SOCIAL DETERMINANTS OF HEALTH, ACCESS TO HEALTH CARE AND HEALTH CARE UTILIZATION

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OMAS
Ohio Medicaid Assessment Survey

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EXECUTIVE SUMMARY

This Chartbook uses data from the 2015 Ohio Medicaid Assessment Survey (OMAS) and various area measures to examine the relationship between social determinants of health (SDOH) and seven health outcomes for Ohioans age 19 to 64 with incomes ≤138% of the federal poverty level (FPL). As part of this examination, the Chartbook presents data on the total 19 to 64 year old population from the 2008 Ohio Family Health Survey (OFHS) and the 2015 OMAS for context setting and comparison purposes. This analysis uses both geospatial and multilevel modeling analytic techniques.

The Chartbook also explores differences within the ≤138% FPL group between three Medicaid eligibility groups: those who are enrolled on Medicaid without Medicaid expansion (oldly eligible), those enrolled only because of Medicaid expansion (newly eligible) and those who are not currently enrolled (potentially eligible, not enrolled).

This Chartbook displays its results in four parts. Section I displays prevalence rates for the seven outcomes and for five predictors. Section II presents the odds of people experiencing a given outcome as predicted by one of four social determinants of health: education, insurance status, poverty and race/ethnicity. It includes figures for both all 19 to 64 year old Ohioans and those with with incomes at or below 138% FPL. Section III contains information on the three Medicaid eligibility groups. Section IV displays a series of maps which identify areas with high clusters of health outcomes (red areas) and low clusters of outcomes (blue).

This analysis affirms that lower incomes and lower levels of education often help predict poorer health outcomes, especially for health status. The analysis also identifies several potential area-level factors to consider when identifying locations that may be prone to higher levels of poor outcomes and areas that are more or less likely to have people with Medicaid or potential Medicaid coverage. These potential geographic factors include areas with a higher percent of renter occupied housing, unemployment, lower levels of education.

Visit www.grc.osu.edu/OMAS for additional information about OMAS, including the data and electronic version of this chartbook.

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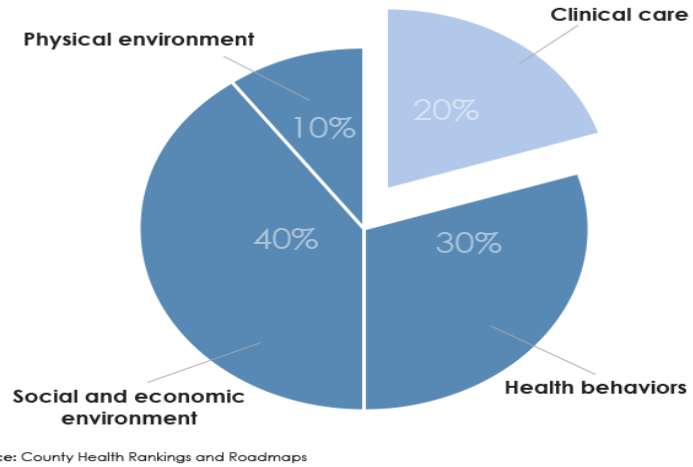
BACKGROUND

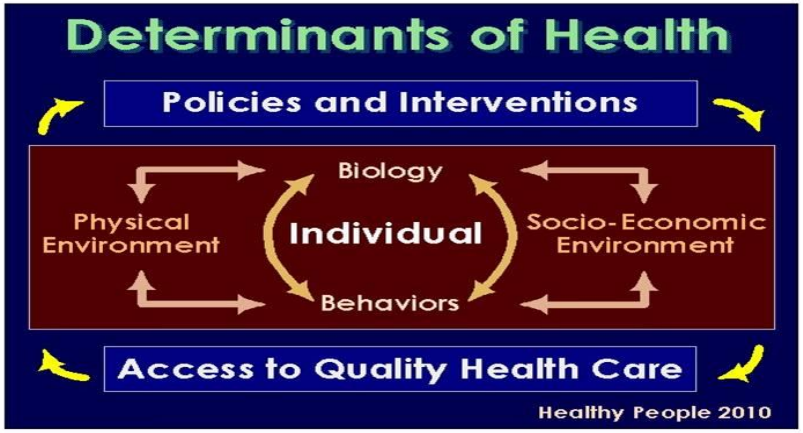
Recognition is growing that medical care alone cannot address the extensive health problems in the United States.[1] Its effect on overall health is limited because there are numerous factors beyond health care that impact health. [2,3] Medical care alone is not enough to abate the negative effects of these other factors on individual health.[4] Per the University of Wisconsin's County Health Rankings analysis, clinical care accounts for approximately 20% of a person's health.[5]

Percent impact on health by key factors



Source: County Health Rankings and Roadmaps

Social determinants of health include non-medical factors that influence health. [1]They can be categorized as "upstream" or "downstream"[1] and include the environment.[6] Upstream determinants are more difficult to study as they are less proximate to the individual, but are critical to examine as they "…represent the most important opportunities for improving health and reducing heath disparities."[1] A social determinants of health perspective expands the attention from solely risk "factors" at the level of the individual to risk "conditions" as it recognizes the importance of the environment on health.[7]



OBJECTIVES

This study utilizes a social determinants of health (SDOH) perspective to examine seven outcomes related to health status, access to health care and health care utilization among Ohioans, including Ohioans with Medicaid and those potentially Medicaid eligible. Additionally, this project employs mapping strategies to enhance understanding of the geographic concentration of the seven outcomes in Ohio.

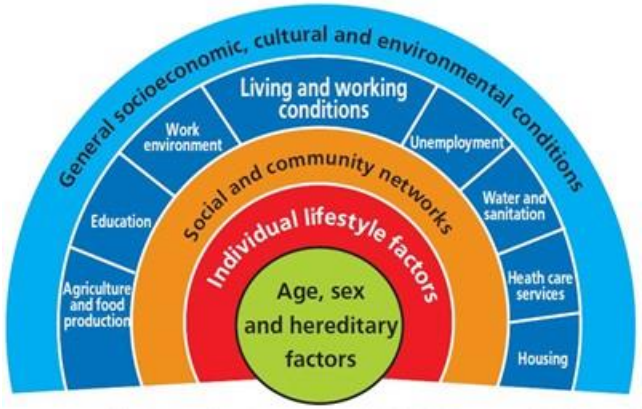
Aim 1: To identify predictors in the following three areas:

- self-reported health status: general health status; mental health-related impairment (MHI), defined as an impairment in work or other usual activities due to mental health for 14 or more days. The OMAS question defined mental health as "stress, depression, and problems with emotions or substance abuse," and was quantified by counting the number of days during the past 30 days that mental health prevented work or other usual activities.
- self-reported access to health care: usual source of health care (USOC); USOC was the emergency room (ER);
- self-reported health care utilization: time since last doctor visit (more than 12 months); number of ER visits (more than 3) and number of hospital admissions (more than 2) during the past 12 months

Aim 2: To examine the impact of specific SDOH on self-reported health status, access to health care and health care utilization among Ohioans.

The World Health Organization (WHO) defines SDOH as "the circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness.

The framework employed in this research is Dahlgren and Whitehead's "Determinants of Health" policy rainbow[9] which presents the innermost layer at the level of the individual and expands to the outermost layer, which represents cultural, macroeconomic and environmental conditions.[10] Factors at the innermost (individual) level are considered primarily fixed but each level thereafter may be amenable to intervention.[9] Interactions among the different layers may impact on health. Additionally, there is recognition that the decisions made at the individual level are affected by macro-level factors. [11]



METHODS

The Ohio Medicaid Assessment Survey (OMAS) is a population-based survey that examines access to the health system, health status, and health determinant characteristics of Ohio's Medicaid, Medicaid eligible, and non-Medicaid child and adult populations. The 2015 OMAS used a random stratified dual-frame telephone survey design to collect data from samples representative of all non-institutionalized Ohio residents. This survey included both landline and cell phone frames. The landline sampling was based upon a list-assisted stratified random digit dial (RDD) procedure. African-Americans, Asians, and Hispanics were oversampled in landline sampling. The cell phone sampling was a stratified random sample of cell phone numbers by the county in which their cellphone was activated, with oversampling of African-Americans.

From January through June 2015, trained telephone interviewers administered the OMAS to 42,876 adult Ohio residents, with 16,453 complete in the landline sample and 26,423 completed in the cell phone sample. For landline telephone numbers, households were randomly selected through a list assisted 1+block RDD method. Upon reaching the household, the interviewer selected an eligible adult age 19 years and older who had the most recent birthday to complete the adult component of the survey. For cellphone telephone numbers, persons were randomly selected through a random sample of cellphone numbers in eligible 1,000-blocks. Upon reaching a person, the interviewer asked the predominant user of the cellphone, if he/she was 19 years or older, to complete the adult component of the survey. If the predominant user of the cellphone was under 19 years old, the telephone number was ineligible for the survey. When a respondent indicated that there was one or more children age 0-18 years in the household, the interviewer selected the child who had the most recent birthday. In landline sample, the adult who was most knowledgeable of the selected child completed the child component of OMAS on behalf of the child; in cellphone sample, the adult who completed the adult section also completed the child section. There were 10,122 respondents to the child portion of the survey. The overall response rate for the survey was 24.1%, including a 25.8% response rate for the landline sample and 22.9% for cell phone sample. A detailed description of the survey methodology can be found at www.grc.osu.edu/OMAS.

The 2008 OFHS utilized a similar collection strategy to the 2015 OMAS, collecting both landlines (48,884) and cell (2,060) phones. From July 2008 through January 2009 interviews were conducted for the landline survey. The cell phone interviews began in November, 2008 as an effort to collect more child responses and ended in January 2009. There were 13,443 respondents to the child portion of the survey. The overall response rate for the 2008 OFHS was 34.6%, including a 35.4% response rate for the landline sample and a 31.3% response rate for the cell phone sample. A detailed description of the 2008 OFHS methodology can be found at:
https://www.researchgate.net/publication/237642824_2008_Ohio_Family_Health_Survey_Methodology_Report

The research has two complementary modeling strategies. The first, spatial regression modeling, takes advantage of the large sample sizes for the 2008 and 2015 OMAS which allows for a true geographic analysis by ZIP code and county. These models are not based on individual data, but rather on geographically aggregated data, and can be used to understand larger geographic patterns of utilization and the underlying drivers of these patterns. The descriptive maps present the geographic distribution of seven indicators of self-reported health status, access to health care and health care utilization for 2008 and 2015. Lighter colors on each map indicate areas in which a lower percent reported experiencing the indicator and darker purple indicates areas with higher percents.

LISA cluster maps show geographic locations where rates cluster together or are similar to each other. Statistically significant associations are designated on the maps as: 1) 'high–high' (red) which indicates that areas with a high rate are next to areas with similarly high rates, 2) 'low–low' (blue) indicates clustering of low rates, 3) 'high–low' (pink) indicates that areas with a high rate are next to low rates, or 4) 'low–high' (light blue) indicates that areas with a low rate are next to high rates. Grey areas indicate that there is no spatial clustering for that area. The results presented here are from spatial regression models which use OMAS data that has been aggregated to ZIP code group areas and integrated with socioeconomic and health resource data from a variety of secondary sources. The series of charts displayed with the LISA cluster maps show the relationship between area-level aggregate health status, access and utilization outcomes and area-level socioeconomic and resource variables. They are prediction plots, meaning they show the predicted relationship between variables derived from regression models.

The second strategy, multilevel modeling, utilizes individual-level data available in the OMAS and attaches county- or ZIP code-level socioeconomic and health resources data to examine the area-level factors which may impact outcomes while controlling for known individual-level risk factors. Associations between social determinants of health and each health outcome are estimated by multi-level logistic regression models. These models include adjustment for: age, gender, body mass index, marital status, binge drinking in the last month, region and chronic disease status. The effect of social determinants of health predictors on each outcome are given by the odds ratio.

RESULTS

SECTION 1-

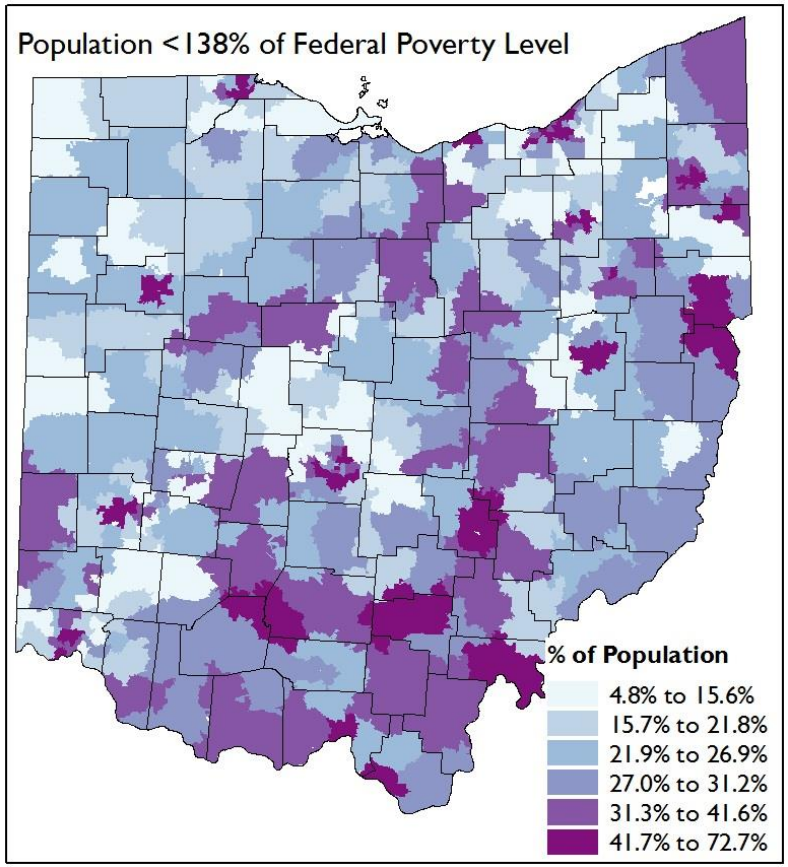
- **GEOGRAPHIC DISTRIBUTION OF OHIOANS ≤138% FPL IN 2015 AND SELECT SOCIAL DETERMINANTS OF HEALTH**
- **PREVALANCE OF HEALTH STATUS INDICATORS**
- **PREDICTORS OF HEALTH STATUS, ACCESS TO HEALTH CARE AND HEALTH CARE UTILIZATION**

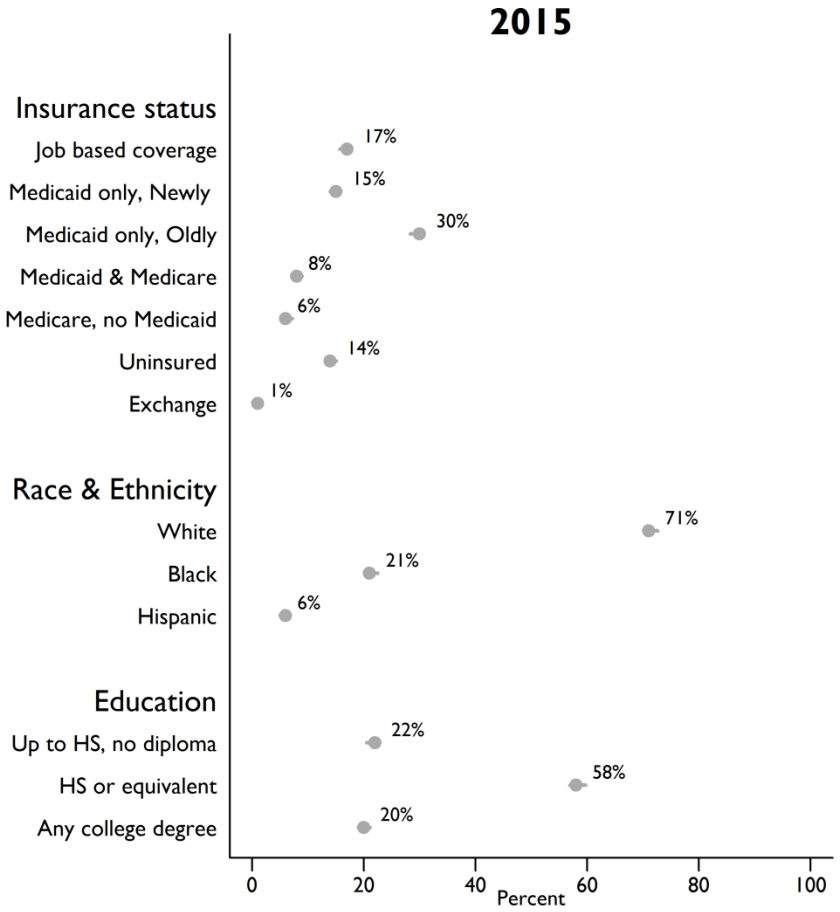
In 2015, Ohioans with incomes ≤138% FPL reported more than twice the percent of MHI, having the ER as their usual source of health care, and having 3 or more ER visits during the past 12 months than those >138% FPL. They also reported nearly twice the percent of fair/poor health and having 2 or more hospitalizations during the past 12 months than those with higher incomes.

The percent of Ohioans age 19-64 with the following health outcomes decreased between 2008 and 2015: MHI and not seeing a doctor for more than 12 months. The percent increased for 2+ hospital admissions, no usual source of health care, ER as usual source of care, fair/poor health and 3+ ER visits.

Between 2008 and 2015, the percent of Ohioans with incomes above 300% of poverty declined by 5 percentage points and the percent below 100% poverty increased by 2 percentage points. Additionally, the percent uninsured decreased by 8 percentage points, with Medicaid increased by 11 percentage points and with employer-sponsored coverage decreased by 7 percentage points.

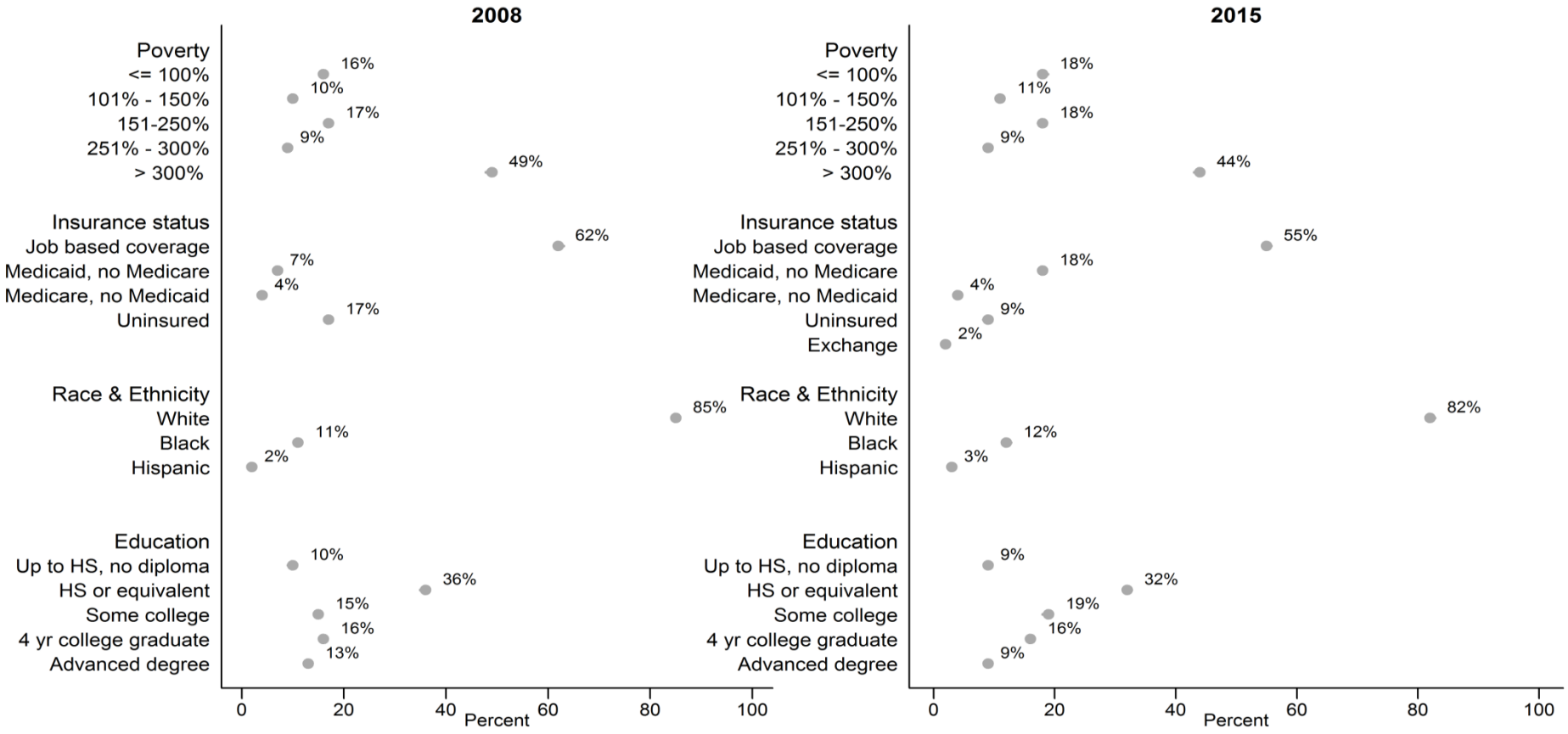
GEOGRAPHIC DISTRIBUTION AND SOCIAL DETERMINANTS OF HEALTH OF OHIOANS AGES 19-64 ≤138% FPL IN 2015





The southern region of Ohio shows the highest concentrations of residents living with incomes ≤138% FPL. More than half (53%) of Ohioans in this income category have Medicaid. Ohioans who are dually eligible comprise 8% of those with Medicaid. The percent of Ohioans with incomes ≤138% FPL with job-based coverage is 17.

SOCIAL DETERMINANTS OF HEALTH FOR OHIOANS - AGE 19-64 IN 2008 AND 2015



Those living with incomes below 100% FPL increased by 2 percentage points between 2008 and 2015 while those living above 300% FPL decreased by 5 percentage points. There was a decrease of 7 percentage points of Ohioans with job-based insurance coverage.

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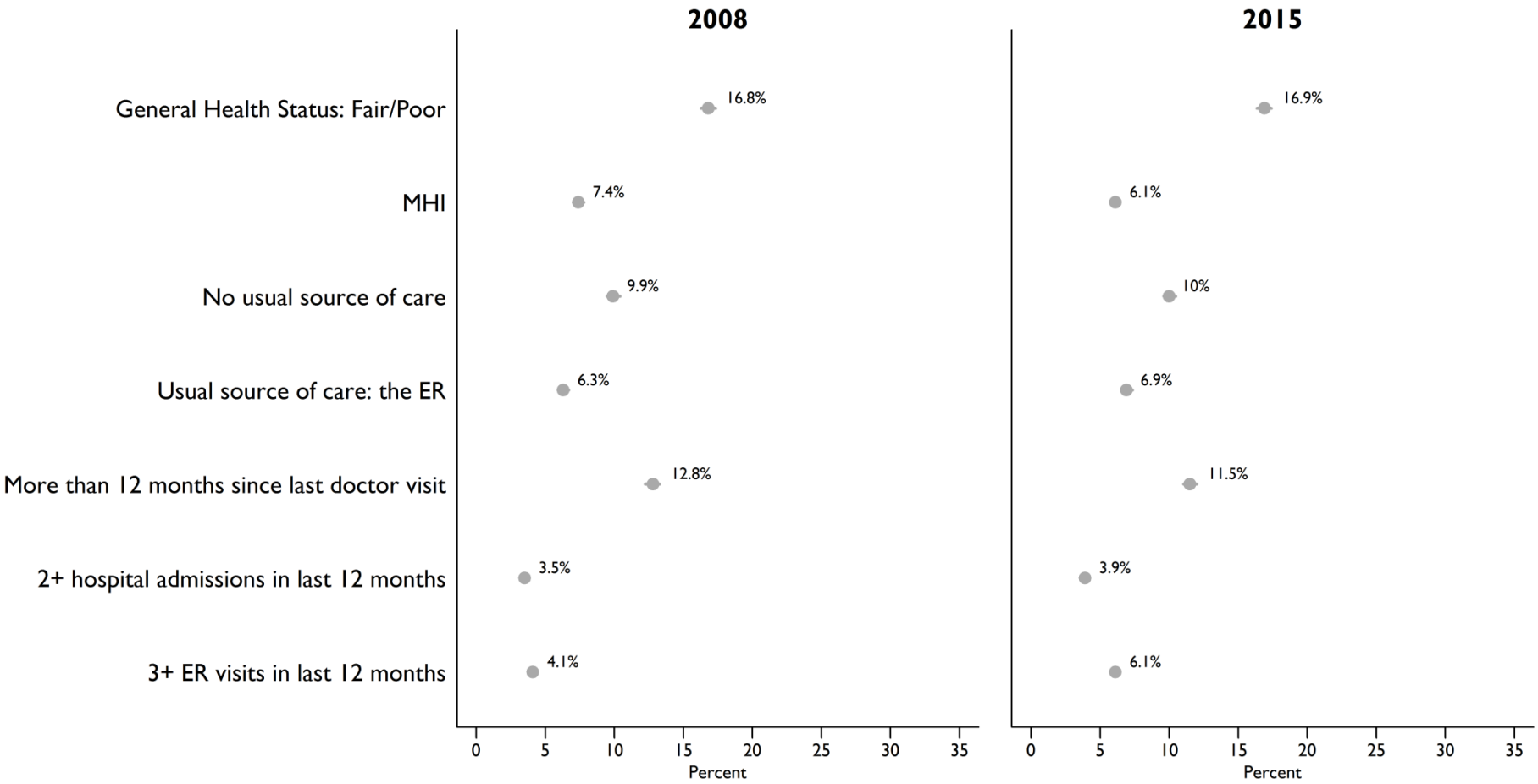
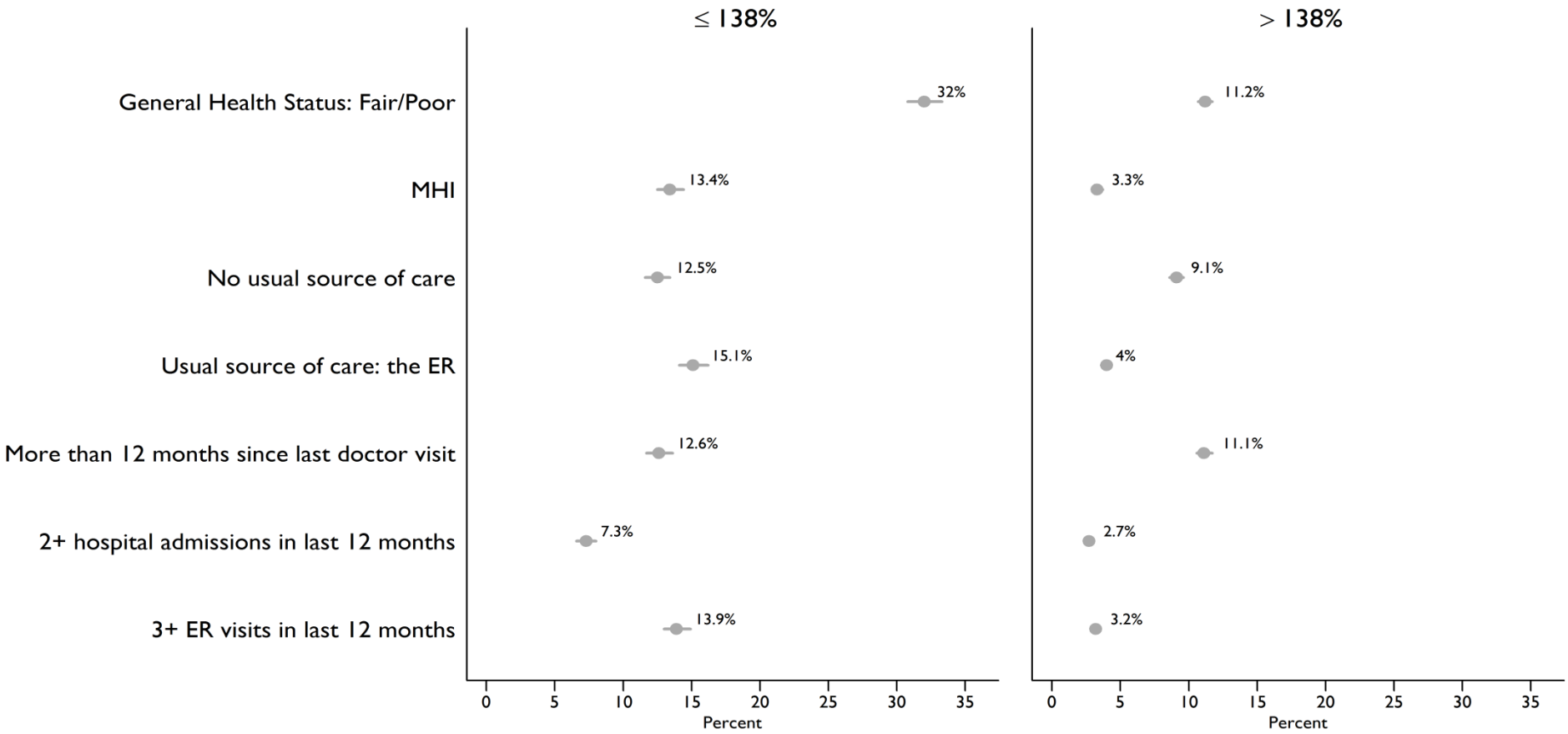
PREVALENCE OF HEALTH STATUS INDICATORS FOR OHIOANS - AGES 19-64, IN 2008 AND 2015



PREVALENCE OF HEALTH STATUS INDICATORS FOR OHIOANS - AGES 19-64, ≤138% AND >138% FPL IN 2015



Ohioans with incomes ≤138% FPL reported substantially worse outcomes on six of the seven examined indicators. MHI, USOC-ER and 3+ER visits had the largest differences followed by fair/poor health and 2+ hospitalizations. Nearly one-third of Ohioans with incomes ≤ 138% FPL reported fair or poor health and 15% identified the ER as their usual source of health care.

