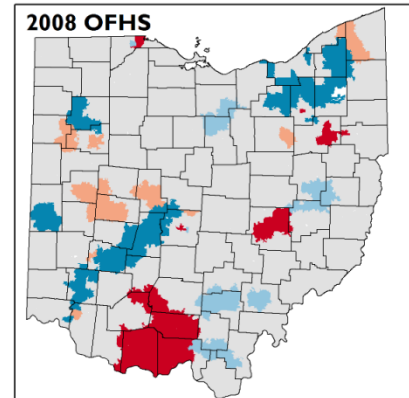
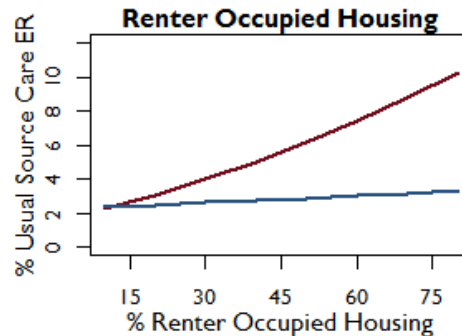
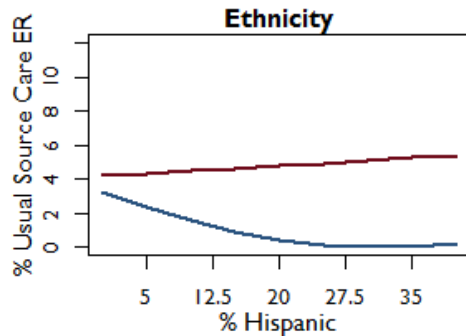
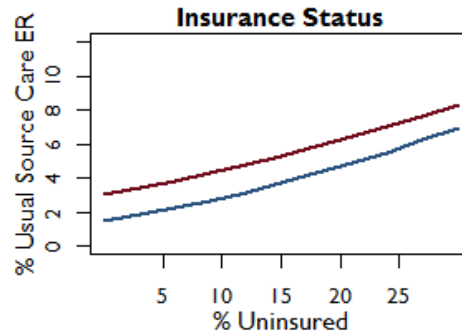
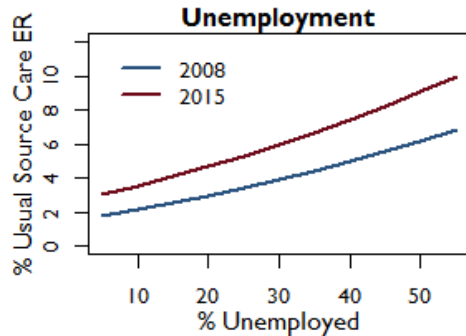
# AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF SELF-REPORTED FAIR/POOR HEALTH



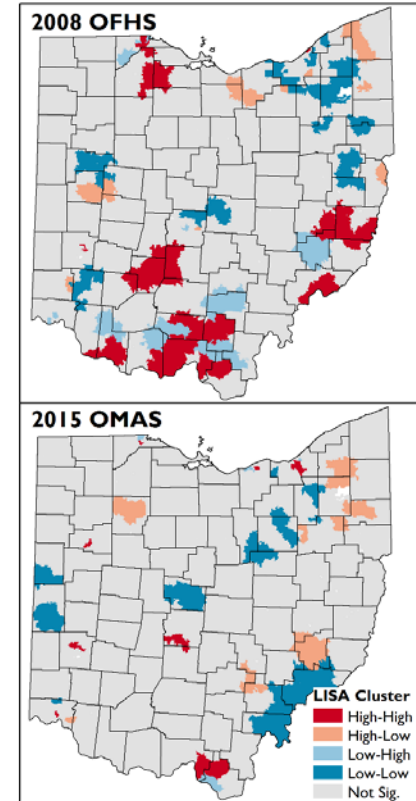
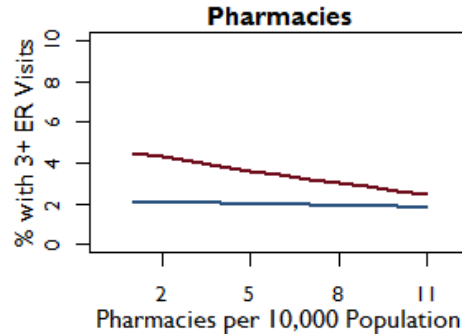
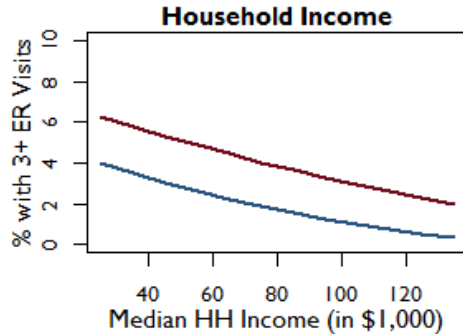
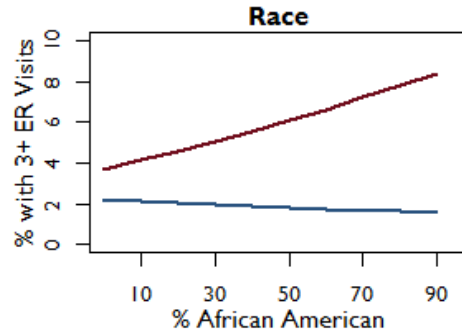
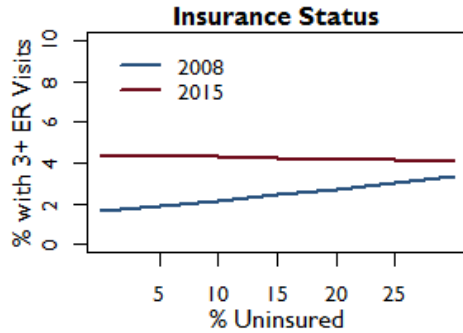
# AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF SELF-REPORTED MHI



# AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF OHIOANS WHO REPORT THE EMERGENCY ROOM IS THEIR USUAL SOURCE OF HEALTH CARE



# AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF OHIOANS WITH THREE OF MORE ER VISITS DURING THE PAST 12 MONTHS

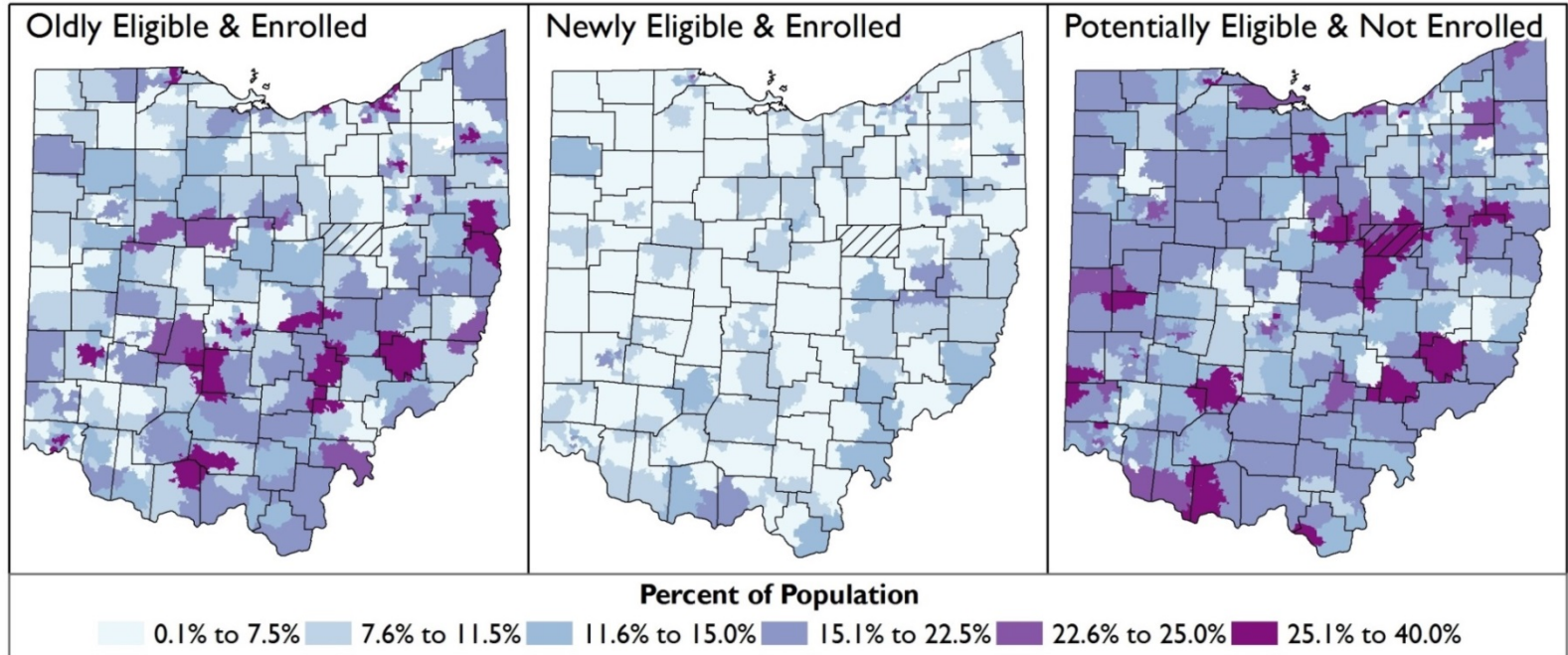




# KEY FINDINGS: MEDICAID ELIGIBILITY GROUPS

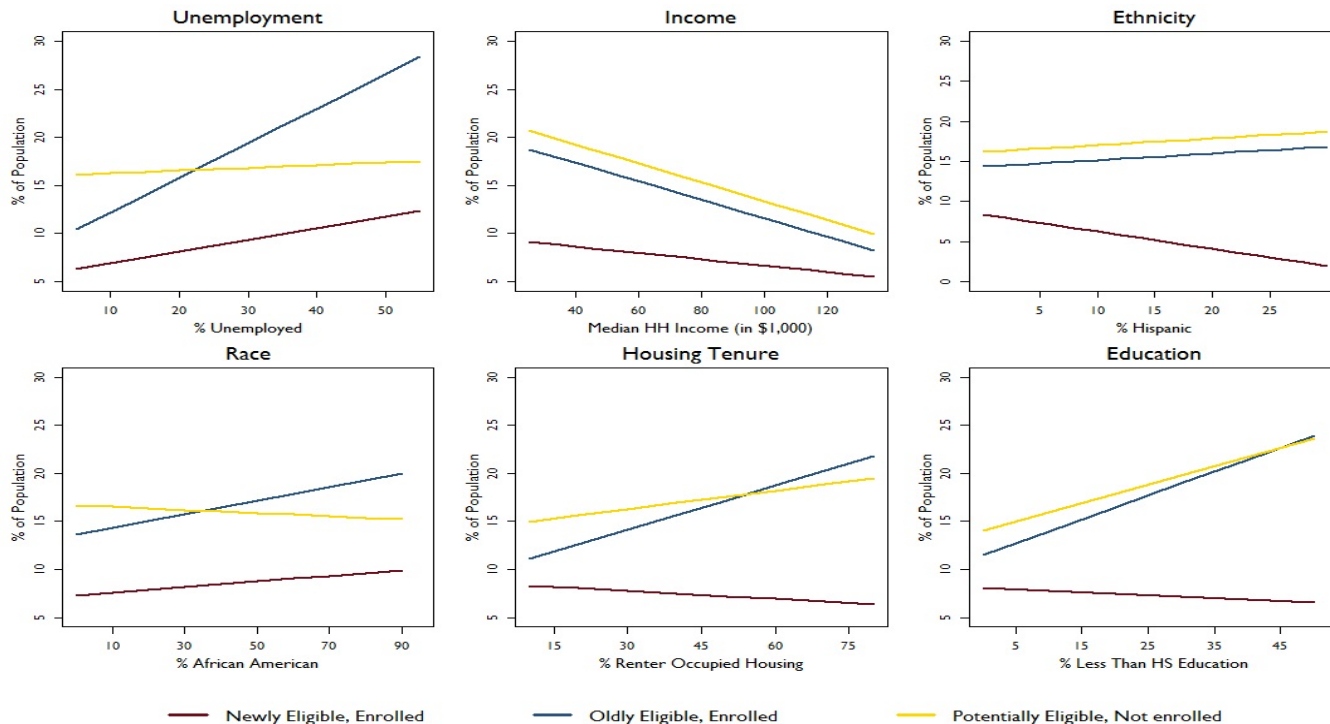
- Different area predictors are associated with areas of newly, oldly and potentially eligible, but not enrolled, populations.
- The impact of these factors varies among the eligibility groups.
- The most significant factors are:
  - Income
  - Unemployment
  - Ethnicity
  - Rental occupied housing
  - Race
  - Education