PREVALENCE OF HEALTH STATUS INDICATORS FOR OHIOANS - AGE 19-64, INCLUDING OHIOANS WITH MEDICAID AND THOSE POTENTIALLY MEDICAID ELIGIBLE

Year Outcome	2008 % (CI)	2015 % (CI)	2015: ≤138% FPL % (CI)
Health: Fair/Poor	16.8% (16.28, 17.33)	16.9% (16.35, 17.40)	32.0% (30.78, 33.28)
MHI	7.4% (7.02, 7.80)	6.1% (5.74, 6.44)	13.4% (12.51, 14.36)
No USOC	9.9% (9.47, 10.41)	10.0% (9.59, 10.46)	12.5% (11.64, 13.43)
USOC - ER	6.3% (5.91, 6.70)	6.9% (6.54, 7.33)	15.1% (14.06, 16.21)
3+ ER Visits	4.1% (3.82, 4.42)	6.1% (5.75, 6.45)	13.9% (12.97, 14.92)
2+ Hospitalizations	3.5% (3.21, 3.73)	3.9% (3.64, 4.20)	7.3% (6.6, 8.0)
>12 Months Since Last Doctor Visit	12.8% (12.23, 13.27)	11.5% (11.04, 11.99)	12.6% (11.7, 13.6)

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

Year Outcome	2015: >138%FPL % (CI)	2015: ≤138% FPL % (CI)
Health: Fair/Poor	11.2% (10.7, 11.7)	32.0% (30.78, 33.28)
MHI	3.4% (3.1, 3.7)	13.4% (12.51, 14.36)
No USOC	9.1% (8.6, 9.6)	12.5% (11.64, 13.43)
USOC - ER	4.0% (3.6, 4.3)	15.1% (14.06, 16.21)
3+ ER Visits	3.2% (2.9, 3.5)	13.9% (12.97, 14.92)
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)

RESULTS

SECTION II-

- **PREDICTORS OF HEALTH STATUS, ACCESS TO HEALTH CARE AND HEALTH CARE UTILIZATION IN 2015 FOR ALL OHIOANS AGE 19 TO 64 AND THOSE WITH MEDICAID ELIGIBLE INCOMES (≤138% FPL)**

Ohio adults with subsequently lower levels of incomes have higher odds for poor health status, ER visits, ER as usual source of care and 2 or more hospital visits. They have similar odds for having a usual source of care and having seen a doctor in the last 12 months. These odds are even higher for people within income groups in the ≤138% population.

The odds for poor health outcomes decrease as Ohioans have higher levels of education. Those without a high school diploma have the worst overall outcomes. However, the impact of education is much less for people in the ≤138% cohort.

Those who are working display much better odds for good health outcomes than those who are not working.

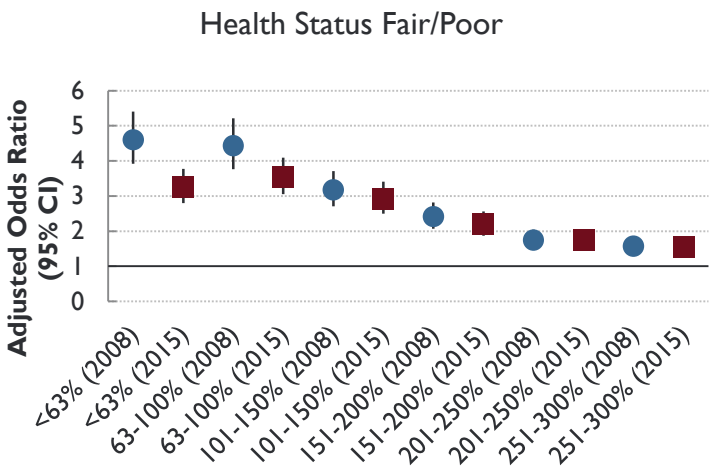
Among all 19-64 year old Ohioans those with Medicaid have much higher odds of poor health status and use of the ER than those with private insurance. These differences are much narrower for the ≤138% cohort. There are no meaningful differences between the oldly and newly Medicaid eligible subgroups.

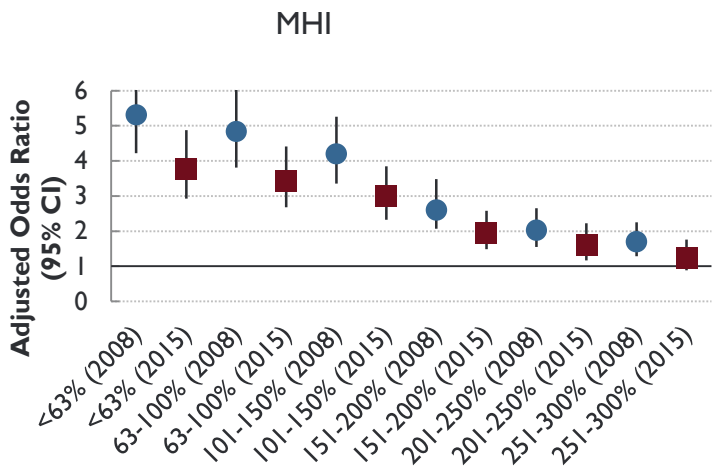
POVERTY AS A PREDICTOR OF FAIR/POOR HEALTH; MHI; ER AS THE USUAL SOURCE OF HEALTH CARE; 3+ ER VISITS DURING PAST 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015

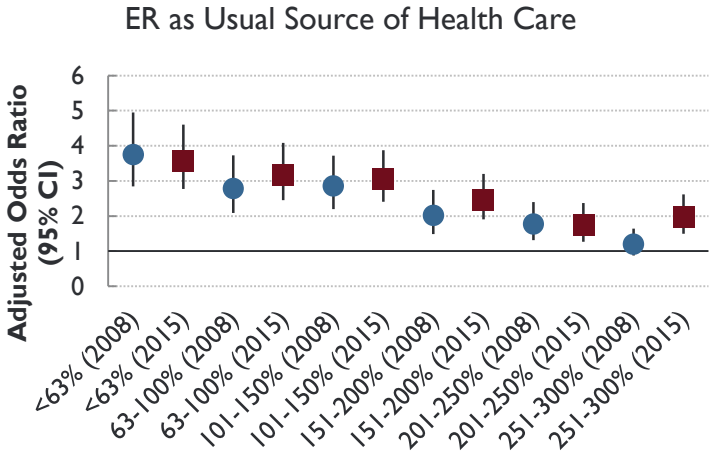
The odds of reporting each outcome in 2008 and 2015 compared to Ohioans with **incomes above 300% of poverty**.

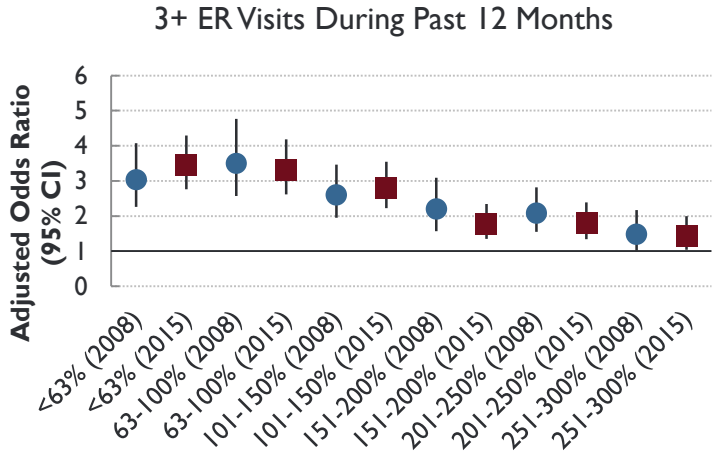
With the exception of Ohioans with incomes between 251-300% FPL, all income groups had significantly higher odds of reporting fair/poor health, MHI, having the ER as their usual source of health care and having three or more ER visits in 2008 and 2015.

Ohioans with incomes between 251-300% FPL had significantly higher odds of fair./poor health in 2008 and 2015 and of MHI in 2008.









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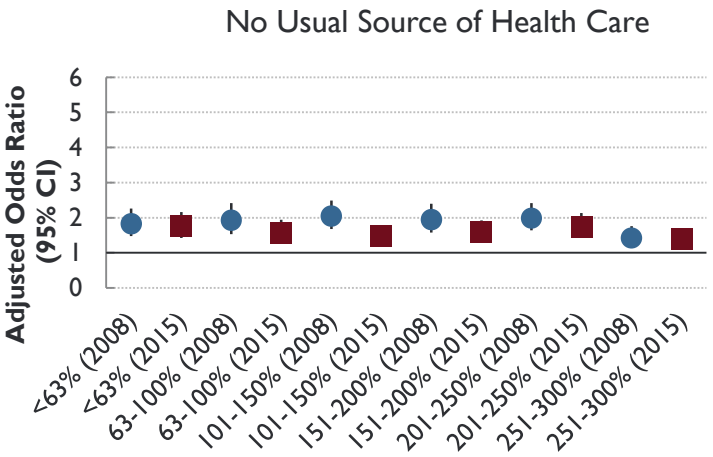
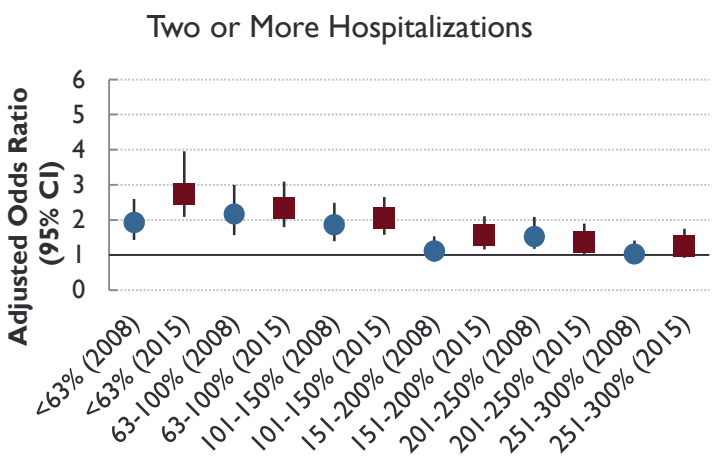
POVERTY AS A PREDICTOR OF NO USUAL SOURCE OF HEALTH CARE, TWO OR MORE HOSPITALIZATIONS, NOT SEEING A DOCTOR FOR MORE THAN 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015

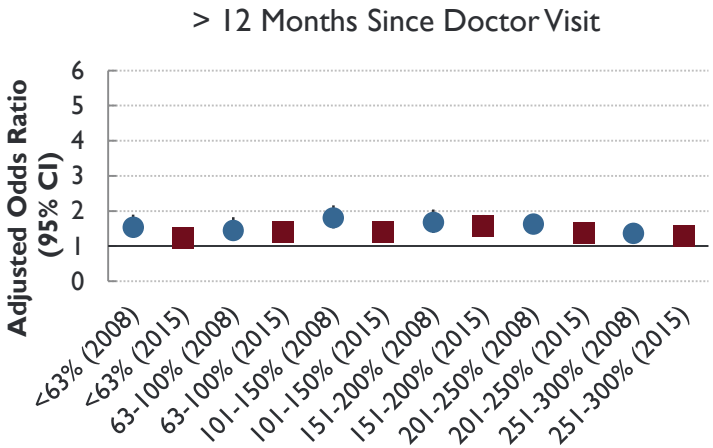
The odds of reporting each outcome in 2008 and 2015 compared to Ohioans with **incomes above 300% of poverty**.

The social gradient of health is not as evident for not having a usual source of health care and not seeing a doctor for more than 12 months.

However, the social gradient was evident for two or more hospitalizations in 2015, as Ohioans with lower incomes were significantly more likely to be hospitalized at least twice.







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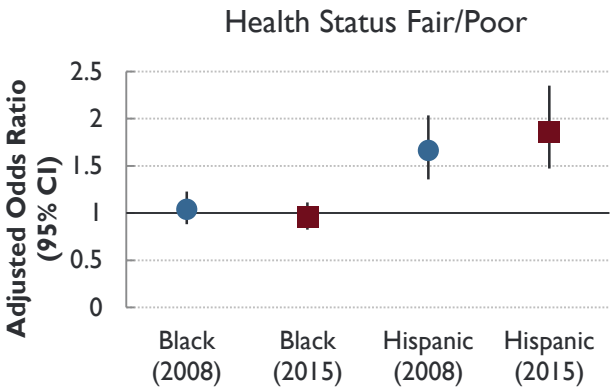
RACE AS A PREDICTOR OF FAIR/POOR HEALTH; MHI; ER AS THE USUAL SOURCE OF HEALTH CARE; 3+ ER VISITS DURING PAST 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015

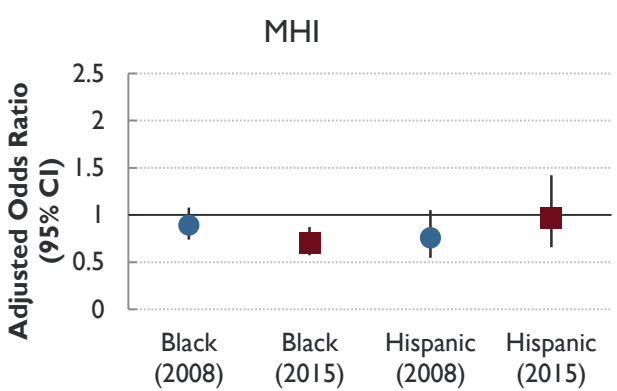
The odds of reporting each outcome in 2008 and 2015 compared to Ohioans who are **white.**

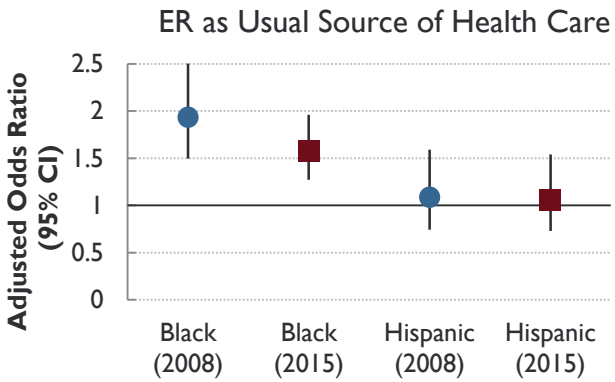
Black Ohioans had significantly higher odds of reporting the ER as their usual source of health care in 2008 and 2015 and significantly lower odds of reporting MHI in 2015.

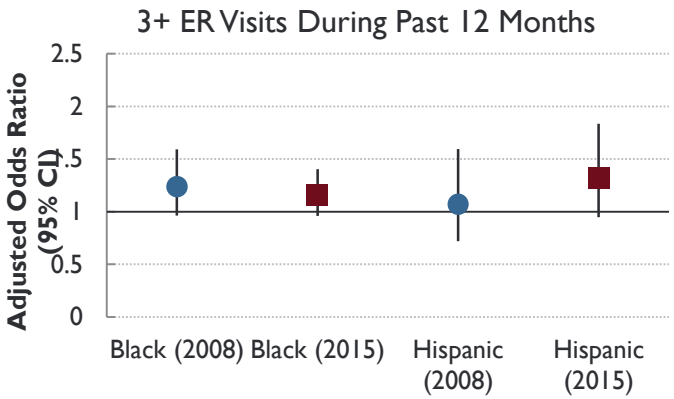
Hispanic Ohioans had significantly higher odds of reporting fair/poor health in 2008 and 2015.

No other significant differences were noted.









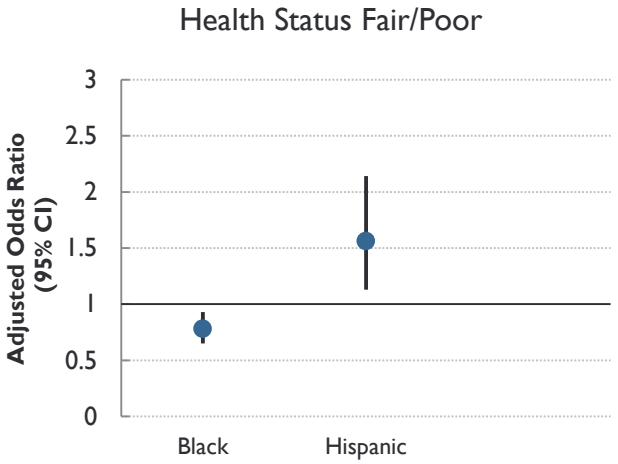
RACE AS A PREDICTOR OF FAIR/POOR HEALTH; MHI; ER AS THE USUAL SOURCE OF HEALTH CARE; 3+ ER VISITS DURING PAST 12 MONTHS FOR OHIOANS ≤138% FPL IN 2015

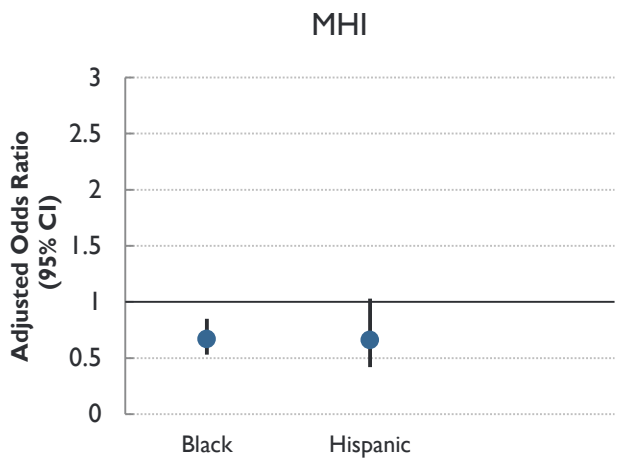
The odds of reporting each outcome in 2015 compared to Ohioans who are **white.**

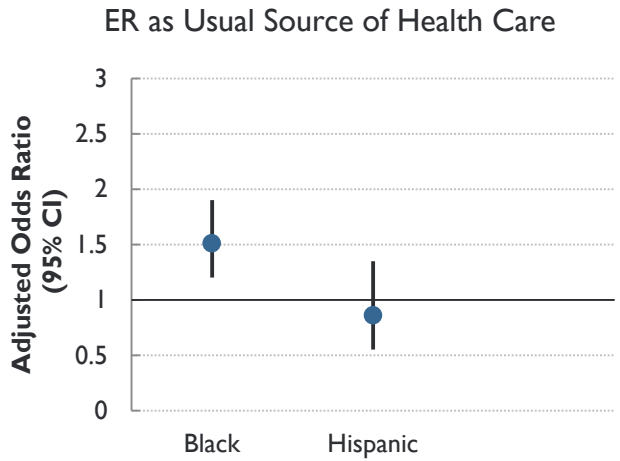
Black Ohioans had significantly lower odds of reporting fair/poor health and MHI and significantly higher odds having the ER as their usual source of health care.

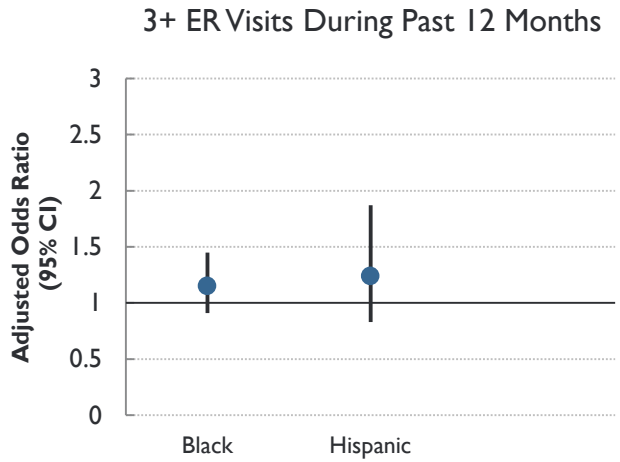
Hispanic Ohioans had significantly higher odds of reporting fair/poor health.

Thus, among Ohioans living ≤138% FPL, racial and ethnic differences were reported for some indicators.









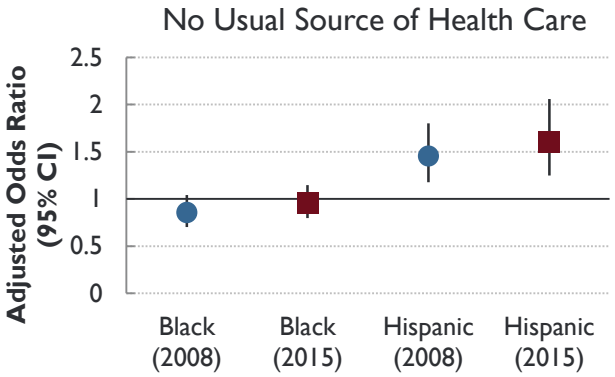
OMAS
Ohio Medicaid Assessment Survey

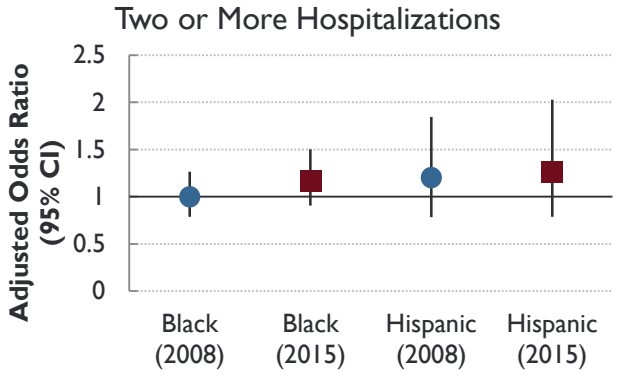
RACE AS A PREDICTOR OF NO USUAL SOURCE OF HEALTH CARE, TWO OR MORE HOSPITALIZATIONS, NOT SEEING A DOCTOR FOR MORE THAN 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015

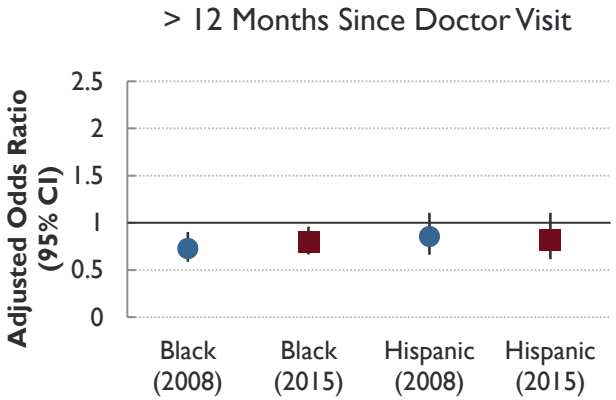
The odds of reporting each outcome in 2008 and 2015 compared to Ohioans who are **white.**

Black Ohioans had significantly lower odds of not seeing a doctor for more than 12 months in 2008 and 2015.

Hispanic Ohioans had significantly higher odds of having no usual source of health care in 2008 and 2015



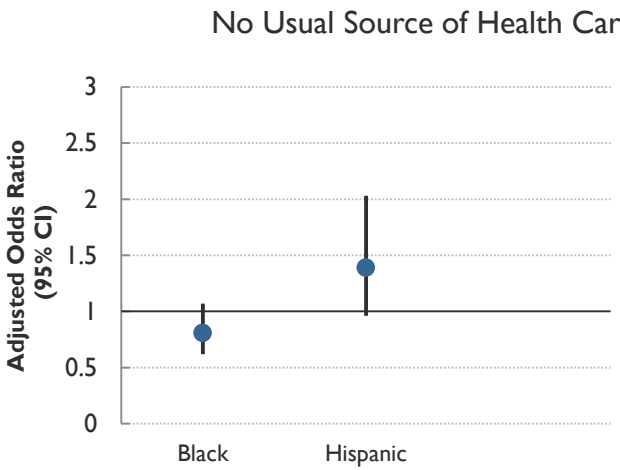


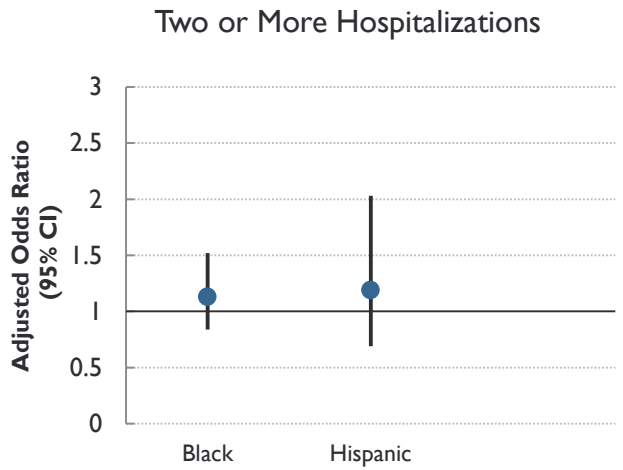


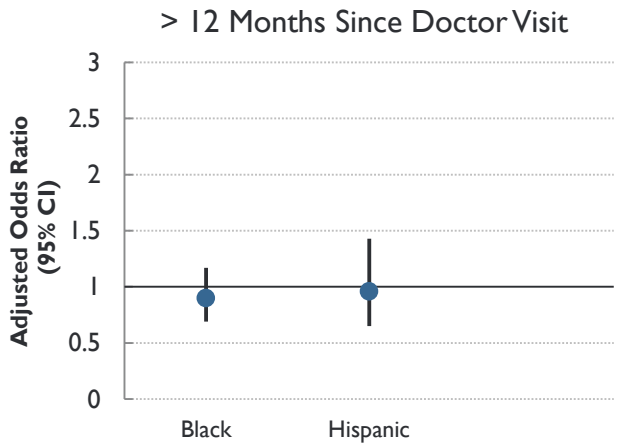
RACE AS A PREDICTOR OF NO USUAL SOURCE OF HEALTH CARE, TWO OR MORE HOSPITALIZATIONS, NOT SEEING A DOCTOR FOR MORE THAN 12 MONTHS FOR OHIOANS ≤138% FPL IN 2015

The odds of reporting each outcome in 2015 compared to Ohioans who are **white.**

No significant differences were associated with race or ethnicity for having a usual source of health care, experiencing two or more hospitalizations or not seeing a doctor for more than 12 months among Ohioans living ≤138% FPL.







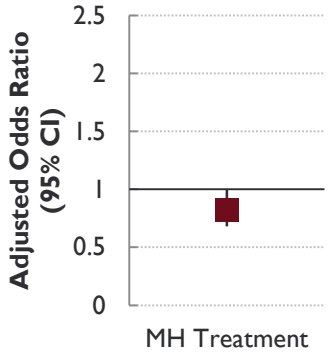
MENTAL HEALTH AS A PREDICTOR OF SELF-REPORTED ACCESS TO, AND UTILIZATION OF, HEALTH CARE FOR ALL OHIOANS IN 2015

The odds of reporting each outcome in 2015 compared to Ohioans who **did not need or get treatment or counseling** for any kind of mental health, substance abuse or emotional condition.

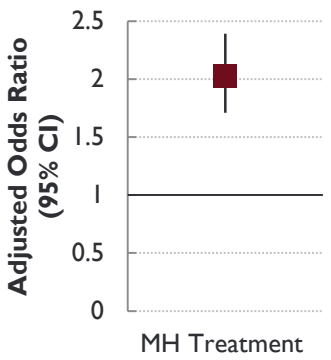
Ohioans who needed, or received, treatment had significantly lower odds of being without a usual source of health care and going more than 12 months without a doctor visit.

They experienced significantly higher odds of having 3 or more ER visits and 2 or more hospitalizations.

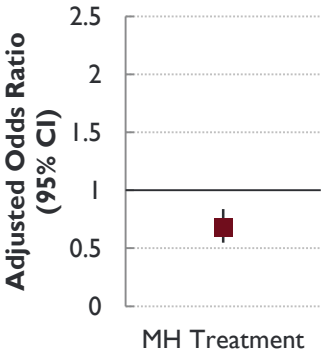
ER as USOC



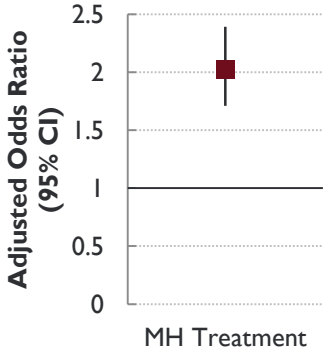
3+ ER Visits Past 12 Months



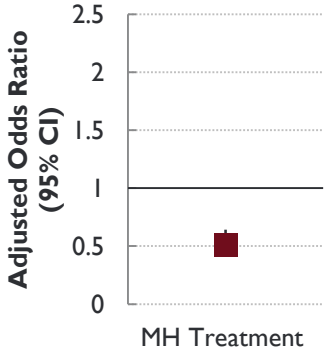
No USOC



2+ Hospitalizations



> 12 Months Since Doctor Visit



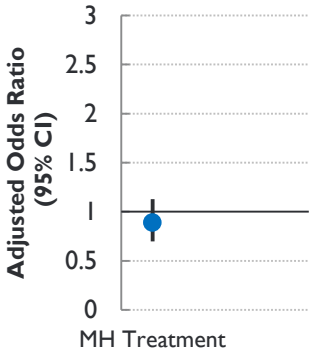
MENTAL HEALTH AS A PREDICTOR OF SELF-REPORTED ACCESS TO, AND UTILIZATION OF, HEALTH CARE FOR OHIOANS ≤138% FPL

The odds of reporting each outcome in 2015 compared to Ohioans who **did not need or get treatment or counseling** for any kind of mental health, substance abuse or emotional condition.

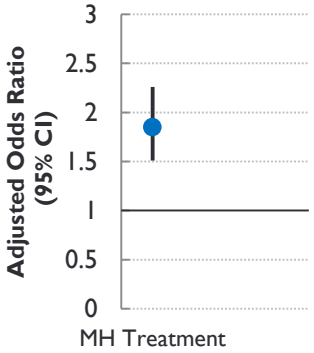
Ohioans who needed, or received. mental health treatment had significantly lower odds of being without a usual source of health care and going for more than 12 months without a doctor visit.

They had significantly higher odds of having 2 or more hospitalizations and 3 or more ER visits.

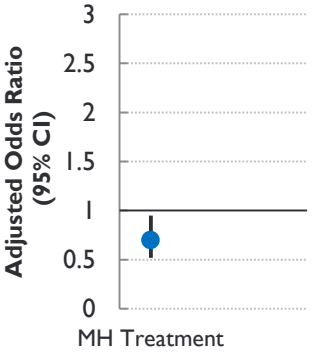
ER as USOC



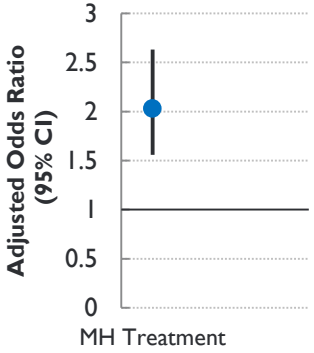
3+ ER Visits Past 12 Months



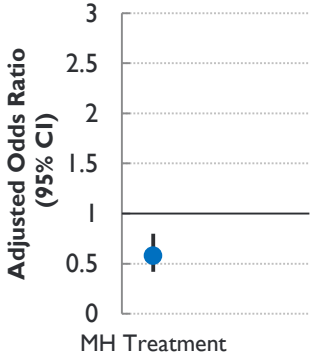
No USOC



2+ Hospitalizations



> 12 Months Since Doctor Visit

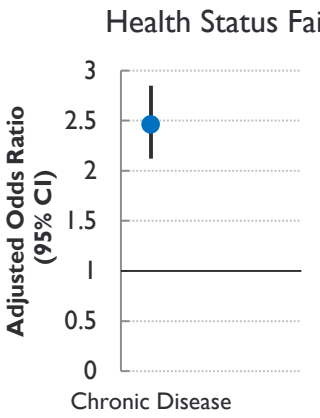


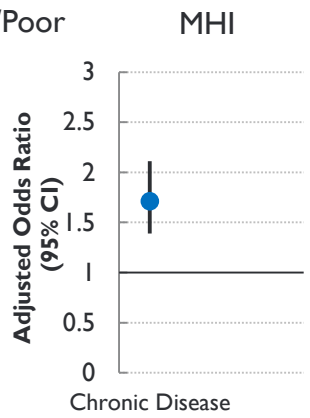
CHRONIC DISEASE AS A PREDICTOR OF SELF-REPORTED HEALTH STATUS FOR OHIOANS ≤138% FPL

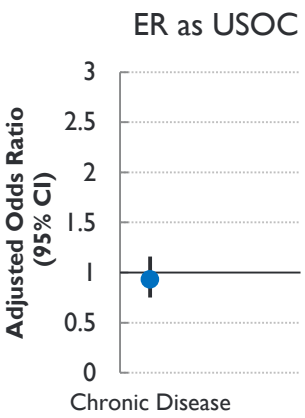
The odds of reporting each outcome in 2015 compared to Ohioans who **without chronic disease**.

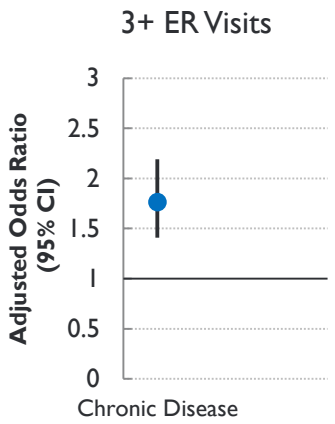
Ohioans with incomes ≤138% FPL who had a chronic disease had significantly lower odds of being without a usual source of health care and going more than 12 months without a doctor visit.

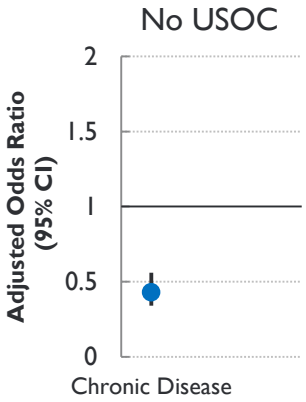
They also had significantly higher odds of having fair/poor health, MHI, 2 or more hospitalizations and 3 or more ER visits.

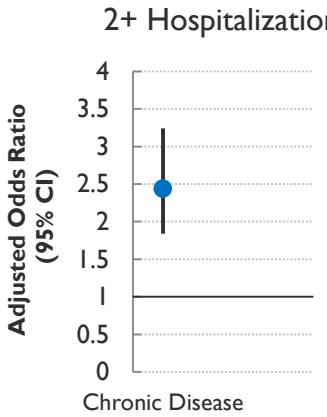


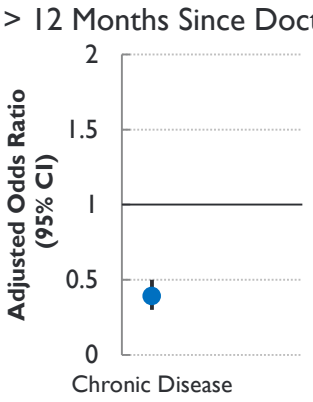












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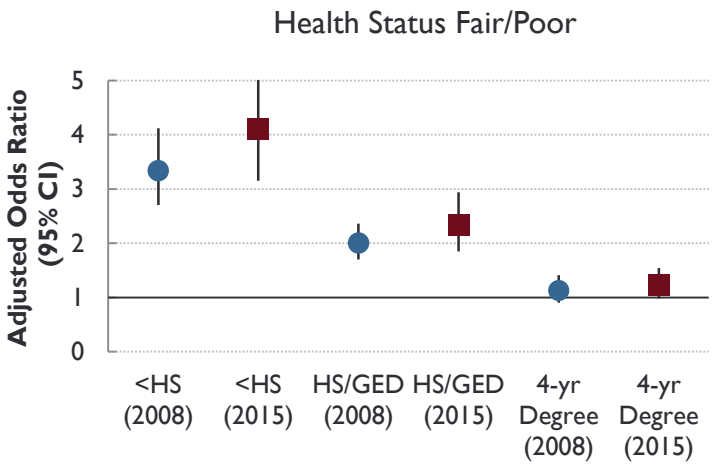
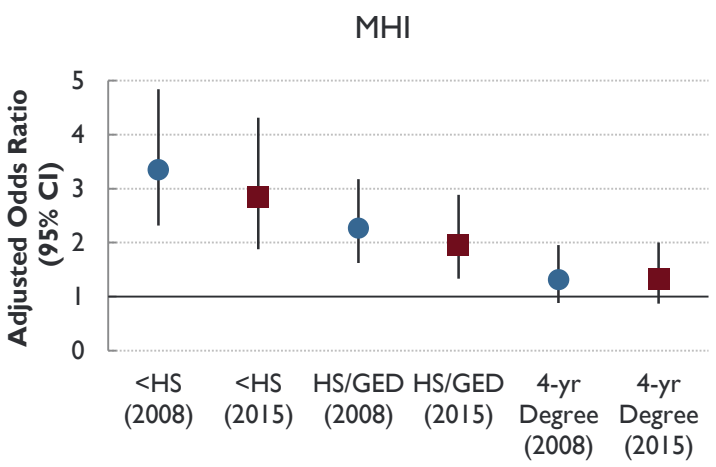
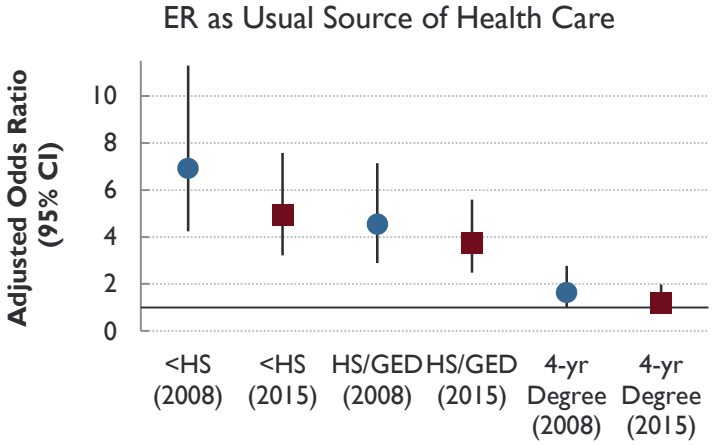
EDUCATION AS A PREDICTOR OF FAIR/POOR HEALTH; MHI; ER AS THE USUAL SOURCE OF HEALTH CARE; 3+ ER VISITS DURING PAST 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015

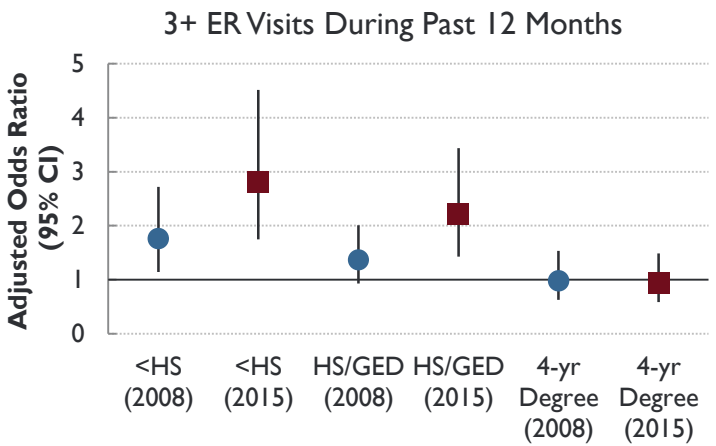
The odds of reporting each outcome in 2008 and 2015 compared to Ohioans with an **advanced degree.**

Ohioans who had not completed high school and those with a high school degree/GED had significantly higher odds of reporting: fair/poor health, MHI, having the ER as their usual source of health care and having 3 or more ER visits during the past 12 months during 2008 and 2015.









OMAS
Ohio Medicaid Assessment Survey

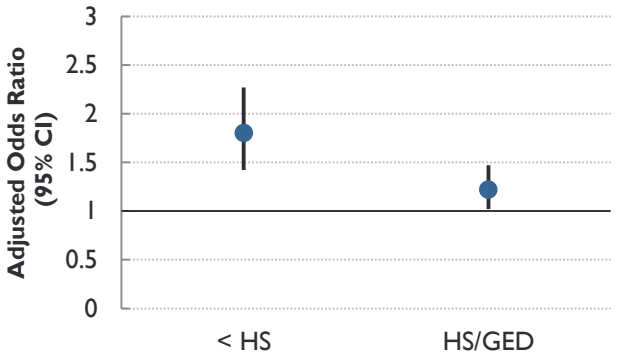
EDUCATION AS A PREDICTOR OF FAIR/POOR HEALTH; MHI; ER AS THE USUAL SOURCE OF HEALTH CARE; 3+ ER VISITS DURING PAST 12 MONTHS FOR OHIOANS ≤138% FPL IN 2015

The odds of reporting each outcome in 2015 compared to Ohioans with any **college degree.**.

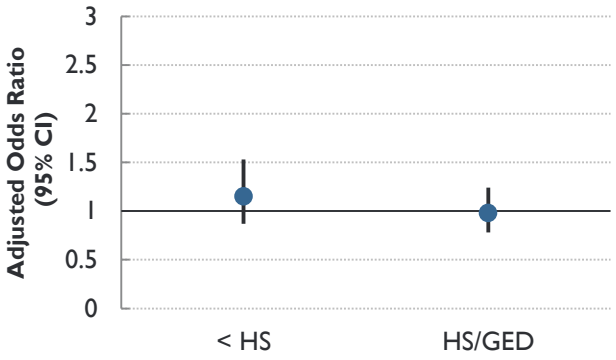
The social gradient is apparent among Ohioans living ≤ 138% FPL. Ohioans who have not completed high school and those with a high school degree/GED are significantly more likely to report fair/poor health and having the ER as their usual source of health care.

The social gradient is evident for having 3 or more ER visits during the past 12 months and MHI, but the differences among levels of education do not reach significance.

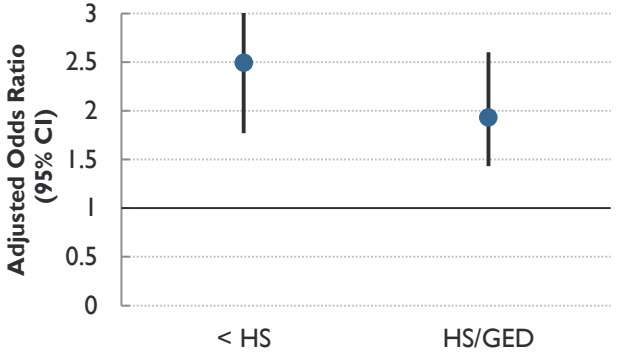
Health Status Fair/Poor



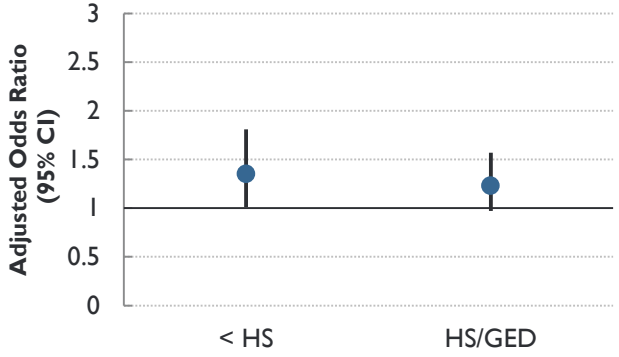
MHI



ER as Usual Source of Health Care



3+ ER Visits During Past 12 Months



EDUCATION AS A PREDICTOR OF NO USUAL SOURCE OF HEALTH CARE, TWO OR MORE HOSPITALIZATIONS, NOT SEEING A DOCTOR FOR MORE THAN 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015

The odds of reporting each outcome in 2008 and 2015 compared to Ohioans with an **advanced degree**.

In 2008, Ohioans who did not complete high school or who completed high school/GED had significantly higher odds of having no usual source of health care and not seeing a doctor for more than 12 months.

In 2015, significantly higher odds of having no usual source of health care was experienced by those with a high school degree/GED and not seeing a doctor for more than 12 months by Ohioans who had not completed high school and those with a high school degree/GED.

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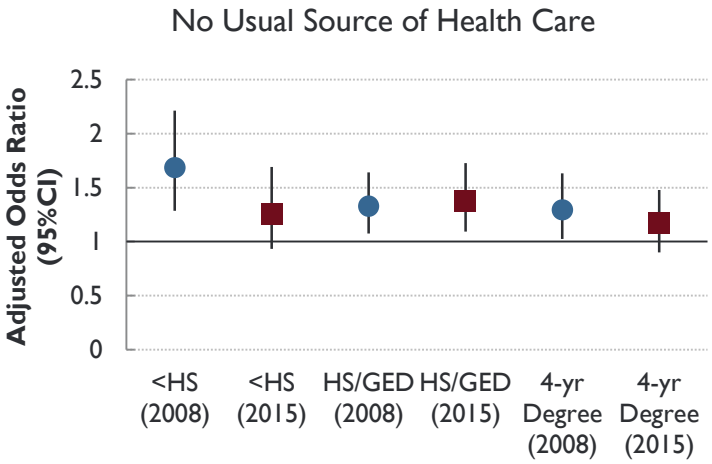
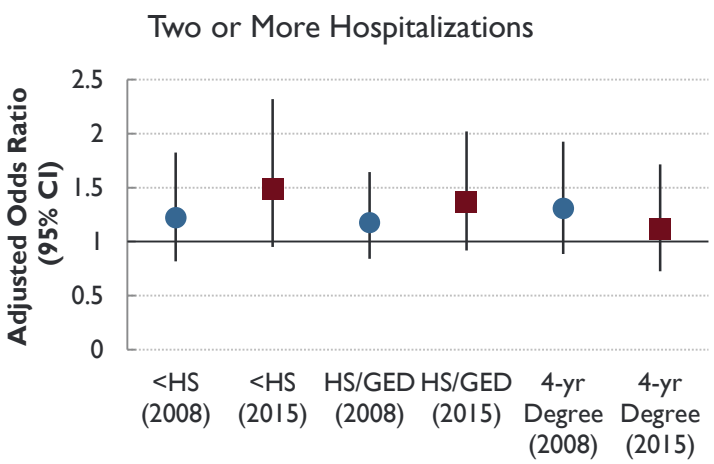
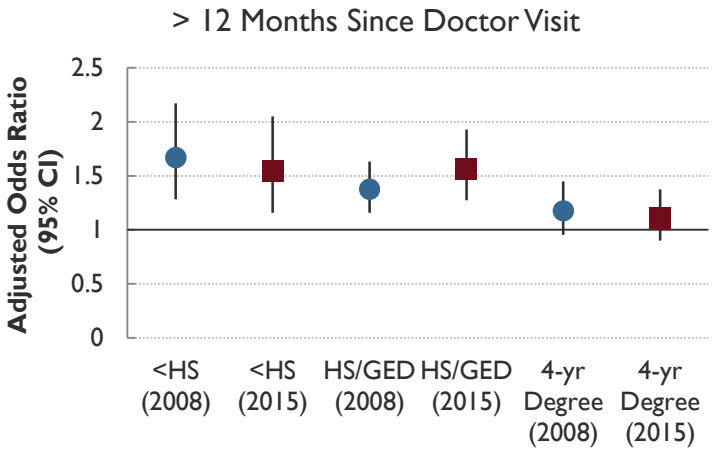




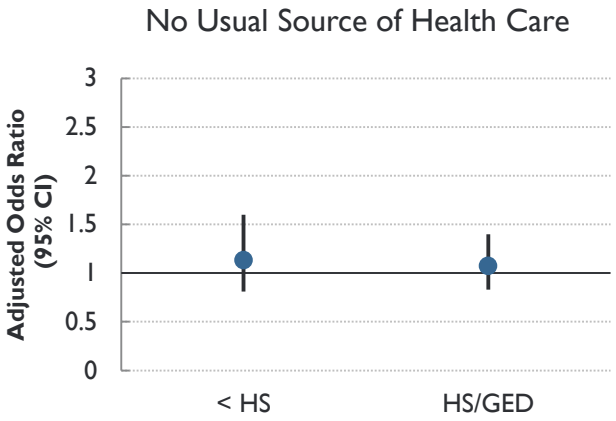


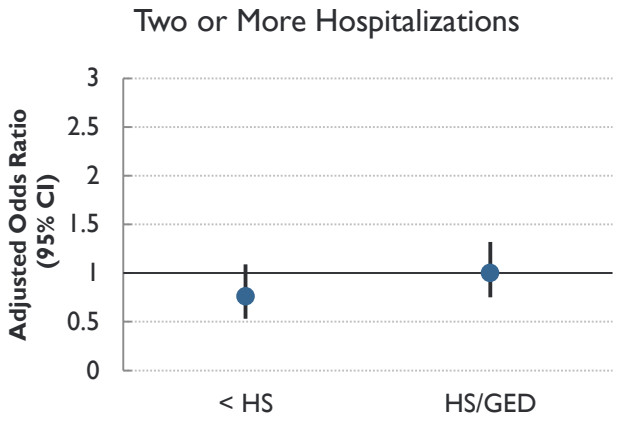
EDUCATION AS A PREDICTOR OF NO USUAL SOURCE OF HEALTH CARE, TWO OR MORE HOSPITALIZATIONS, NOT SEEING A DOCTOR FOR MORE THAN 12 MONTHS FOR OHIOANS ≤138% FPL IN 2015

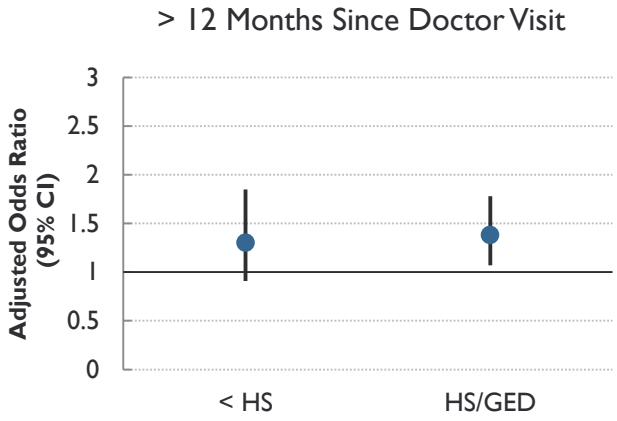
The odds of reporting each outcome in 2015 compared to Ohioans with any **college degree.**

Ohioans who had completed high school/GED were significantly more likely to report not seeing a doctor for more than 12 months.

There are no significant differences associated with level of education for having a usual source of health care or experiencing 2 or more hospitalizations.







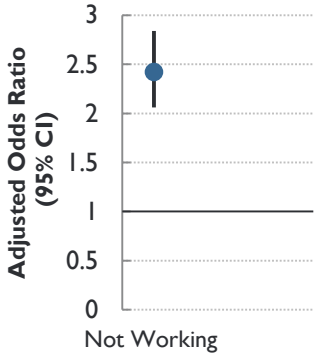
WORK STATUS AS A PREDICTOR OF SELF-REPORTED HEALTH STATUS FOR OHIOANS ≤138% FPL

The odds of reporting each outcome in 2015 compared to Ohioans who **worked**.