# MEDICAID STATUS OF OHIOANS WITH INCOMES $\leq$ 138% FPL IN 2015

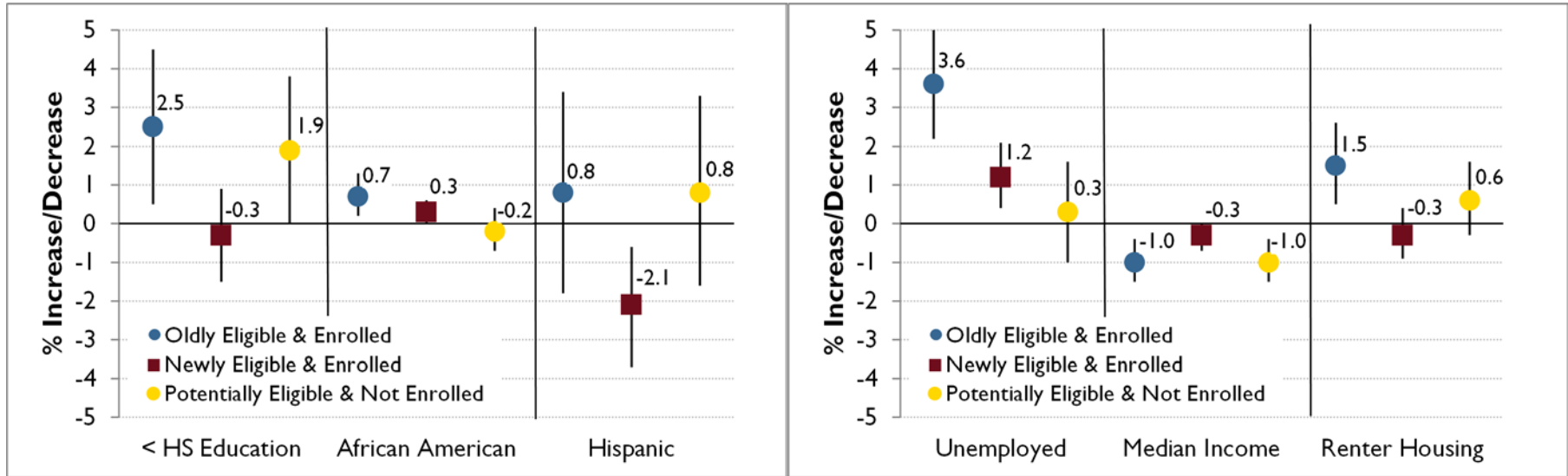


Holmes county is designated with diagonal lines.

# AREA LEVEL PREDICTORS OF MEDICAID STATUS



# AREA LEVEL PREDICTORS OF MEDICAID STATUS



## KEY FINDINGS: POLICY CONSIDERATIONS

- Several SDOH factors do account for likelihood of being on Medicaid and for differences in odds of poor outcomes
- These factors include:
  - Level of income
  - Level of education
  - Work status
- Income is especially important as the impact of other SDOH and non-SDOH factors are smaller for the  $\leq 138\%$  FPL population than the total 19-64 year old population

# HEALTH STATUS, ACCESS TO HEALTH CARE AND HEALTH CARE UTILIZATION BY MEDICAID STATUS

- Race and ethnicity are important factors, but their impact varies across the outcomes
- It is possible for Medicaid and others to use area level factors to target policy and program efforts
- Effective SDOH analysis requires:
  - data at smaller units of geography than zip codes (e.g. census tracts) and
  - Inclusion of SDOH questions in future OMAS versions

# REFERENCES

1. WHO. (nd).  
[http://www.who.int/social\\_determinants/thecommission/finalreport/key\\_concepts/en/](http://www.who.int/social_determinants/thecommission/finalreport/key_concepts/en/)
2. Dahlgren, G. & Whitehead, M. (2006). Levelling up (part 2): A discussion paper on European strategies for tackling social inequities in health  
[http://www.who.int/social\\_determinants/resources/leveling\\_up\\_part2.pdf](http://www.who.int/social_determinants/resources/leveling_up_part2.pdf)