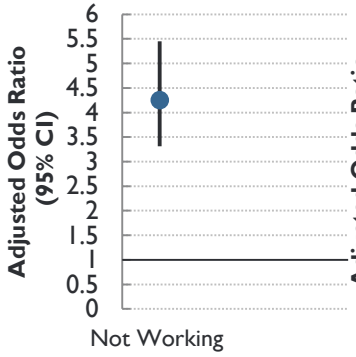
There were significant differences between Ohioans with incomes ≤138% FPL who worked and did not work for fair/poor health, MHI, 3 or more ER visits and 2 or more hospitalizations.

Ohioans with incomes ≤138% FPL who did not work had significantly lower odds of going more than 12 months without a doctor visit.

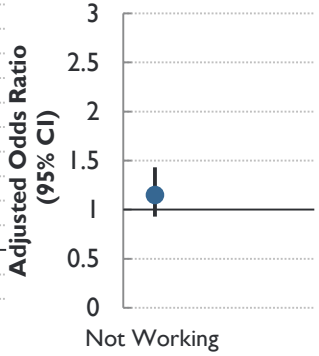
Health Status Fair/Poor



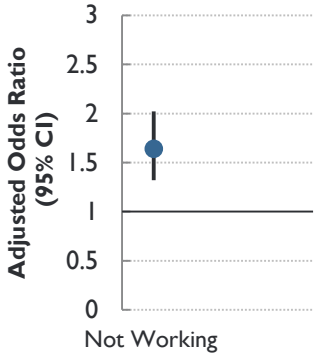
MHI



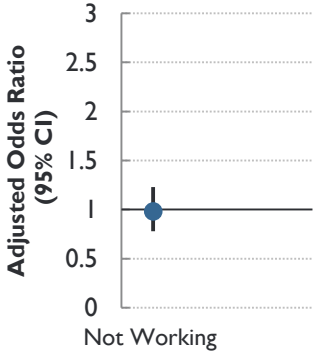
ER as USOC



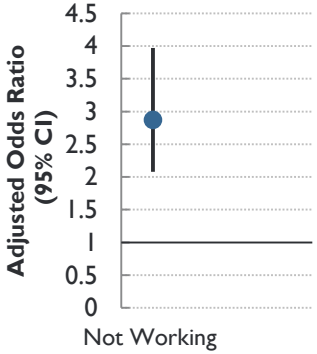
3+ ER Visits Past 12 Months



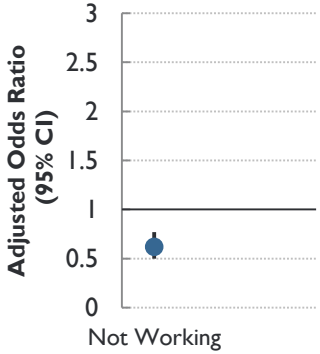
No USOC



2+ Hospitalizations



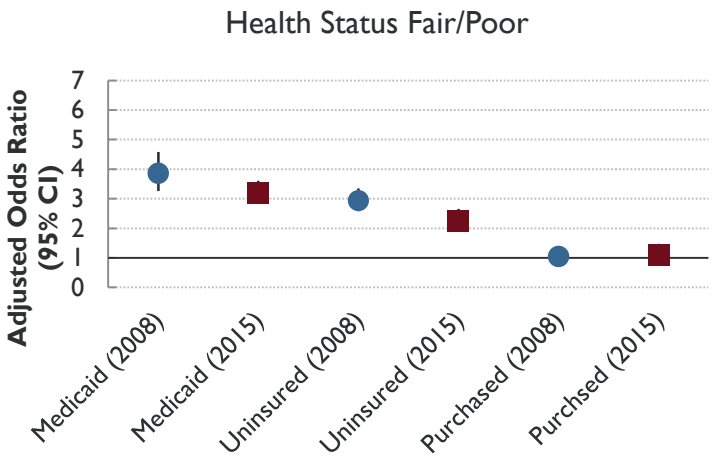
> 12 Months Since Doctor Visit

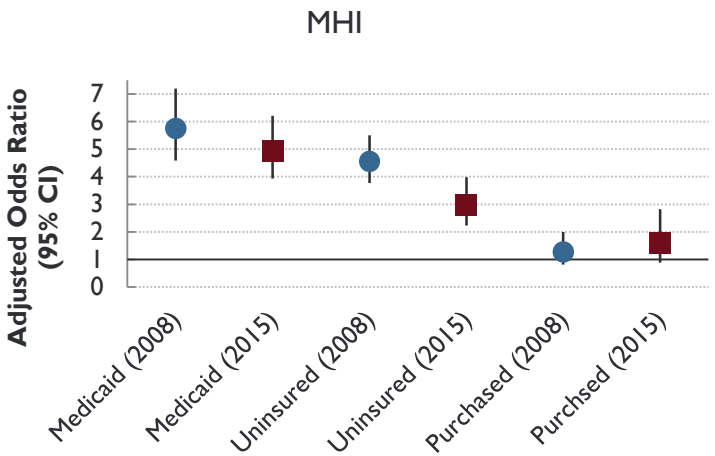


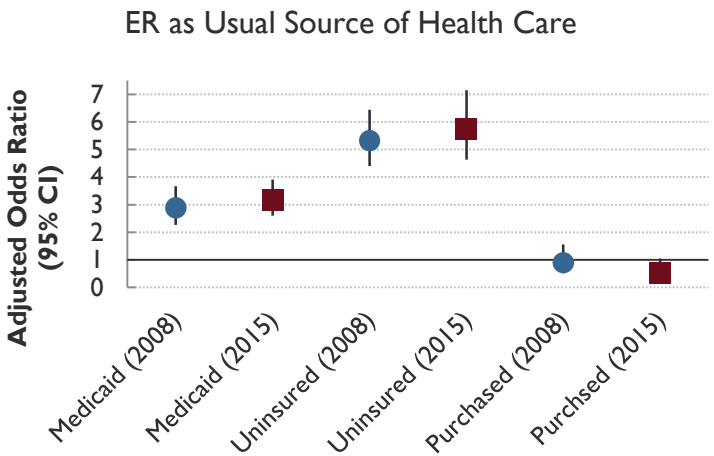
INSURANCE AS A PREDICTOR OF FAIR/POOR HEALTH; MHI; ER AS THE USUAL SOURCE OF HEALTH CARE; 3+ ER VISITS DURING PAST 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015

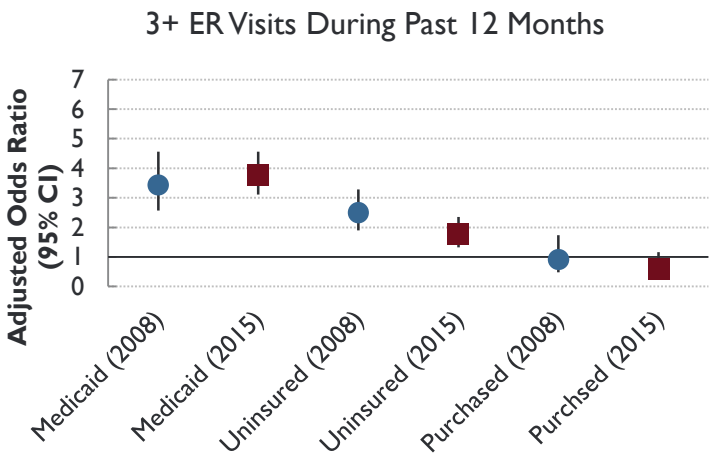
The odds of reporting each outcome in 2008 and 2015 compared to Ohioans with **employment-based health insurance**.

Ohioans with Medicaid and those who were uninsured had significantly higher odds of reporting fair/poor health, MHI, having ER as their usual source of health care and having three or more ER visits during the past 12 months in 2008 and 2015.







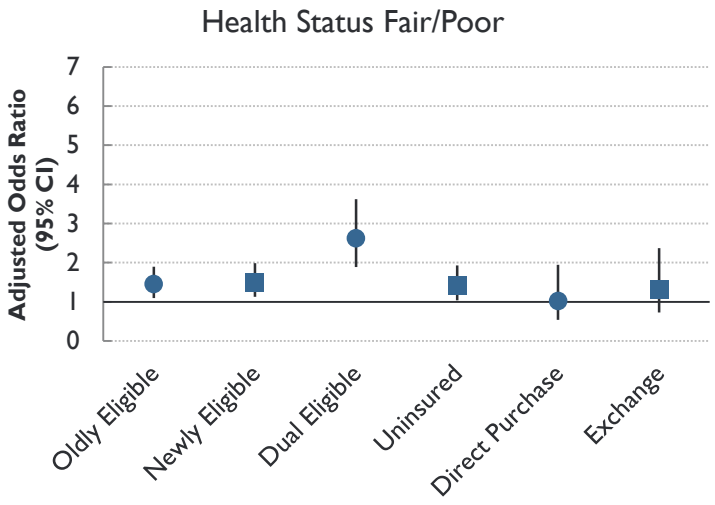


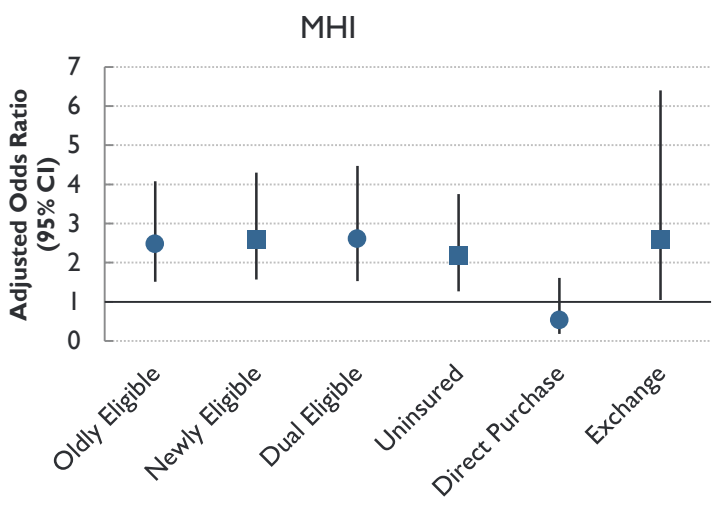
INSURANCE AS A PREDICTOR OF FAIR/POOR HEALTH; MHI; ER AS THE USUAL SOURCE OF HEALTH CARE; 3+ ER VISITS DURING PAST 12 MONTHS FOR OHIOANS ≤138% FPL IN 2015

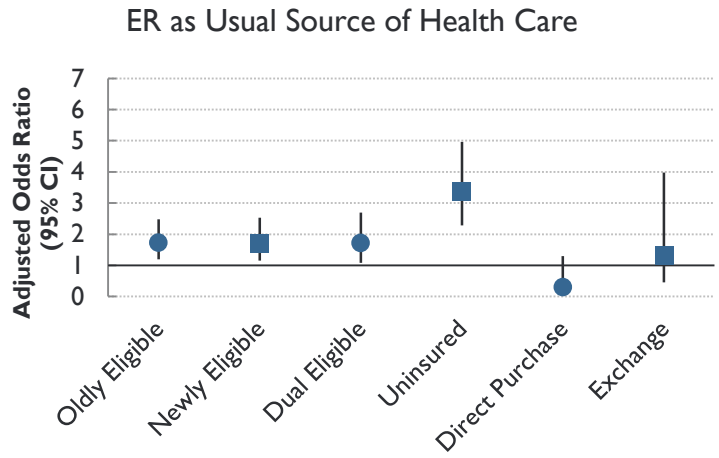
The odds of reporting each outcome in 2015 compared to Ohioans ≤ 138% FPL with **employment-based health insurance**.

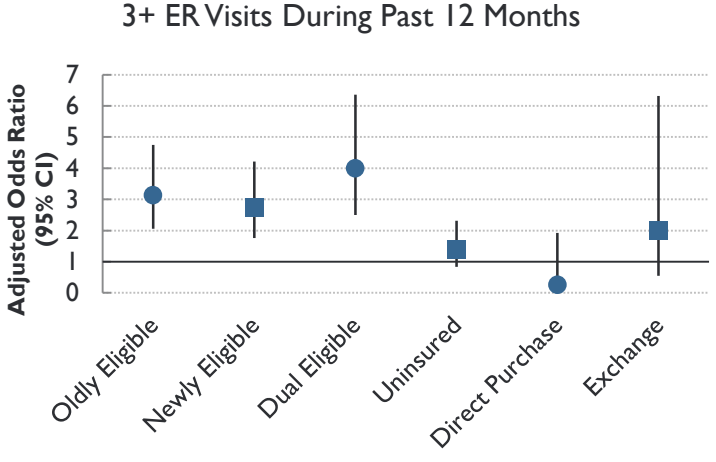
Ohioans who were uninsured, oldly or newly eligible for Medicaid and those with Medicare and Medicaid had significantly higher odds of reporting fair/poor health, MHI, the ER as their usual source of health care and 3 or more ER visits during the past 12 months.

Ohioans who obtained health insurance through the exchange and those who directly purchased insurance were not significantly different from those with job-based insurance for these outcomes, except for MHI among those with exchange insurance.









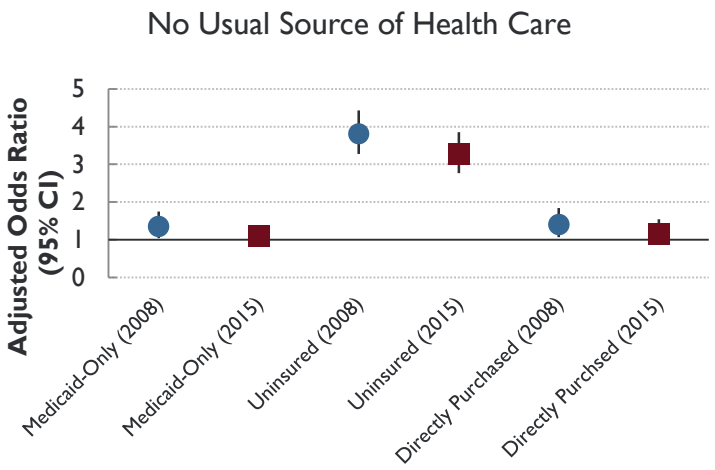
OMAS
Ohio Medicaid Assessment Survey

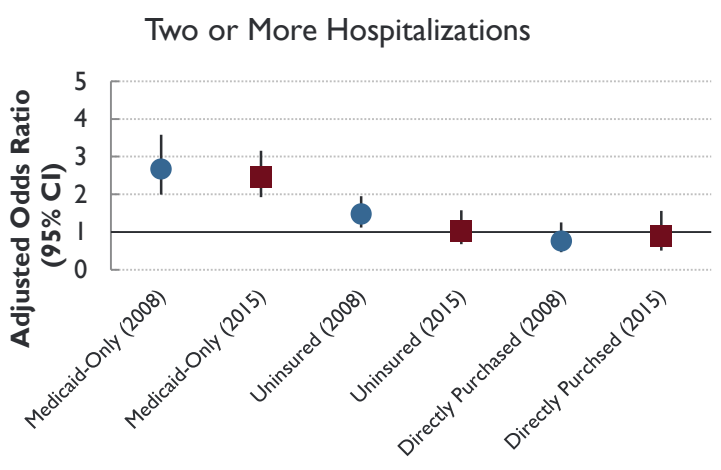
INSURANCE AS A PREDICTOR OF NO USUAL SOURCE OF HEALTH CARE, TWO OR MORE HOSPITALIZATIONS, NOT SEEING A DOCTOR FOR MORE THAN 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015

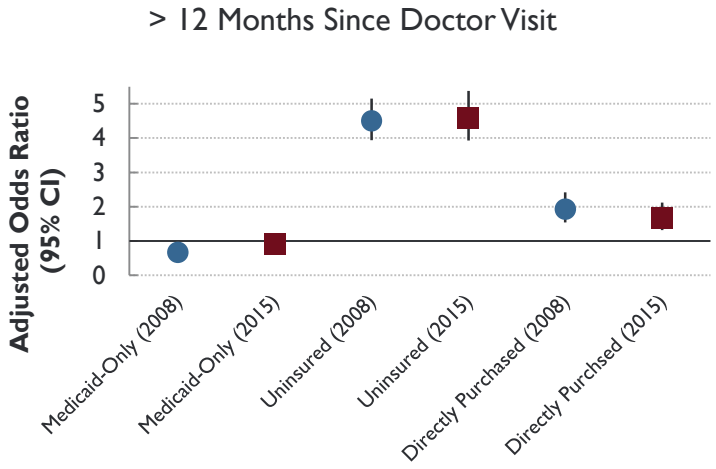
The odds of reporting each outcome in 2008 and 2015 compared to Ohioans with **employment-based health insurance**.

In 2008, Ohioans with Medicaid had significantly higher odds of having no usual source of health care and two or more hospitalizations but significantly lower odds of not seeing a doctor for more than 12 months. The significant difference disappeared in 2015, except for the higher odds of two or more hospitalizations.

Ohioans who were uninsured in both years had significantly higher odds for all of these outcomes, except for two or more hospitalizations in 2015.







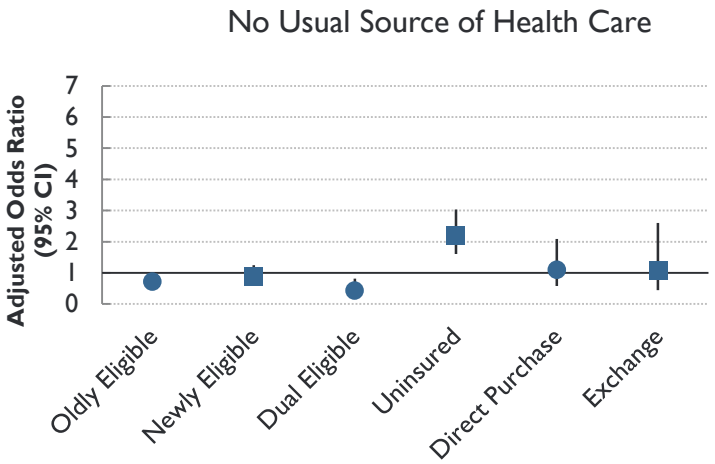
OMAS
Ohio Medicaid Assessment Survey

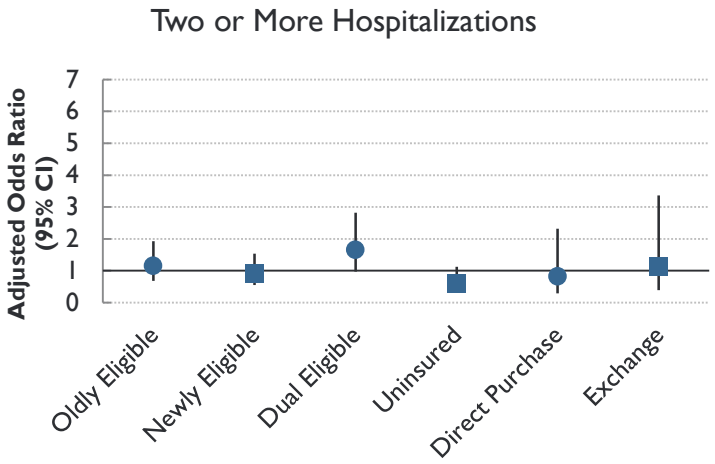
INSURANCE AS A PREDICTOR OF NO USUAL SOURCE OF HEALTH CARE, TWO OR MORE HOSPITALIZATIONS, NOT SEEING A DOCTOR FOR MORE THAN 12 MONTHS FOR OHIOANS ≤138% FPL IN 2015

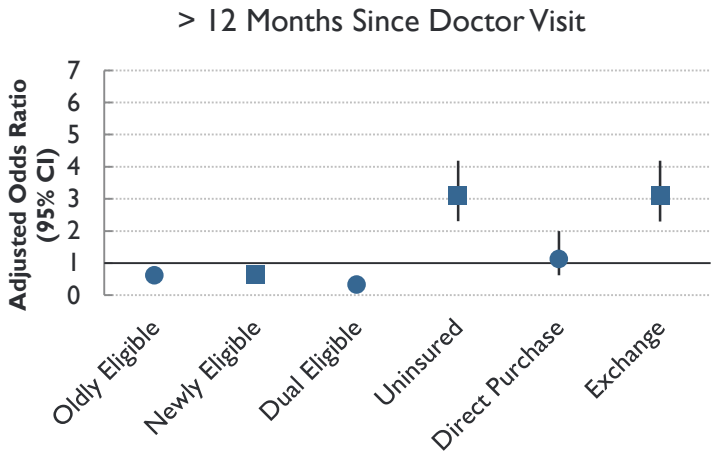
The odds of reporting each outcome in 2015 compared to Ohioans with **employment-based health insurance**.

Only uninsured Ohioans had significantly higher odds of reporting no usual source of health care.

Ohioans who were dually eligible and those newly and oldly Medicaid eligible had significantly lower odds of reporting more than 12 months since last doctor visit while the odds were significantly higher for uninsured Ohioans and those with insurance through the exchange.







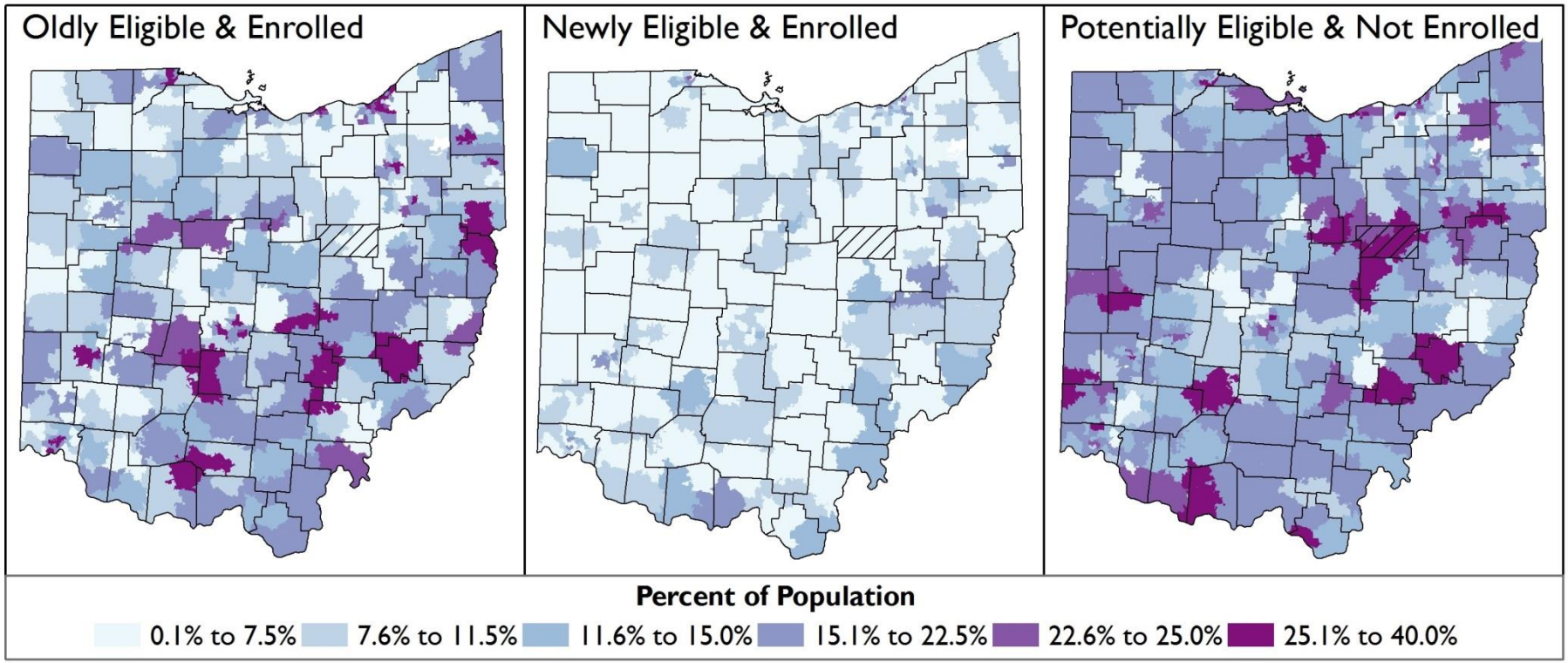
RESULTS

SECTION III: MEDICAID AND POTENTIALLY MEDICAID ELIGIBLE POPULATIONS

Geographic clusters exist with high concentrations of Ohioans who are potentially eligible for Medicaid, but not enrolled.

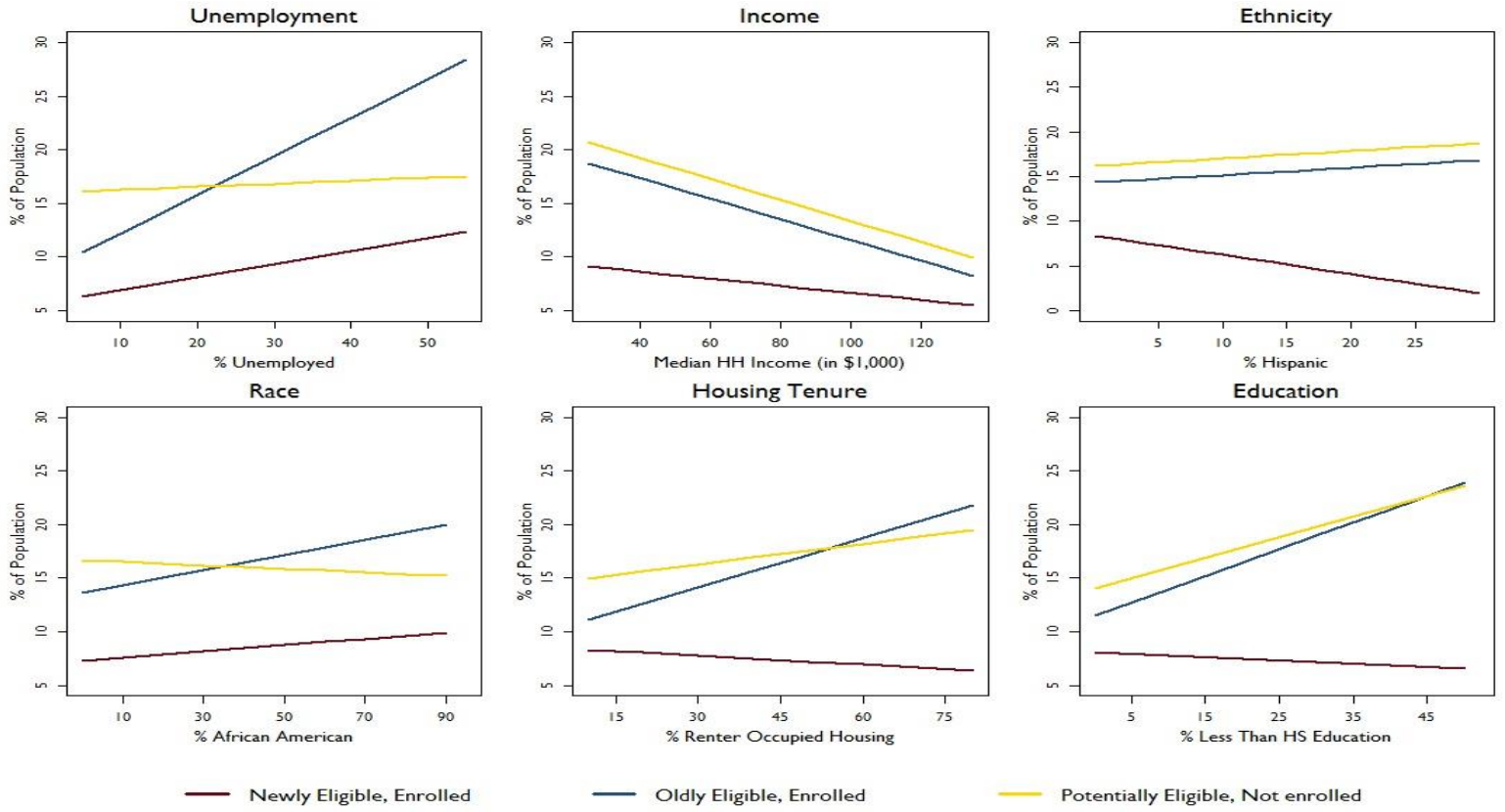
Area-level factors, such as education, median income, unemployment and ethnicity are associated with Medicaid eligibility status.

GEOGRAPHIC DISTRIBUTION OF OHIOANS, AGES 19-64, BY MEDICAID ELIGIBILITY CATEGORY IN 2015



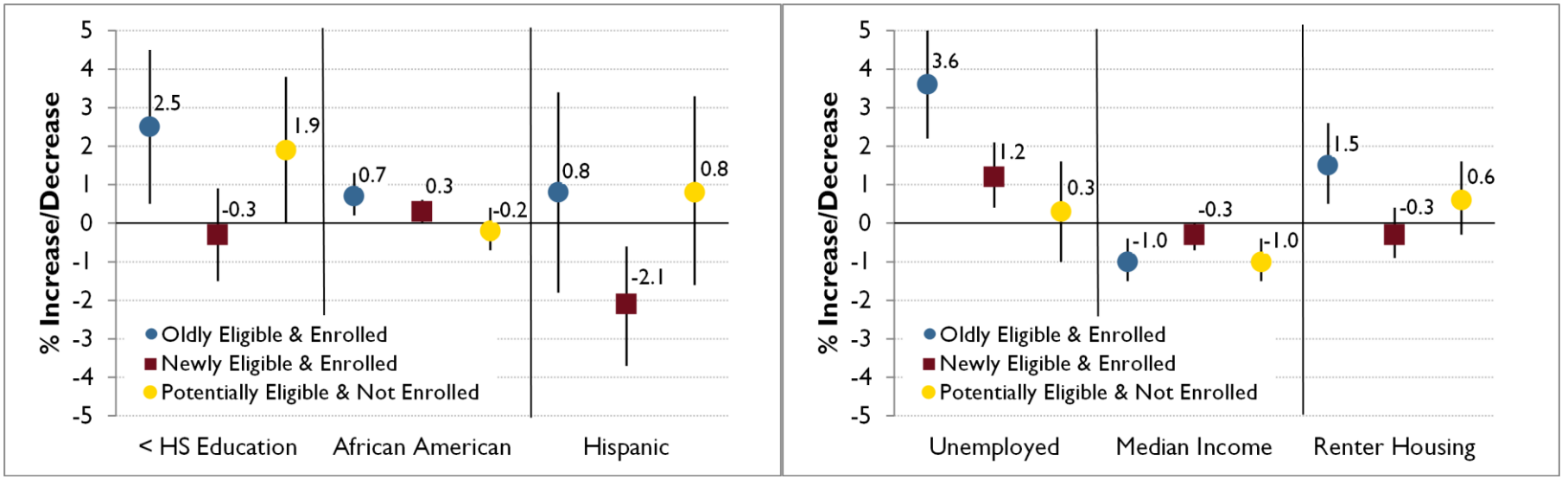
These maps present Medicaid eligibility status for Ohioans with incomes ≤138% FPL. Map 4 underscores opportunities for outreach to areas with darker shades of purple that reflect higher concentrations of those PE&NE. Some Ohioans meet financial eligibility criteria for Medicaid but may elect to forego seeking coverage, such as members of the Amish community (e.g. Holmes county is designated with diagonal lines on the maps).

AREA LEVEL PREDICTORS OF MEDICAID ELIGIBILITY CATEGORY OF OHIOANS IN 2015



These figures show how an increase in the area percent of 6 factors is associated with the three Medicaid eligibility categories. For example areas with a higher level of household income have a lower percent of people in any of the three Medicaid eligibility categories, though the relationship is not as strong among newly eligible and enrolled. Also, areas with a higher percent of unemployment have a higher percent of people in the newly, enrolled and oldly, enrolled categories, while areas with a higher percent of people without a high school education have a higher percent of people who are oldly eligible and enrolled or potentially eligible and not enrolled.

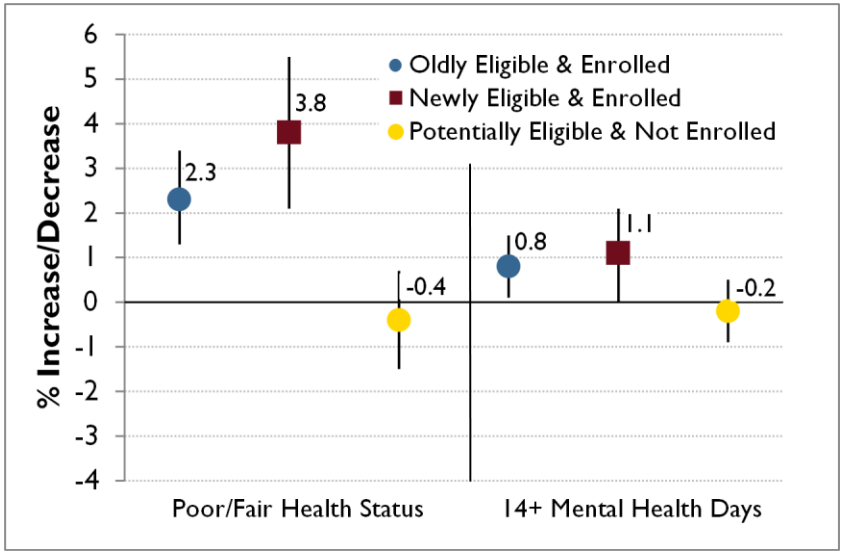
AREA LEVEL PREDICTORS OF MEDICAID ELIGIBILITY CATEGORY OF OHIOANS IN 2015

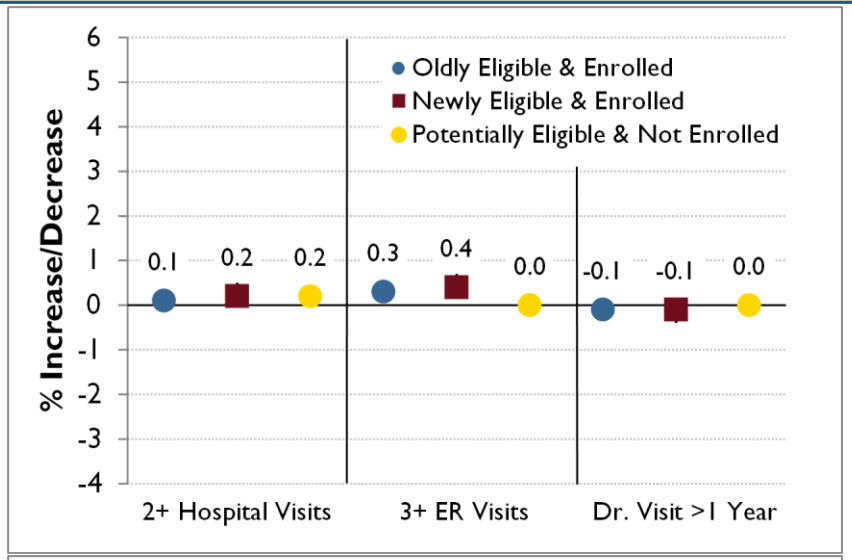


Different geospatial area predictors proved significant for identifying areas with greater or fewer people who were newly eligible and enrolled (NE&E), oldly eligible and enrolled (OE&E) or potentially eligible and not enrolled (PE&NE). Predictors where the confidence crosses the 0 line are not significant. Predictors that were significant include:

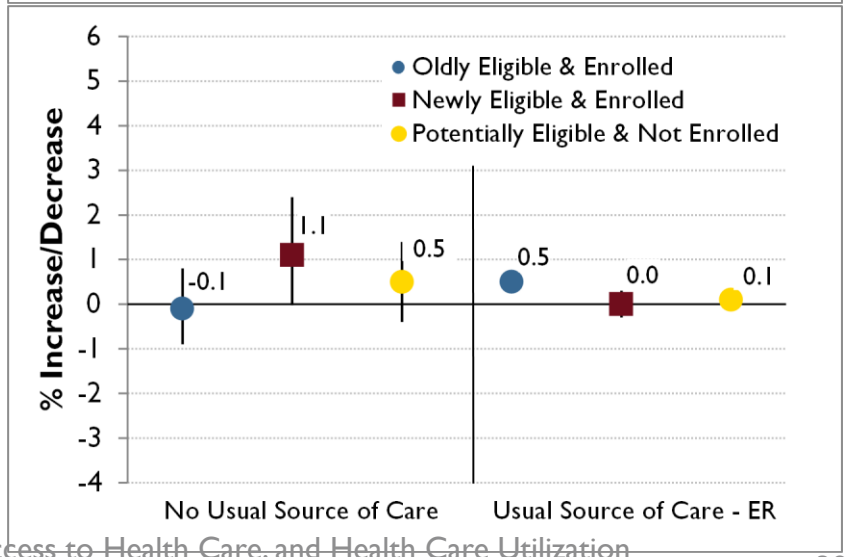
- ·Area level median household income for all three eligibility groups, where an area increase in median income is associated with a decrease in area eligibility (10% increase to 1.0% decrease for both OE&E and PE&NE and to 0.3% decrease for NE&E).
- ·Area level percent of people with less than a high school education is a predictor for areas where people are OE&E (10% increase associated with a 2.5% increase) and PE&NE (10% increase associated with a 1.9% increase)
- ·Area level unemployment is a significant predictor for NE&E. A 10% increase in area unemployment is associated with a 1.2% increase in NE&E.
- ·Area level percent of Hispanic residents is a significant predictor of NE&E. A 10% increase in Hispanic residents is associated with a 2.1% decrease in NE&E.

HEALTH STATUS, ACCESS TO HEALTH CARE AND HEALTH CARE UTILIZATION OF MEDICAID ELIGIBILITY GROUPS





For each outcome, a 10% increase in the area percent of people in a given Medicaid or potentially Medicaid eligible category is associated with an increase or decrease in the area percent of people with the given outcome. For example, a 10% increase the area percent of the oldly eligible and enrolled population is associated with a 2.3% increase in area percent of poor/fair health. A 10% increase in the area percent of newly eligible and enrolled population is associated with a 3.8% increase in the area percent of fair/poor health. For most of the outcomes, there is no significant difference between the three eligibility categories. However, Ohioans who were potentially eligible, but not enrolled had poor/fair health that was significantly lower than those enrolled in Medicaid, either newly or oldly.

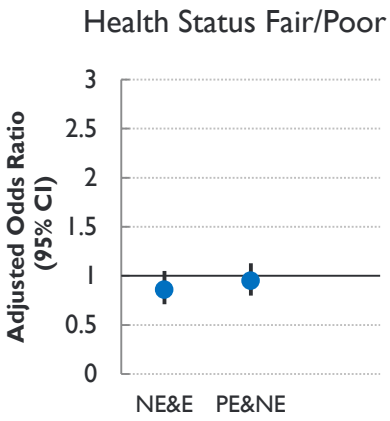


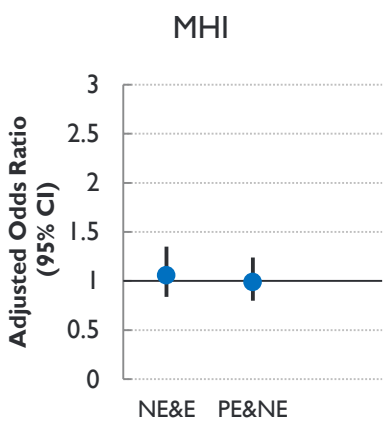
MEDICAID STATUS AS A PREDICTOR OF FAIR/POOR HEALTH; MHI; ER AS THE USUAL SOURCE OF HEALTH CARE; 3+ ER VISITS DURING PAST 12 MONTHS FOR OHIOANS ≤138% FPL IN 2015

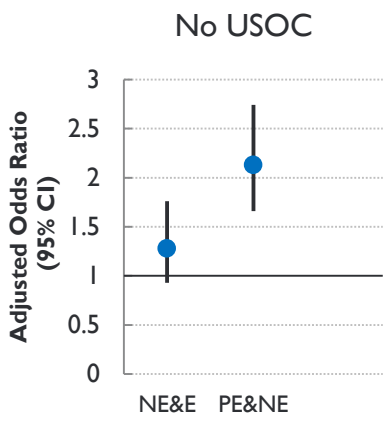
The odds of reporting each outcome in 2015 compared to Ohioans ≤ 138% FPL who were **oldly eligible** for Medicaid.

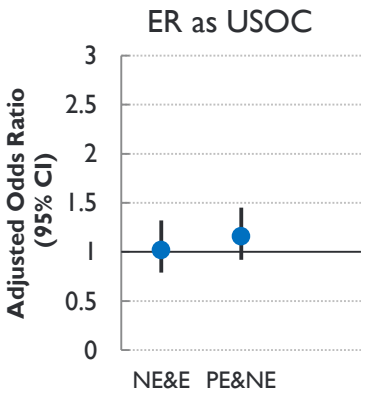
Ohioans who were potentially eligible for Medicaid but not enrolled had significantly higher odds of having no usual source of health care and going more than 12 months without a doctor visit. They also had significantly lower odds of more than 3 ER visits.

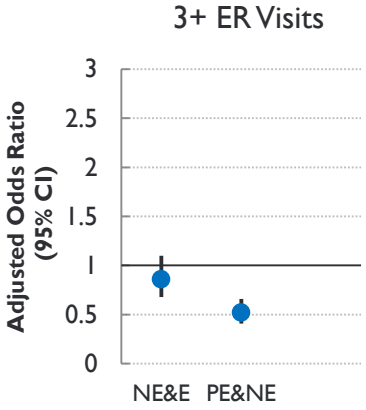
Ohioans who were newly eligible and enrolled in Medicaid had significantly lower odds of more than 2 hospitalizations.

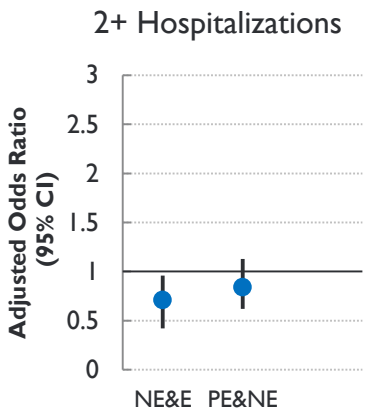


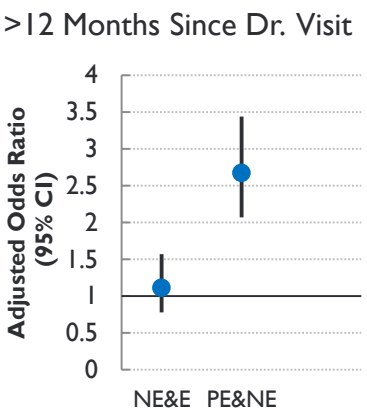










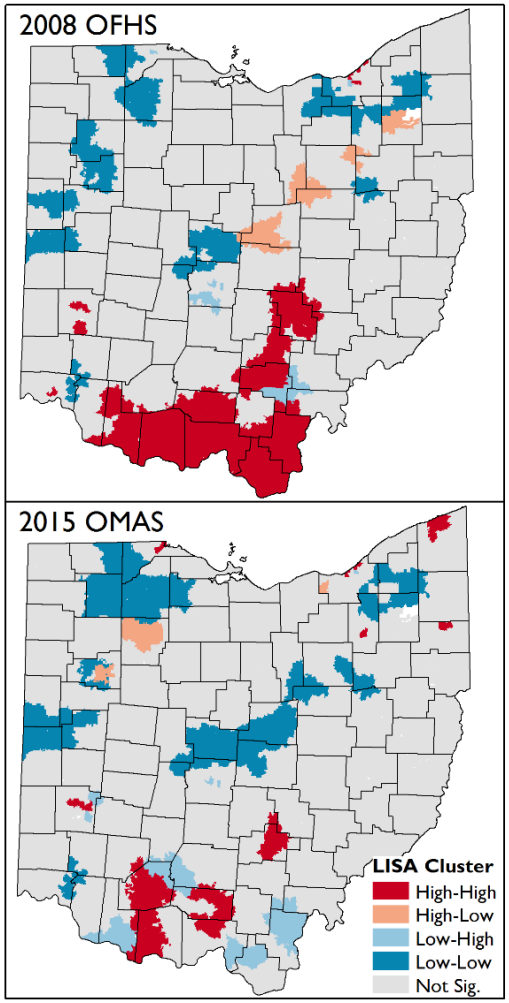


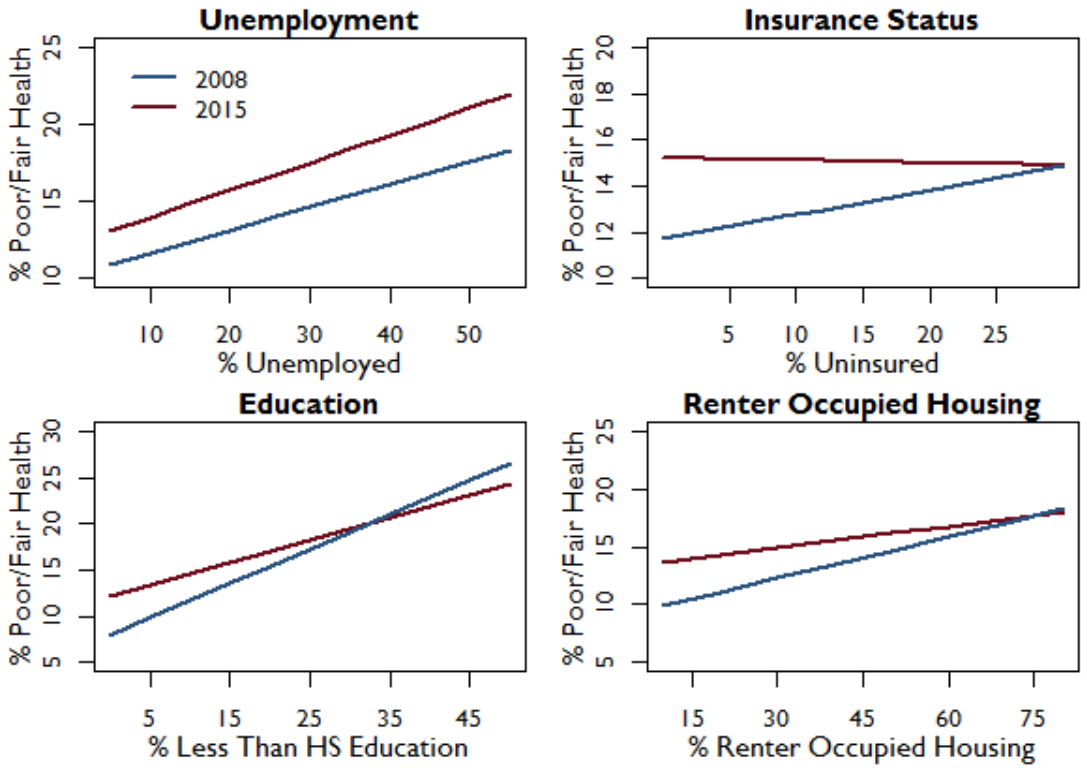
RESULTS

SECTION IV: Spatial Analysis of Distribution of Self-Reported Health Status, Access to Health Care and Health Care Utilization: 2008 and 2015

Large clusters of higher rates of poor health decreased, but persisted in 2015. Large clusters indicating poor access disappeared in having a USOC and ER as USOC. The three utilization outcomes appeared to change between 2008 and 2015 variably, and based on area of the state. Higher rates of area-level uninsurance, unemployment and renter occupied housing were consistently associated with poorer outcomes.

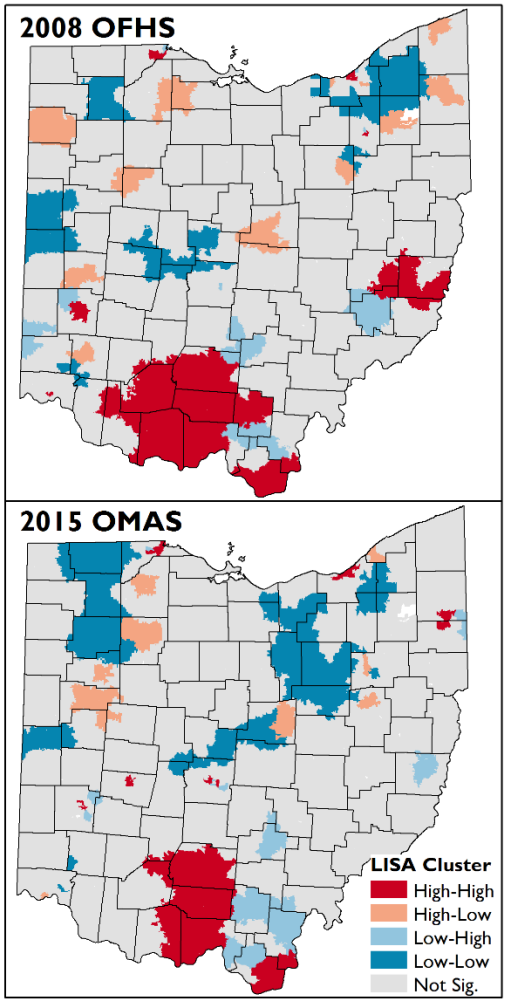
AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF FAIR/POOR SELF-RATED HEALTH

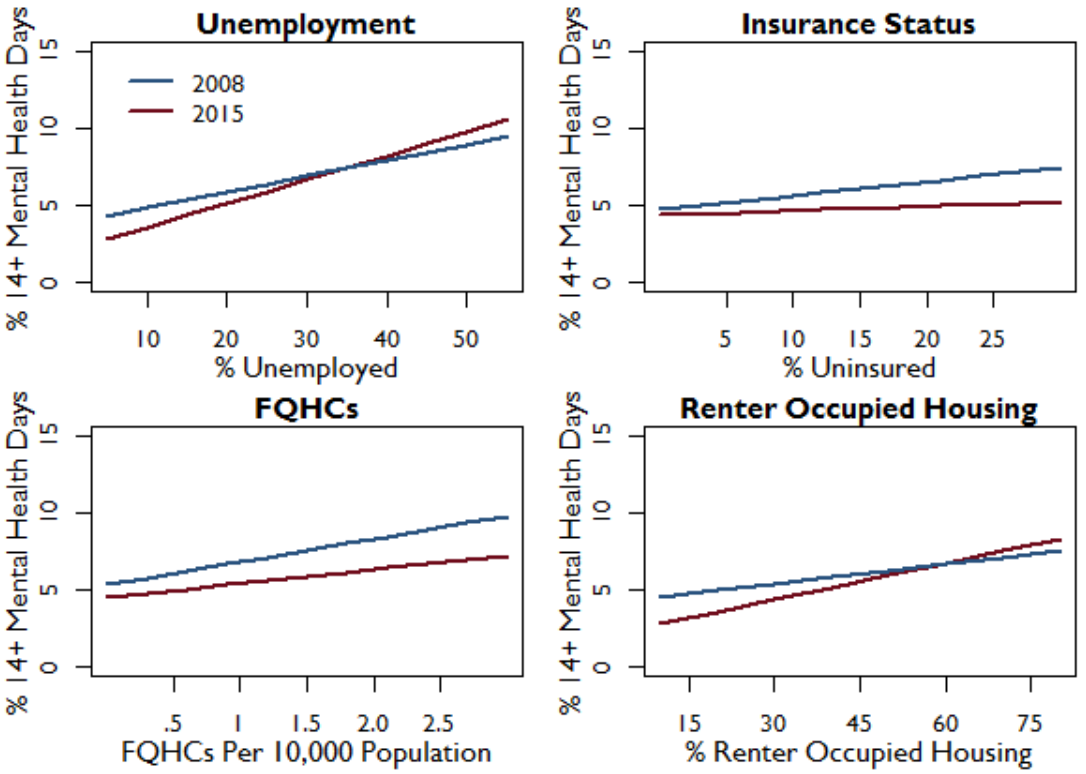




- This map indicates a large cluster of high rates (red) of fair/poor health in the southern portion of the state in 2008 that shrinks significantly by 2015. This map also shows large clusters of low rates (blue) in 2008 which grow in size by 2015.
- In 2008 and 2015, areas reporting high levels of poor/fair health had higher unemployment rates, and a larger population with less than a high school education
- In 2008 higher uninsurance rates and more renter occupied housing were also related to high levels of poor/fair health

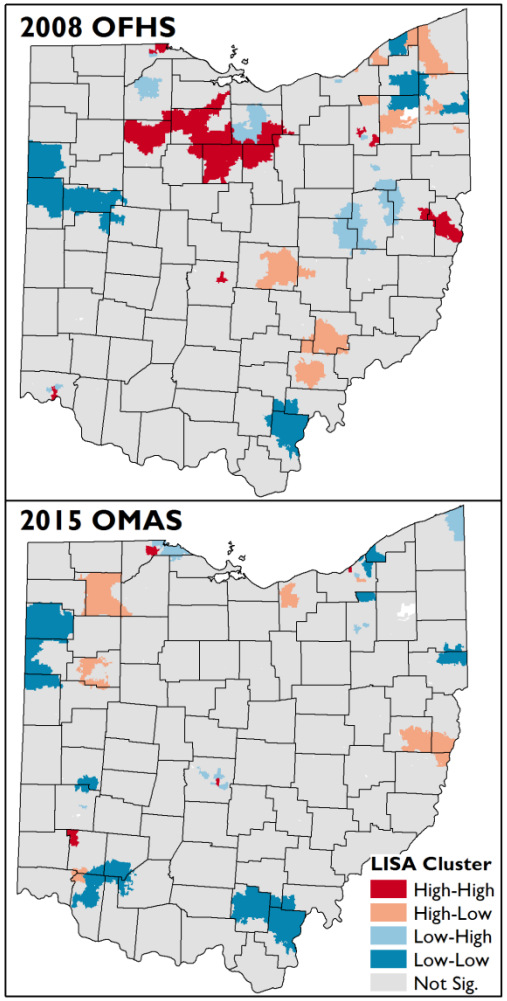
AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF MHI

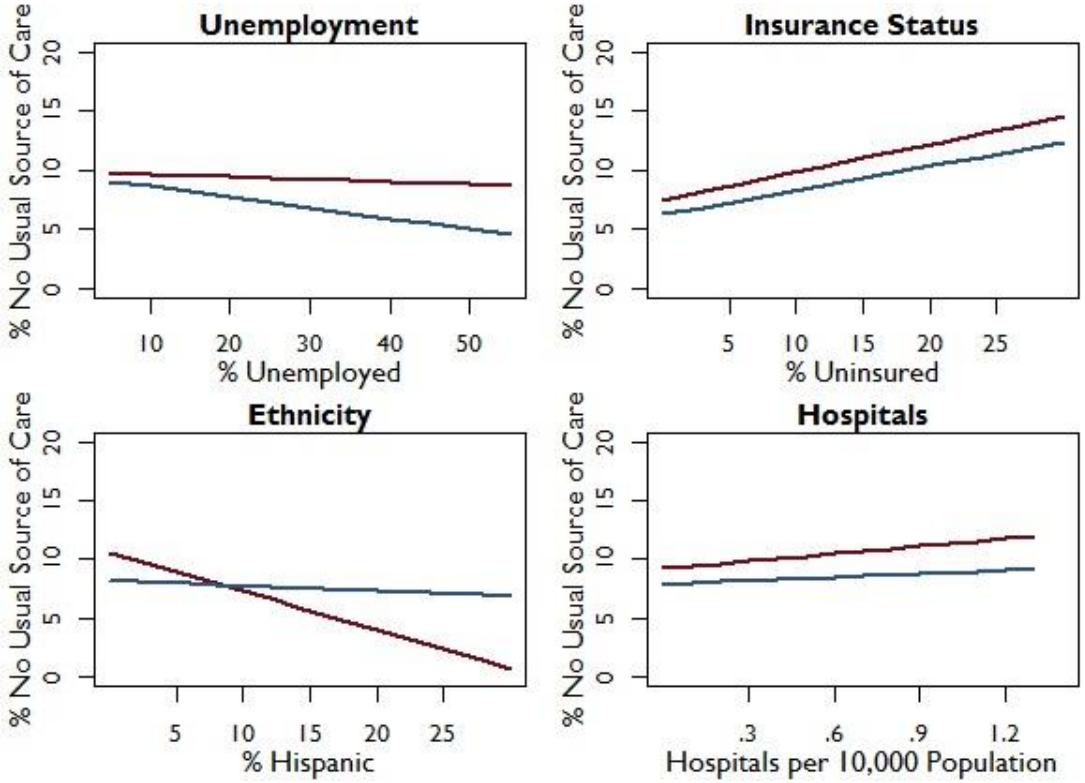




- This map shows a large cluster of high rates (red) of MHI in the south, which shrinks in 2015, but still persists. The areas of good mental health (blue) grew in size between 2008 and 2015.
- In 2008 and 2015, areas with higher rates of MHI also had higher rates of unemployment and higher rates of renters.

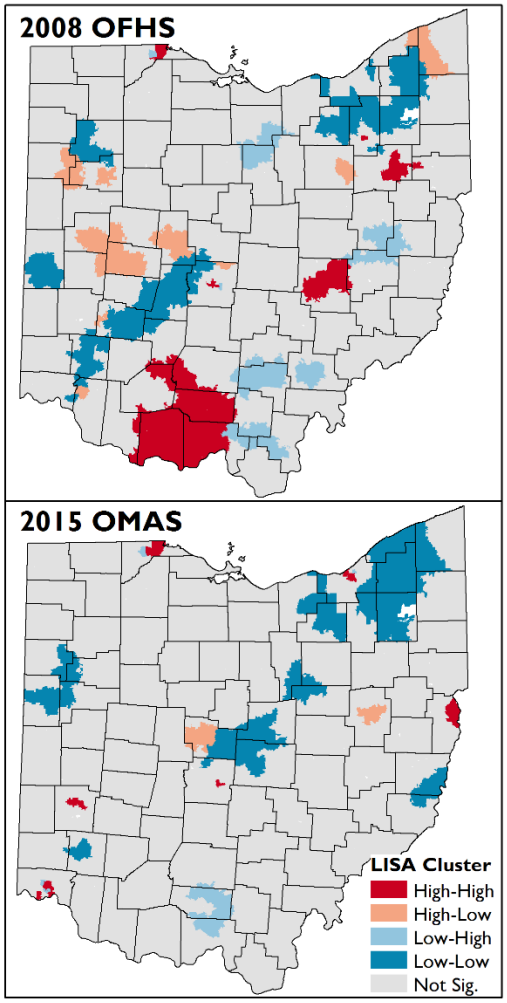
AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF OHIOANS WITHOUT A USUAL SOURCE OF HEALTH CARE

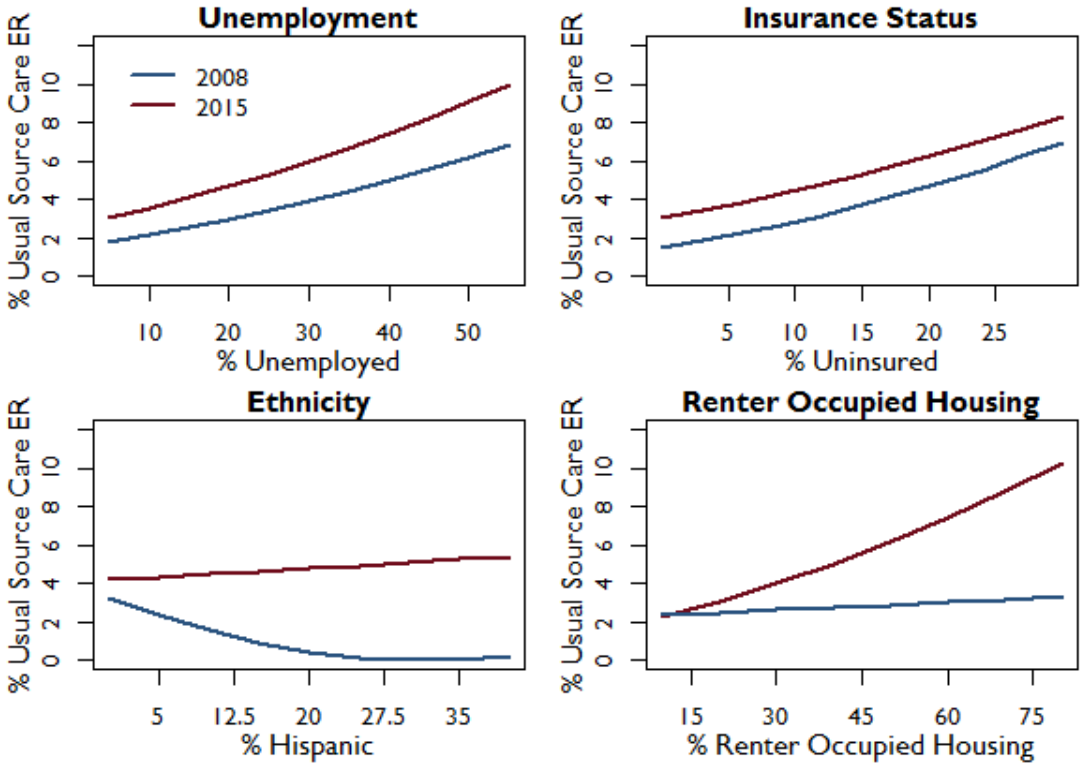




- This map indicates a large cluster of high rates (red) of Ohioans without a usual source of health care in 2008 in northern Ohio that disappears in 2015.
- In 2008 and 2015, areas with higher rates of Ohioans without a usual source of health care also had higher rates of uninsurance.

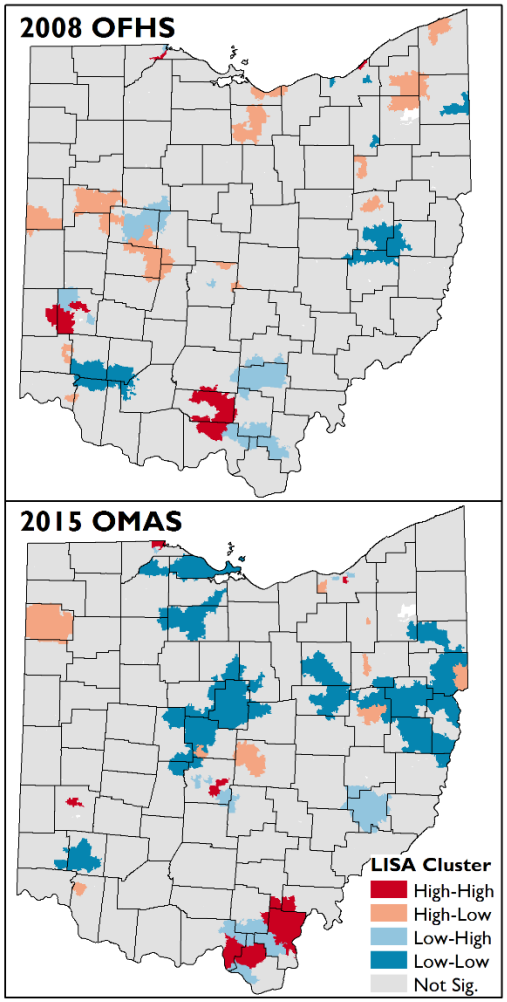
AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF OHIOANS WHO REPORT THE EMERGENCY ROOM IS THEIR USUAL SOURCE OF HEALTH CARE

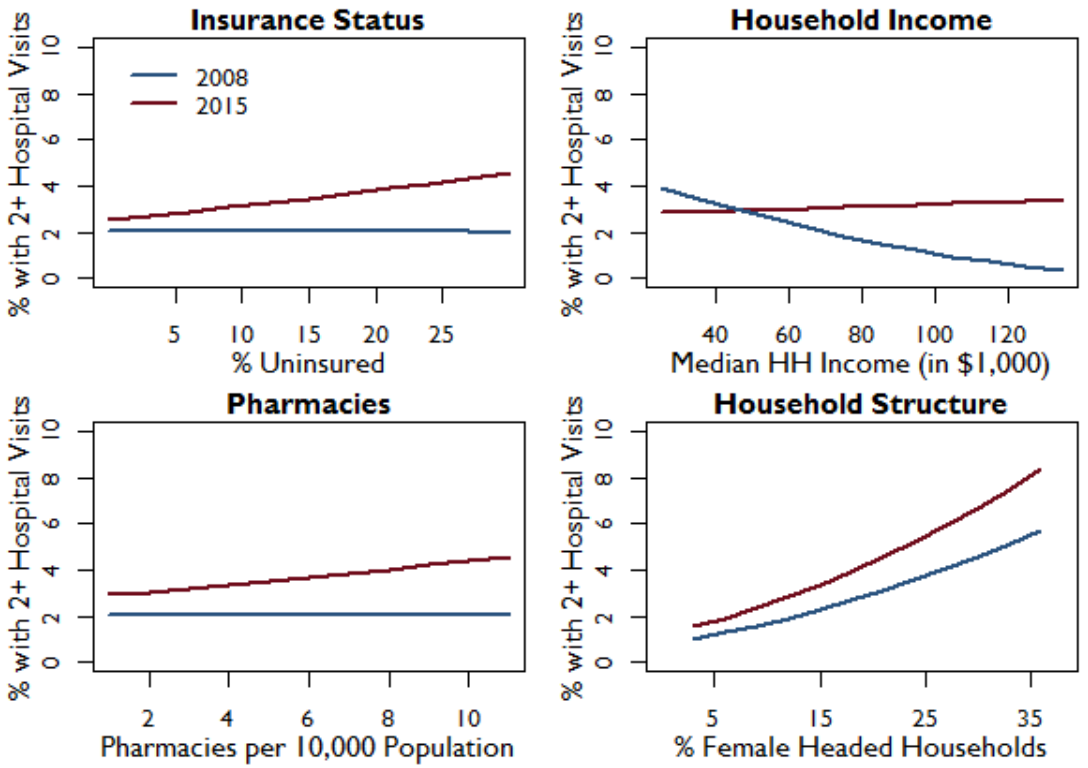




- This map indicates a large cluster of high rates (red) of ER as the usual source of health care in the southern portion of the state that disappears by 2015.
- In 2008 and 2015, areas reporting high levels of ER as the usual source of health care had higher percentages of unemployed and uninsured Ohioans.
- In 2015, areas with higher levels of ER as the usual source of health care had higher percentages of renters.

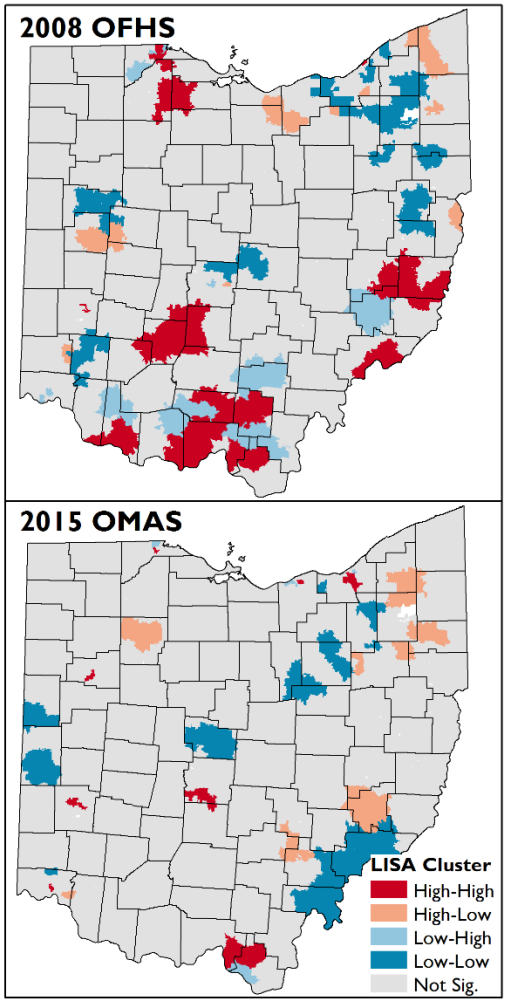
AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF OHIOANS WITH TWO OR MORE HOSPITALIZATIONS DURING THE PAST 12 MONTHS

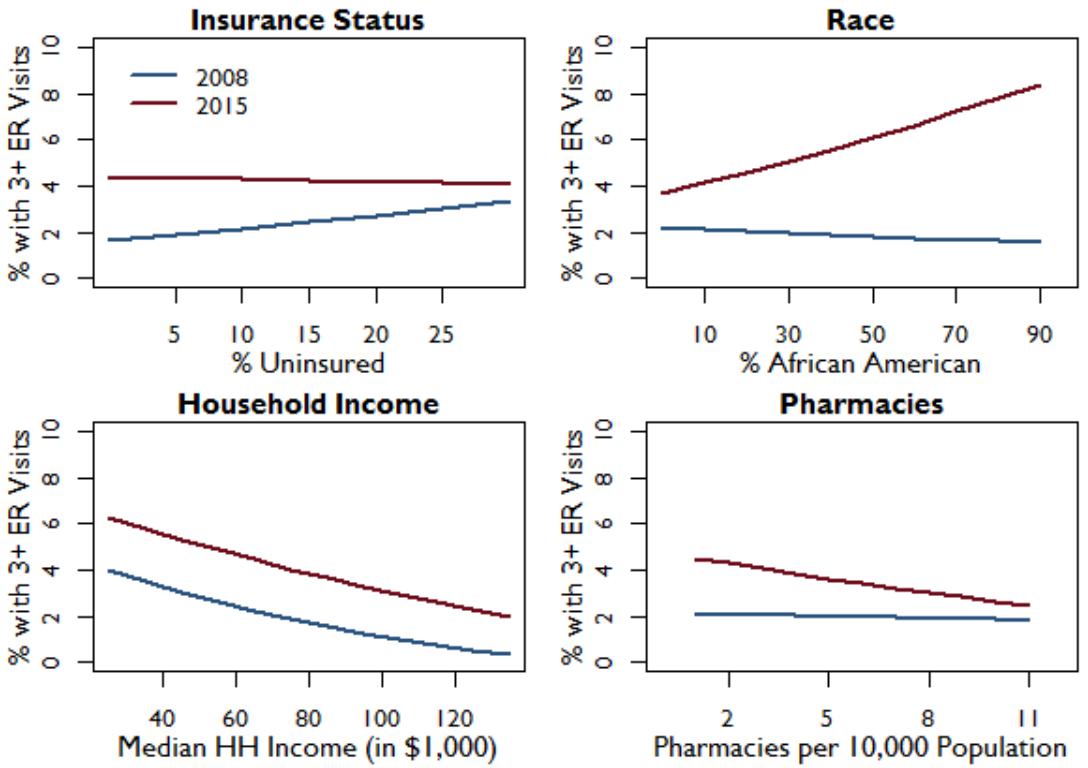




- This map indicates the development, between 2008 and 2015, of large clusters with low rates (blue) of areas in which Ohioans were hospitalized two or more times during the past 12 months.
- In 2008 and 2015, areas with higher rates of two or more hospitalizations had higher rates of female headed households.
- Areas with lower median household income had higher rates of two or more hospitalizations in 2008 but the importance of area median household income appears to have disappeared by 2015.

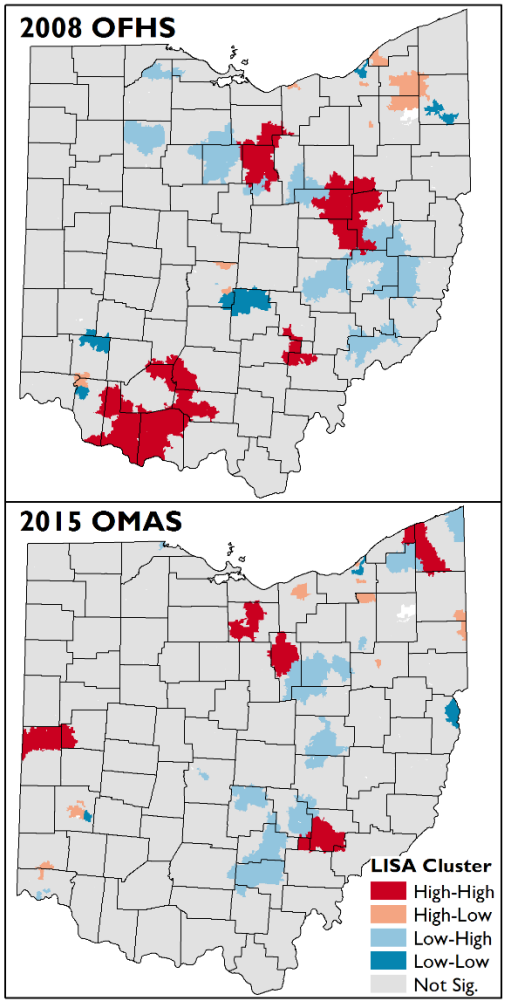
AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF OHIOANS WITH THREE OR MORE EMERGENCY ROOM VISITS DURING THE PAST 12 MONTHS

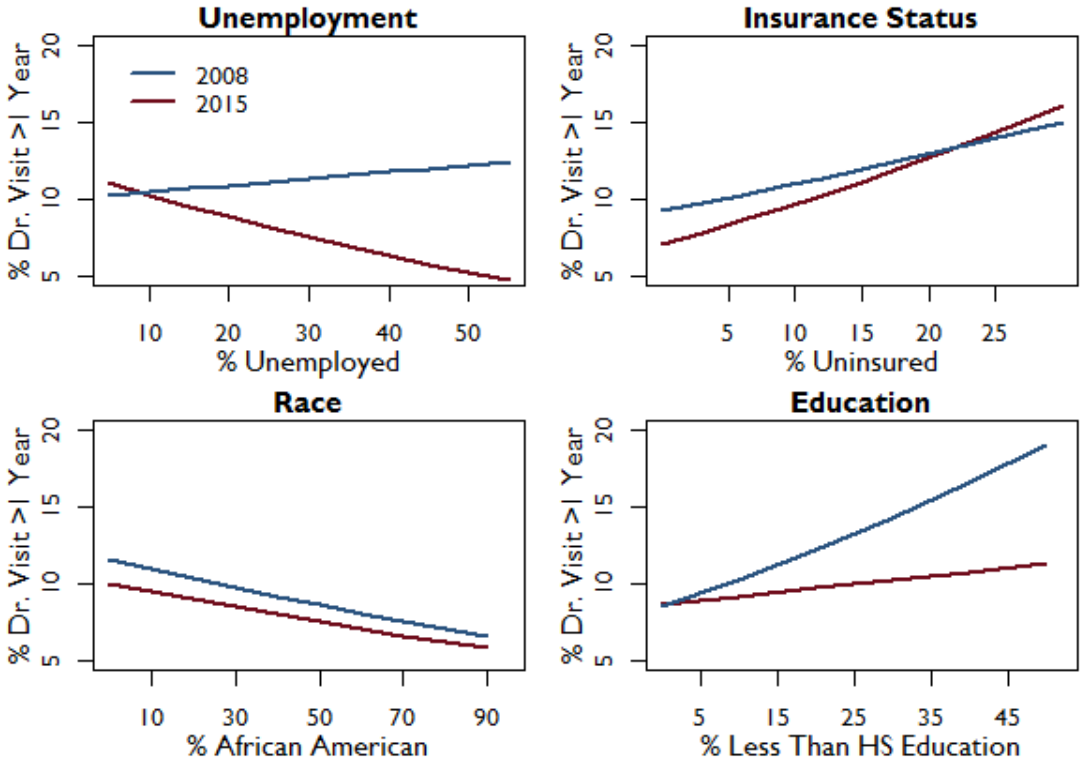




- This map indicates clusters of high rates (red) of three or more ER visits during the past 12 months in 2008 that decrease or disappear by 2015.
- Areas with lower rates of three or more ER visits had higher median household incomes in 2008 and 2015.
- In 2008, the concentration of pharmacies in an area did not appear important but by 2015 areas with higher rates of three or more ER visits had lower concentrations of pharmacies per 10,000.

AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF OHIOANS WITHOUT A DOCTOR VISIT FOR MORE THAN 12 MONTHS





- This map indicates large clusters of high rates (red) of Ohioans without a doctor visit for more than 12 months in 2008 which disappear or diminish by 2015. However, new clusters with higher rates appear by 2015.
- In 2008 and 2015, areas with higher rates of no doctor visit for more than 12 months also had higher rates of uninsurance.

KEY FINDINGS

The extent of clusters of high rate areas for most outcomes has declined from 2008 to 2015, except for an increase in areas in Southern Ohio with no usual source of health care. This overall improvement coincides with decreases in Ohio's uninsured and unemployment rates.

Being poor, near poor and completing high school matters. There is improvement in the odds of having good health outcomes as incomes rise and for people with higher levels of education.

Having health insurance of any type makes it easier to access care and utilize health services than being uninsured. The benefits of health insurance varied between types of coverage. Ohioans with Medicaid had the lowest odds of experiencing more than 12 months without a doctor visit and had higher use of the ER and more multiple hospital admissions than did Ohioans with employer-sponsored health insurance.

The uninsured have much better health status than those on Medicaid especially in 2015 after Medicaid expansion.

There are geographic clusters of Ohioans potentially eligible for Medicaid but not enrolled. Area level factors, such as percent unemployment and percent renter occupied housing, are significant predictors of Medicaid category. Ohioans with incomes ≤138% FPL who are newly eligible do not differ significantly from oldly eligible on the health indicators. Nearly one-half (48%) with incomes ≤138%FPL reported working during the past week, and 16.7% of this income population reported having job-based insurance coverage.

Individual level, and area level, race and ethnicity are important predictors of select health related outcomes and Medicaid eligibility status and warrant further attention.

The impact of social determinants of health varies even within areas of high poverty. To more effectively analyze questions related to social determinants of health, it is necessary to have data available at smaller geographic units than zip clusters, preferably census tracks or below. It is also important to ask more specific SDOH questions on the OMAS, such as on housing, food, transportation. Many such questions were included in the 2008 OFHS but not in the 2015 OMAS.

CONCLUSION

This Chartbook confirms the importance of social determinants of health for predicting health outcomes for Ohioans age 19 to 64, especially for health status. The results affirm that lower incomes and lower levels of education often help account for poorer health outcomes. It further shows improvement in most outcomes between 2008 and 2015. This improvement coincides with decreases in both the percent of Ohio adults who were unemployed and uninsured. Race and ethnicity remain important predictors of select health related outcomes and Medicaid eligibility status both at the individual and area levels.

This analysis identifies several potential area level factors to consider when identifying locations that may be prone to higher levels of poor health related outcomes. These potential factors include areas with a higher percent of renter occupied housing, unemployment, female headed households and percent food stamps.

Area level factors also are associated with Medicaid eligibility and enrollment status and could be useful in creating policies and targeting interventions to reach Ohioans with incomes ≤138% FPL.

There are likely additional geographic factors that would be meaningful, but identifying them will require data below the zip cluster level that this analysis had to use. It would further benefit from the addition of social determinants of health questions in future iterations of the Ohio Medicaid Assessment Survey.

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APPENDICES

APPENDIX 1:

ALL OHIOANS: SMOKING	# 53-54
≤138% FPL:	
SMOKING	#55-56
BMI	#57-58
COMPARISON OF ODDS RATIOS BETWEEN TOTAL 19-64 OHIOANS AND OHIOANS ≤138% FPL	#59-62
IMPACT OF CONTECTUAL VARIABLES	#63

RESULTS

SECTION A- COMPARISON TABLES OF ODDS RATIOS ACROSS OUTCOMES

In 2015, Ohioans with incomes ≤138% FPL reported more than twice the percent of limitations due to mental health, having the ER as their usual source of health care, and having 3 or more ER visits during the past 12 months than those >138% FPL. They also reported nearly twice the percent of fair/poor health and having 2 or more hospitalizations during the past 12 months than those with higher incomes.

The percent of Ohioans age 19-64 with the following health outcomes decreased between 2008 and 2015: MHI and not seeing a doctor for more than 12 months. The percent increased for 2+ hospital admissions, no usual source of health care, ER as usual source of care, fair/poor health and 3+ ER visits.

Between 2008 and 2015, the percent of Ohioans with incomes above 300% of poverty declined by 5 percentage points and the percent below 100% poverty increased by 2 percentage points. Additionally, the percent uninsured decreased by 8 percentage points, with Medicaid increased by 11 percentage points and with employer-sponsored coverage decreased by 7 percentage points.

COMPARISON OF ODDS RATIOS FOR TOTAL 19-64 YEAR-OLD OHIOANS AND THOSE ≤138% FPL IN 2015 BY INSURANCE STATUS FOR ALL 7 OUTCOMES

(JOB-BASED COVERAGE IS THE REFERENCE GROUP)

While people with job-based coverage have better outcomes than people with public-based insurance for most of the health status, ER and hospital admission outcomes, the odds are much smaller for the ≤138% FPL population group than all 19-64 year Ohioans.

This smaller difference suggests that income plays a more critical role than job-based insurance for these outcomes. At the same time, those with public coverage report even better access to regular care for the ≤ 138% FPL group.

	Job-based	Direct Purchase Total Pop	Direct Purchase 138% Pop	Exchange total pop	Exchange 138% pop	Uninsured total pop	Uninsured 138% pop	Dual Eligible total pop	Dual Eligible 138% pop	Medicare only total pop	Medicare only 138% pop	Medicaid only total pop	Medicaid oldly enrolled 138% pop	Medicaid newly enrolled 138% pop
3+ ER Visits	1.00	0.60	0.25	1.32	2.00	1.77	1.40	5.52	3.99	3.60	2.79	3.76	3.13	2.74
2+ hospital admissions	1.00	0.89	0.82	0.92	1.14	1.04	0.59	4.70	1.65	3.43	1.17	2.47	1.15	0.92
> 12 months last doctor visit	1.00	1.67	1.12	1.57	0.52	4.60	3.10	0.44	0.33	0.28	0.20	0.91	0.63	0.61
ER as Usual source of care	1.00	0.53	0.29	1.61	1.33	5.76	3.36	3.34	1.71	2.58	1.35	3.19	1.72	1.71
No Usual Source of Care	1.00	1.16	1.10	1.44	1.07	3.26	2.20	0.57	0.43	0.82	0.62	1.11	0.72	0.88
Fair/Poor Health Status	1.00	1.10	1.02	1.49	1.32	2.23	1.42	6.75	2.62	7.81	2.87	3.20	1.45	1.50
MHI	1.00	1.58	0.54	1.74	2.59	2.98	2.16	7.22	2.61	9.68	3.54	4.95	2.48	2.60

COMPARISON OF ODDS RATIOS FOR TOTAL 19-64 YEAR-OLD OHIOANS AND THOSE ≤138% FPL IN 2015 BY CHRONIC DISEASE STATUS FOR ALL 7 OUTCOMES

(THOSE WITH NO CHRONIC DISEASE ARE THE REFERENCE GROUP)

While there are minor differences in the odds for each of the seven outcomes between all 19-64 year-old Ohioans and those in the ≤ 138% FPL population group, the odds are lower for all but one outcome for the ≤ 138% FPL population group. This comparison suggests that while odds for poorer health status and frequency of ER visits and inpatient hospital admissions health outcomes are better for those without a chronic condition, having a low-income decreases this difference.

2015	No Chronic Disease	Any Chronic Disease total pop	Any Chronic Disease 138% pop
3+ ER Visits	1.00	2.10	1.76
2+ hospital admissions	1.00	2.58	2.44
> 12 months last doctor visit	1.00	0.31	0.39
ER as usual source of care	1.00	0.93	0.93
No usual source of care	1.00	0.46	0.43
Fair/Poor Health Status	1.00	3.08	2.46
MHI	1.00	1.91	1.71

COMPARISON OF ODDS RATIOS FOR TOTAL 19-64 YEAR-OLD OHIOANS AND THOSE ≤138% FPL IN 2015 BY WORKING STATUS FOR ALL 7 OUTCOMES

(THOSE WHO ARE WORKING ARE THE REFERENCE GROUP)

The odds for 19 to 64 year old Ohioans who are not working in the ≤138% FPL population are pretty similar to the total population. For three outcomes the odds are higher and for four outcomes the odds are lower. But the degree of difference for any outcome is small.

2015	Working	Not working total pop	Not working 138% pop
3+ ER Visits	1.00	1.864	1.635
2+ hospital admissions	1.00	2.683	2.872
> 12 months last doctor visit	1.00	0.723	0.669
ER as Usual source of care	1.00	1.222	1.153
No Usual source of care	1.00	0.763	0.981
Fair/Poor Health Status	1.00	2.644	2.419
MHI	1.00	4.099	4.248

COMPARISON OF ODDS RATIOS FOR TOTAL 19-64 YEAR-OLD OHIOANS AND THOSE ≤138% FPL IN 2015 BY RACE/ETHNICITY FOR ALL 7 OUTCOMES

(WHITE OHIOANS ARE THE REFERENCE GROUP)

The odds of Blacks or Hispanics having any of the seven outcomes are less or the same for the ≤138% FPL population compared to the total population of 19-64 year old Ohioans.

These results suggest that the health outcomes for lower income whites is poorer than for whites as a whole.

2015	White	Black total pop	Black 138% pop	Hispanic total pop	Hispanic 138% pop
3+ ER Visits	1.00	1.16	1.15	1.32	1.24
2+ hospital admissions	1.00	1.17	1.11	1.26	1.13
> 12 months last doctor visit	1.00	0.80	0.80	0.82	0.72
ER as usual source of care	1.00	1.58	1.51	1.06	0.86
No usual source of care	1.00	0.96	0.81	1.60	1.39
Fair/Poor Health Status	1.00	0.96	0.78	1.86	1.56
MHI	1.00	0.71	0.67	0.97	0.66

RESULTS

SECTION B: IMPACT OF AREA CONTEXTUAL VARIABLES FOR 3+ ER VISITS, 2+ HOSPITAL ADMINISSIONS, ER AS USUSAL SOURCE OF CARE AND FAIR/POOR HEALTH STATUS

In 2015, Ohioans with incomes ≤138% FPL reported more than twice the percent of limitations due to mental health, having the ER as their usual source of health care, and having 3 or more ER visits during the past 12 months than those >138% FPL. They also reported nearly twice the percent of fair/poor health and having 2 or more hospitalizations during the past 12 months than those with higher incomes.

The percent of Ohioans age 19-64 with the following health outcomes decreased between 2008 and 2015: MHI and not seeing a doctor for more than 12 months. The percent increased for 2+ hospital admissions, no usual source of health care, ER as usual source of care, fair/poor health and 3+ ER visits.

Between 2008 and 2015, the percent of Ohioans with incomes above 300% of poverty declined by 5 percentage points and the percent below 100% poverty increased by 2 percentage points. Additionally, the percent uninsured decreased by 8 percentage points, with Medicaid increased by 11 percentage points and with employer-sponsored coverage decreased by 7 percentage points.

IMPACT OF CONTEXTUAL VARIABLES ON 3+ ER VISITS, 2+ HOSPITAL ADMISSIONS, ER AS USUAL SOURCE OF HEALTH CARE, MORE THAN 12 MONTHS SINCE LAST DOCTOR VISIT AND FAIR/POOR HEALTH STATUS

The multi-level model analysis identified four outcomes in each year where contextual factors were statistically significant in explaining the findings beyond the individual measures of social determinants of health.

Key contextual variables included area percent of people: on food stamps; with a high school education; in female headed households and unemployed. For one outcome, in both 2008 and 2015, areas with a higher percent of blacks had slightly lower odds of the outcome than whites.

A 5% increase in a given variable results in either an increase or decrease in the odds of the given outcome.

2008 by poverty			**2008 by insurance**		
contextual variable	**outcome**	**result**	**contextual variable**	**outcome**	**result**
pct food stamp	ER visits 3+	each 5% increase results in a 1.07 times increase in the odds	pct Hispanic	ER visits 3+	each 5% increase results in a 1.11 times increase in the odds
			pct hs ed	ER visits 3+	each 5% increase results in a 1.07 to times increase in the odds
pct unemp	Hospital admissions 2+	each 5% increase results in a 1.05 times increase in the odds	pct hs ed	> 12 month last doc visit	each 5% increase results in a 1.09 times increase in the odds
pct food stamp	ER usual source of care	each 5% increase results in 1.14 times increase in the odds	pct hs ed	ER usual source of care	each 5% increase results in a 1.10 times increase in the odds
pct black	ER usual source of care	each 5% increase results in decrease in odds by .95 times	pct poverty	ER usual source of care	each 5% increase results in a 1.05 times increase in the odds
pct hs ed	> 12 month last doc visit	each 5% increase results in a 1.04 times increase in the odds	pct unemp	fair/poor health status	each 5% increase results in a 1.03 times increase in the odds
pct unemp	> 12 month last doc visit	each 5% increase results in a 1.04 times increase in the odds			
2015 by poverty			**2015 by insurance**		
contextual variable	**outcome**	**result**	**contextual variable**	**outcome**	**result**
pct black	ER visits 3+	each 5% increase results in a 1.03 times increase in the odds	pct fem head hh	ER visits 3+	each 5% increase results in a 1.11 times increase in the odds
pct fem head hh	hospital admissions 2+	each 5% increase results in a 1.09 times increase in the odds	pct fem head hh	hospital admissions 2+	each 5% increase results in a 1.09 times increase in the odds
pct poverty	ER usual source of care	each 5% increase results in a 1.09 times increase in the odds	pct fem head hh	ER usual source of care	each 5% increase results in a 1.18 times increase in the odds
pct fem head hh	fair/poor health status	each 5% increase results in a 1.13 times increase in the odds	pct unemp	fair/poor health status	each 5% increase results in a 1.04 times increase in the odds
pct black	fair/poor health status	each 5% increase results in a decrease in odds by .97 times	pct hs ed	fair/poor health status	each 5% increase results in a 1.04 times increase in the odds

RESULTS

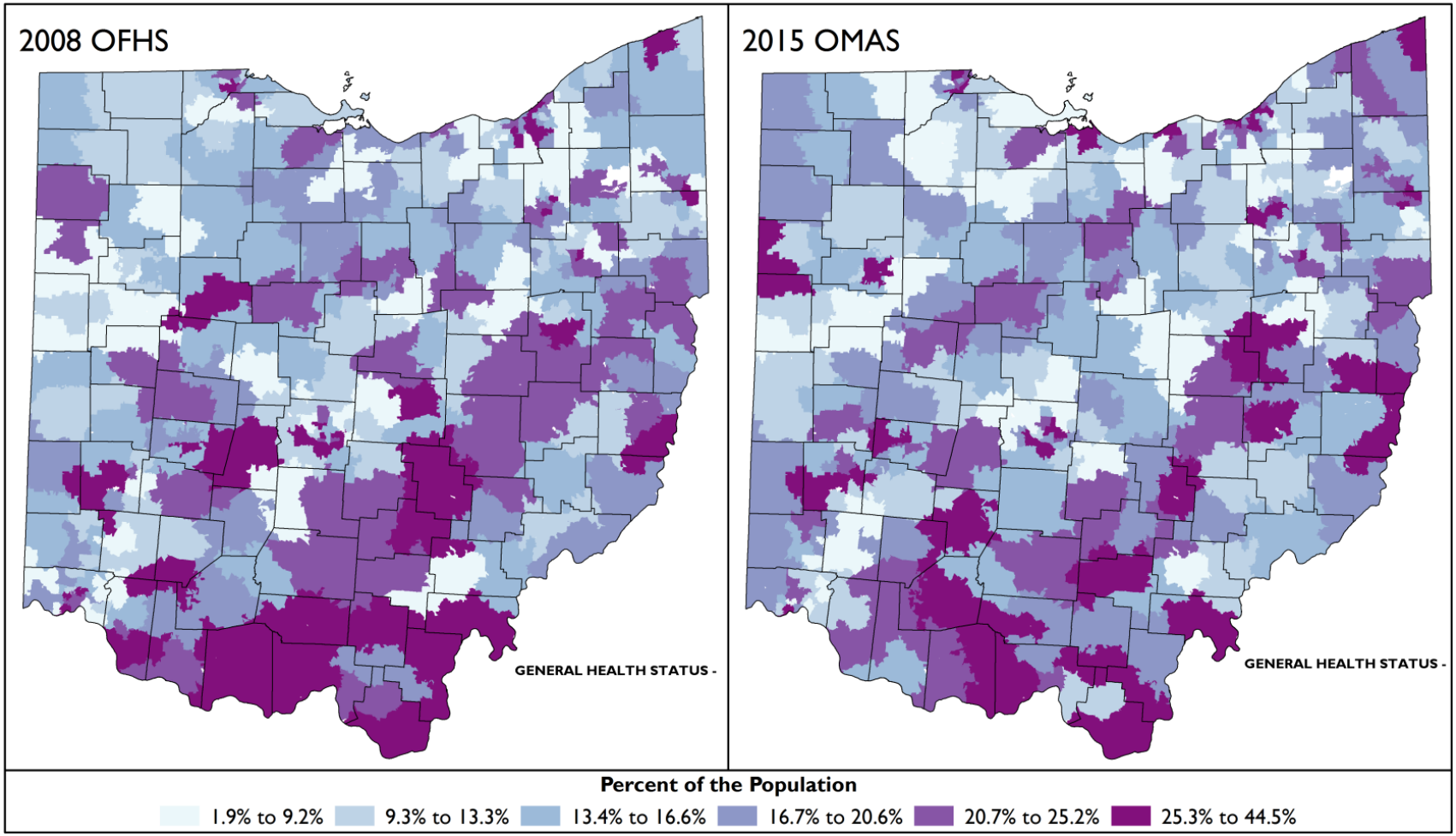
SECTION C: GEOGRAPHIC DISTRIBUTION OF HEALTH STATUS, ACCESS TO HEALTH CARE AND HEALTH CARE UTILIZATION: 2008 AND 2015

The following slides display the geographical distribution of each of the 7 health outcomes for 2008 and 2015.

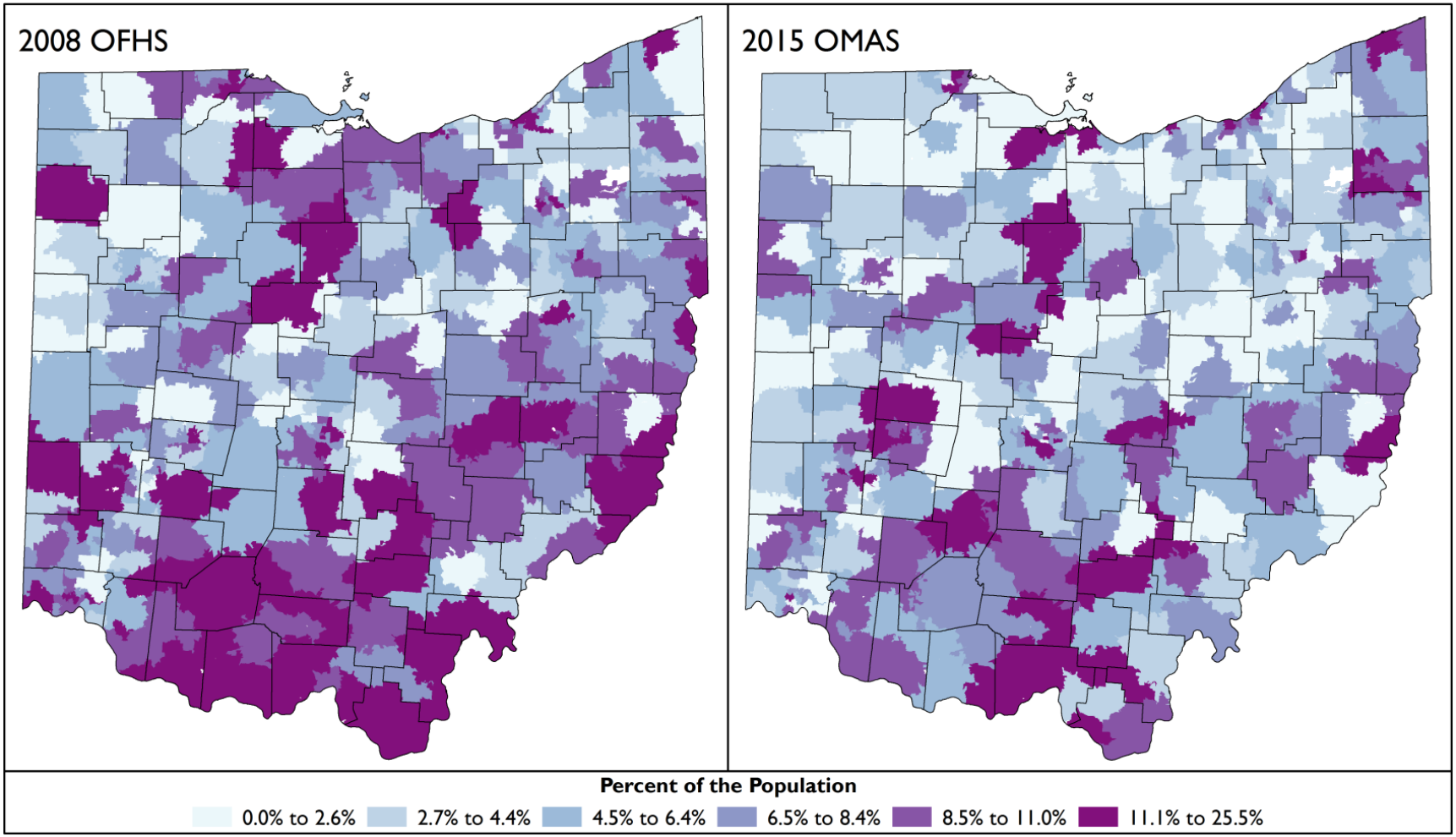
These slides show that there are vast differences across Ohio for each of these outcomes.

For many of these outcomes, the number of areas with the poorest level of outcomes has decreased between 2008 and 2015, though for some areas things have worsened for select outcomes.

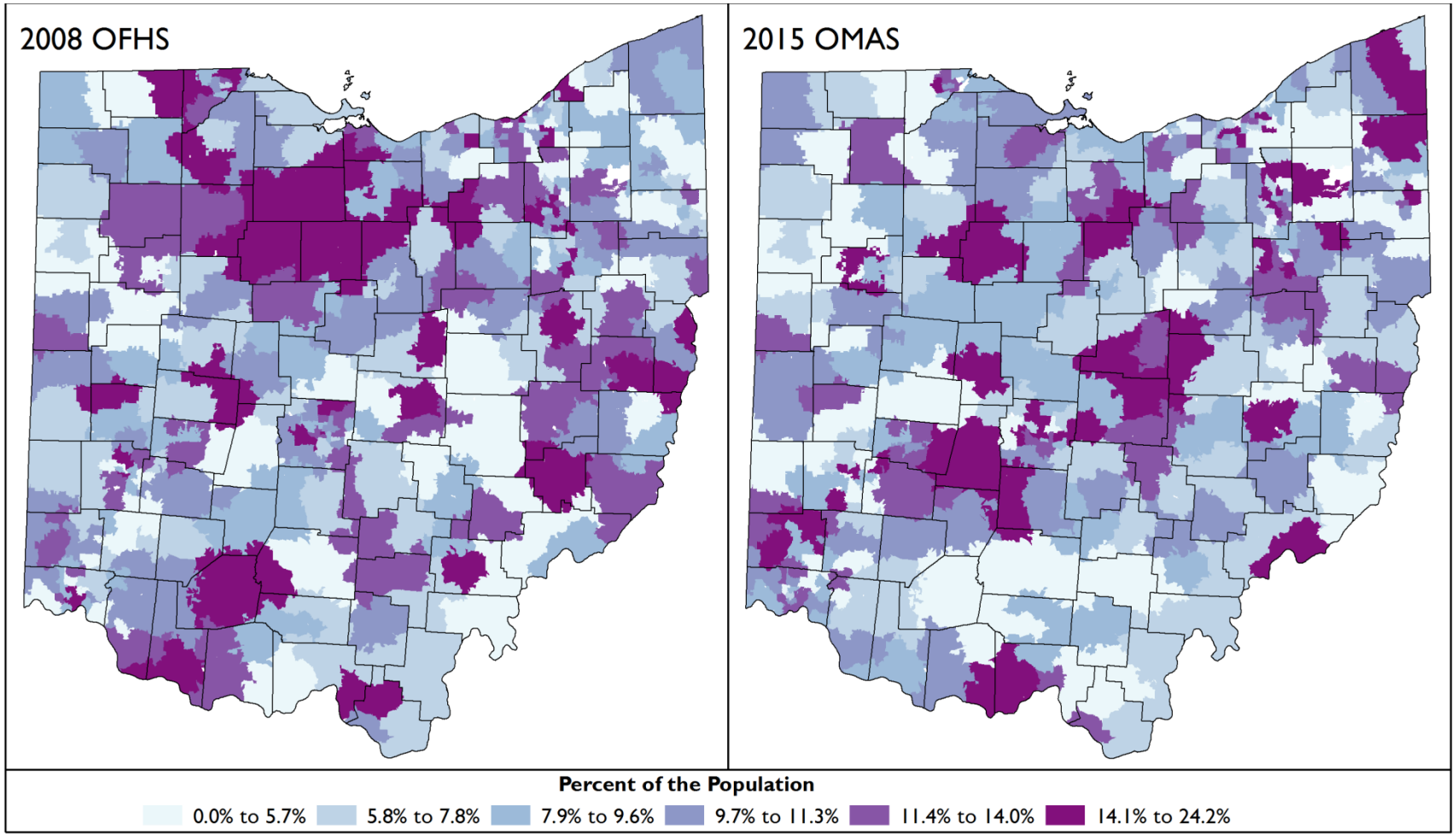
GEOGRAPHIC DISTRIBUTION OF FAIR/POOR HEALTH BY ZIP GROUP



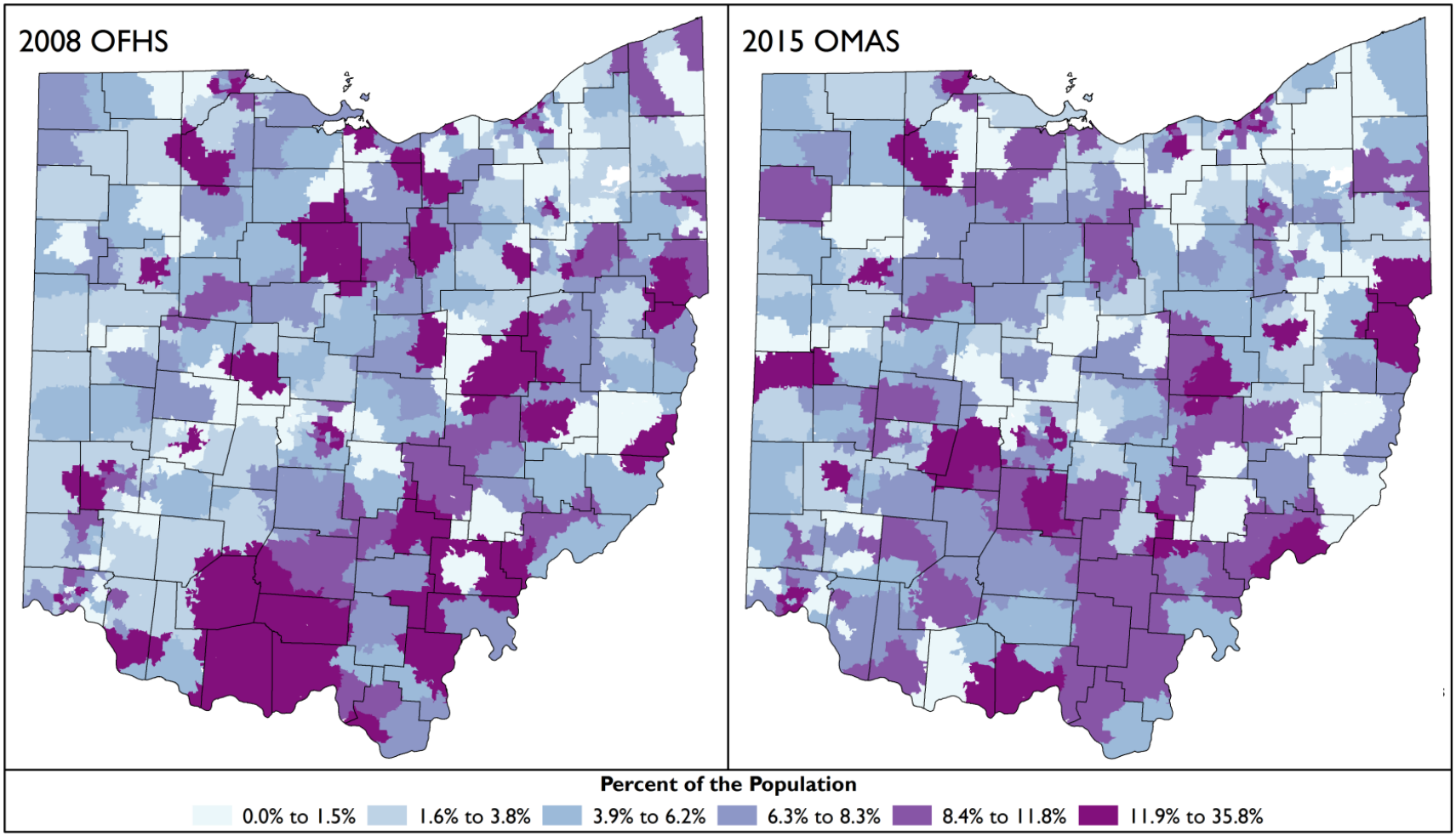
GEOGRAPHIC DISTRIBUTION OF MHI BY ZIP GROUP
(including stress, depression, problems with emotions or substance abuse)



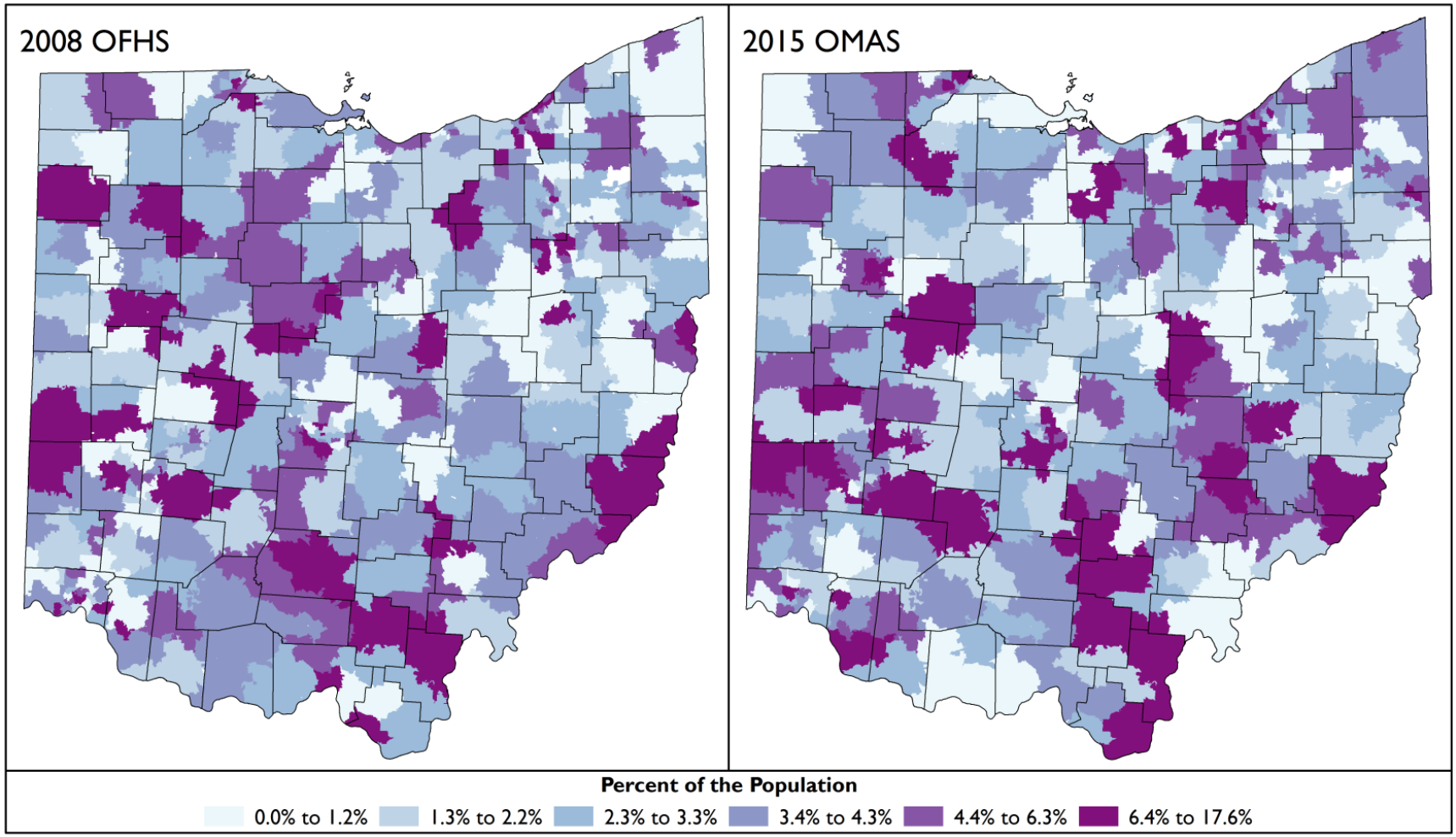
GEOGRAPHIC DISTRIBUTION OF OHIOANS WITHOUT A USUAL SOURCE OF HEALTH CARE BY ZIP GROUP



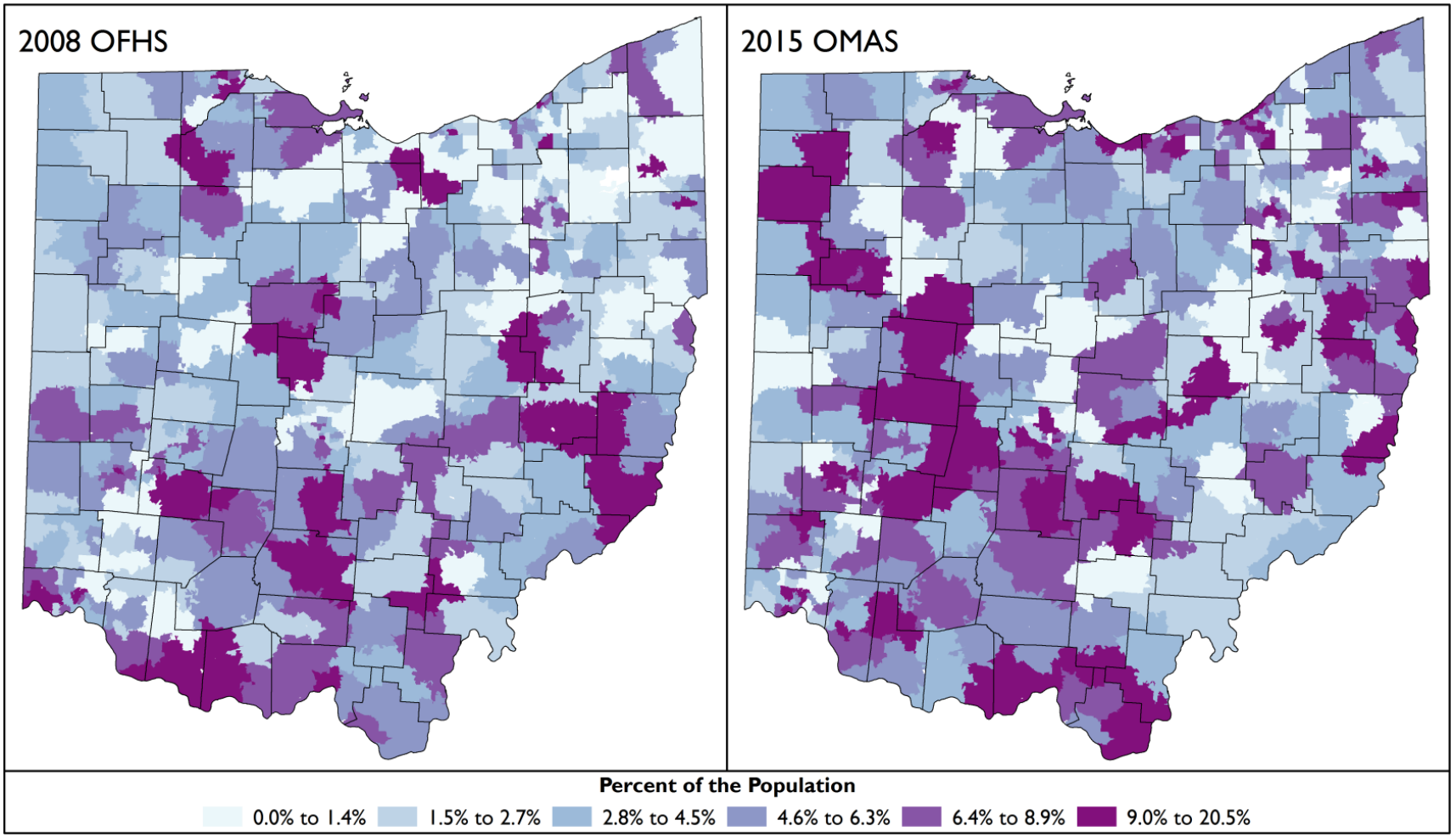
GEOGRAPHIC DISTRIBUTION OF OHIOANS WHO IDENTIFIED THE EMERGENCY ROOM AS THEIR USUAL SOURCE OF HEALTH CARE BY ZIP GROUP



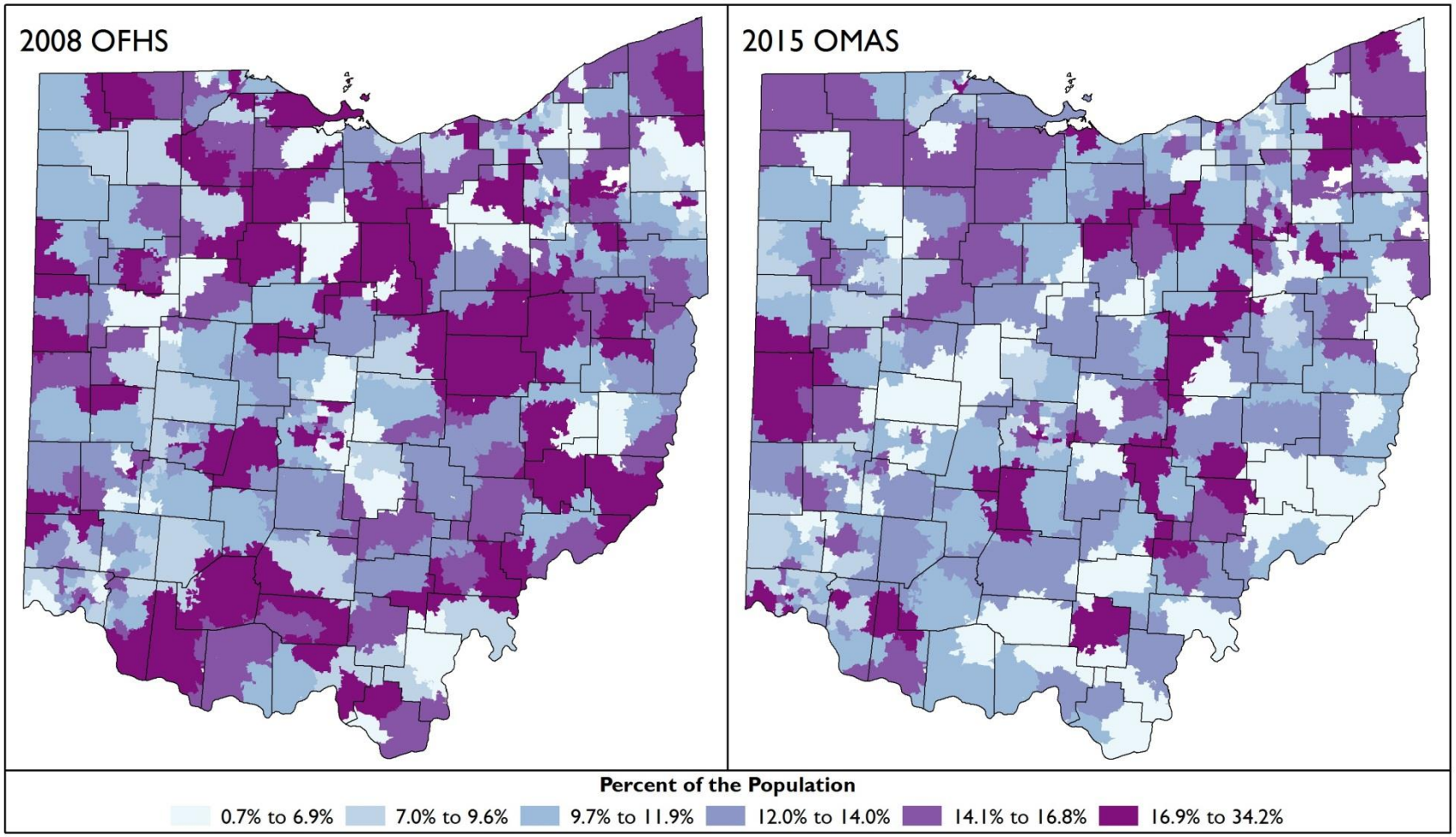
GEOGRAPHIC DISTRIBUTION OF OHIOANS WHO REPORTED TWO OR MORE HOSPITAL ADMISSIONS DURING THE PAST 12 MONTHS BY ZIP GROUP



GEOGRAPHIC DISTRIBUTION OF OHIOANS WHO REPORTED THREE OR MORE EMERGENCY ROOM VISITS DURING THE PAST 12 MONTHS BY ZIP GROUP



GEOGRAPHIC DISTRIBUTION OF OHIOANS WHO REPORTED GOING WITHOUT A DOCTOR VISIT FOR MORE THAN 12 MONTHS BY ZIP GROUP



RESULTS

SECTION D: ODDS FOR DIFFERENT HEALTH OUTCOMES BY INDIVIDUAL HEALTH RISK FACTORS: SMOKING AND BMI

In 2015, Ohioans with incomes ≤138% FPL reported more than twice the percent of limitations due to mental health, having the ER as their usual source of health care, and having 3 or more ER visits during the past 12 months than those >138% FPL. They also reported nearly twice the percent of fair/poor health and having 2 or more hospitalizations during the past 12 months than those with higher incomes.

The percent of Ohioans age 19-64 with the following health outcomes decreased between 2008 and 2015: MHI and not seeing a doctor for more than 12 months. The percent increased for 2+ hospital admissions, no usual source of health care, ER as usual source of care, fair/poor health and 3+ ER visits.

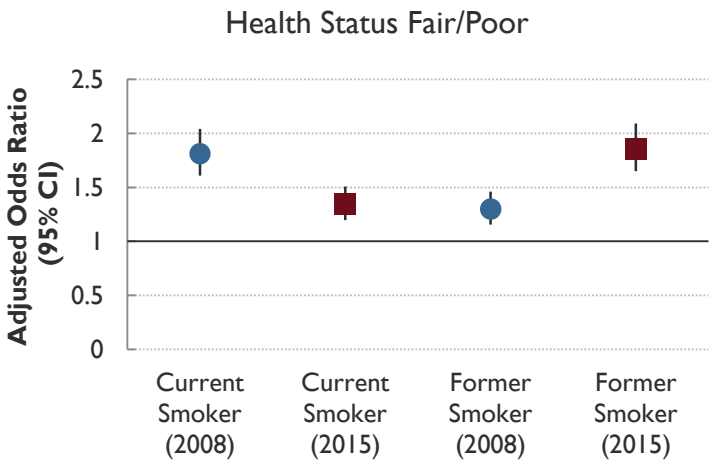
Between 2008 and 2015, the percent of Ohioans with incomes above 300% of poverty declined by 5 percentage points and the percent below 100% poverty increased by 2 percentage points. Additionally, the percent uninsured decreased by 8 percentage points, with Medicaid increased by 11 percentage points and with employer-sponsored coverage decreased by 7 percentage points.

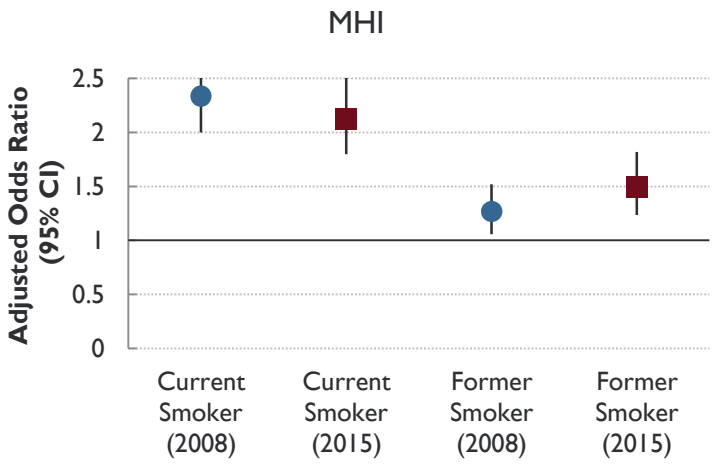
SMOKING STATUS AS A PREDICTOR OF FAIR/POOR HEALTH; MHI; ER AS THE USUAL SOURCE OF HEALTH CARE; 3+ ER VISITS DURING PAST 12 MONTHS

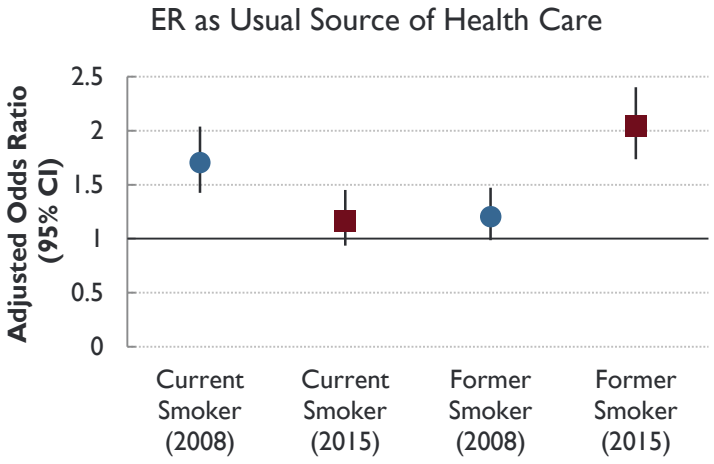
The odds of reporting each outcome in 2008 and 2015 compared to Ohioans who **never smoked**.

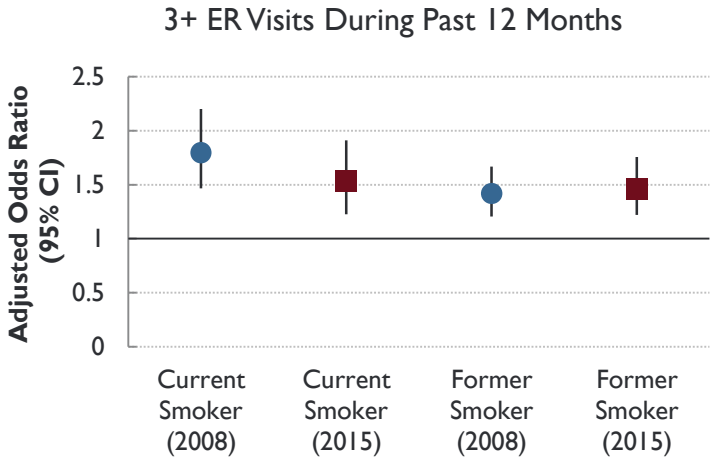
Ohioans who currently smoke and those who previously smoked reported significantly higher odds of having fair/poor health, MHI and having three or more ER visits in 2008 and 2015.

Current smokers had significantly higher odds of having the ER as their usual source of health care in 2008 as did former smokers in 2015.







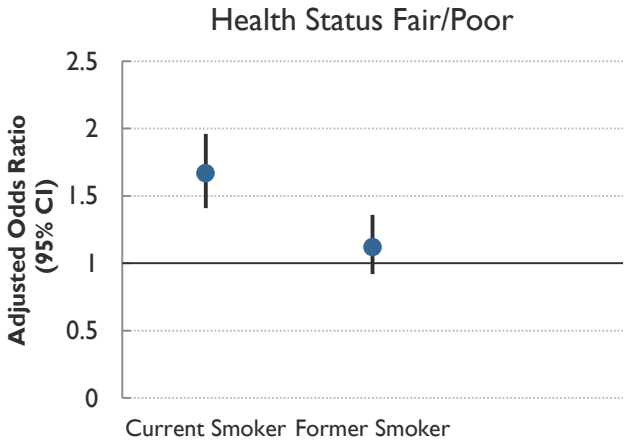


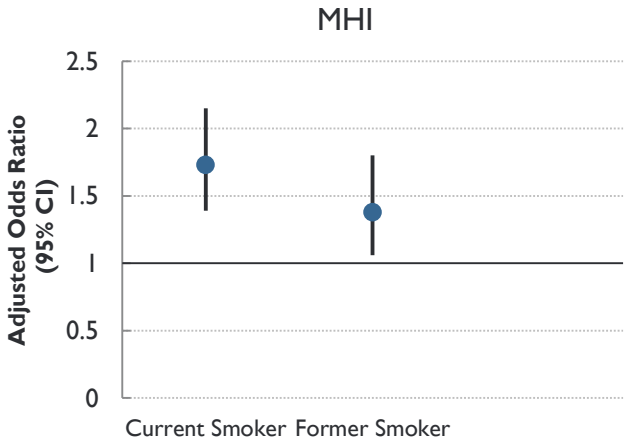
SMOKING STATUS AS A PREDICTOR OF FAIR/POOR HEALTH; MHI; ER AS THE USUAL SOURCE OF HEALTH CARE; 3+ ER VISITS DURING PAST 12 MONTHS FOR OHIOANS ≤138% FPL IN 2015

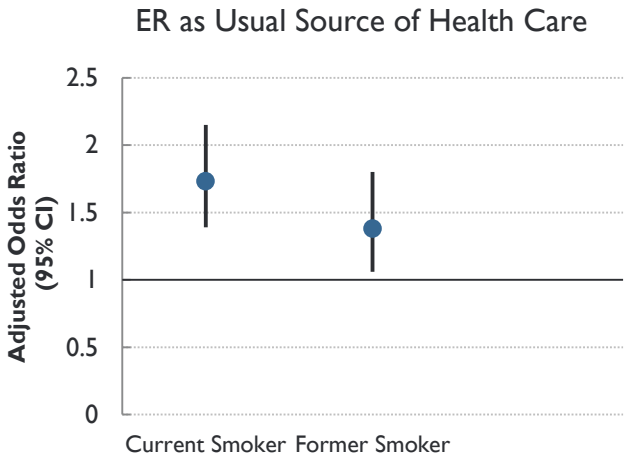
The odds of reporting each outcome in 2015 compared to Ohioans who **never smoked**.

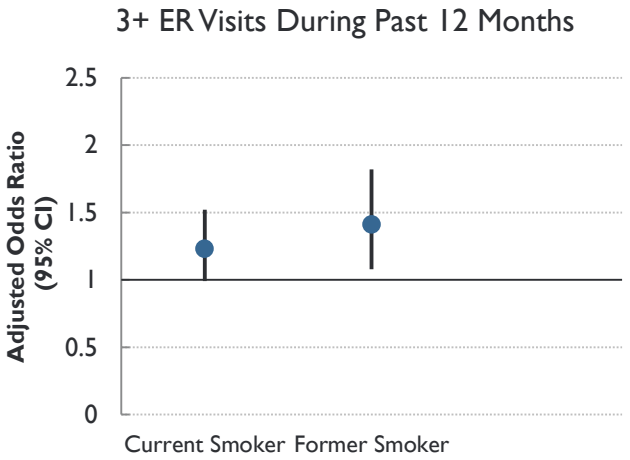
Current smokers had significantly higher odds of fair/poor health, MHI and having the ER as their usual source of care.

Former smokers had significantly higher odds of MHI, having the ER as their usual source of care and having 3 or more ER visits during the past 12 months.









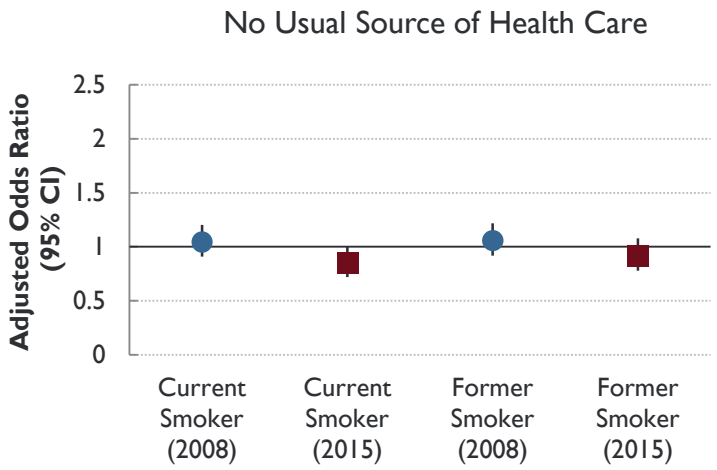
OMAS
Ohio Medicaid Assessment Survey

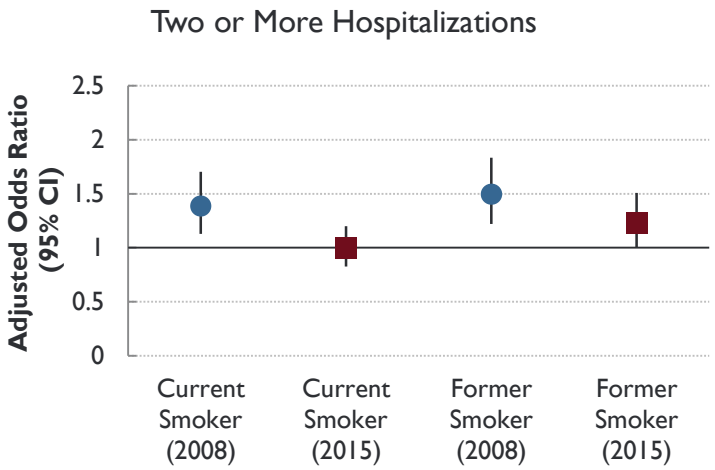
SMOKING AS A PREDICTOR OF NO USUAL SOURCE OF HEALTH CARE, TWO OR MORE HOSPITALIZATIONS, NOT SEEING A DOCTOR FOR MORE THAN 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015

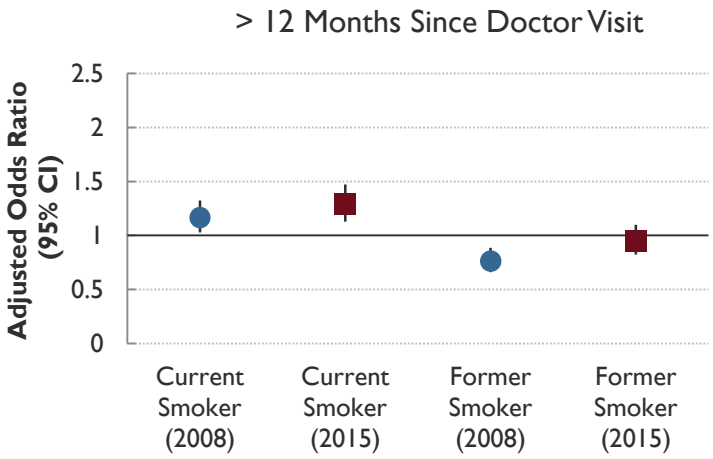
The odds of reporting each outcome in 2008 and 2015 compared to Ohioans who **never smoked.**

In 2008, current and former smokers had significantly higher odds of experiencing two or more hospitalizations.

In 2008 and 2015 current smokers had significantly higher odds of not seeing a doctor for more than 12 months.







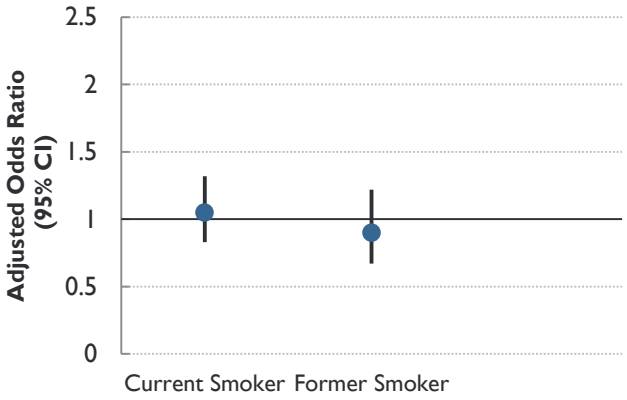
SMOKING AS A PREDICTOR OF NO USUAL SOURCE OF HEALTH CARE, TWO OR MORE HOSPITALIZATIONS, NOT SEEING A DOCTOR FOR MORE THAN 12 MONTHS FOR OHIOANS ≤138% FPL IN 2015

The odds of reporting each outcome in 2015 compared to Ohioans who **never smoked.**

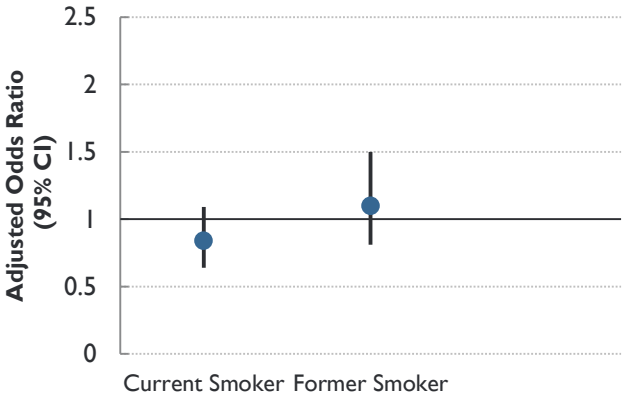
Current smokers had significantly higher odds of not seeing a doctor for more than 12 months.

No other significant differences were identified.

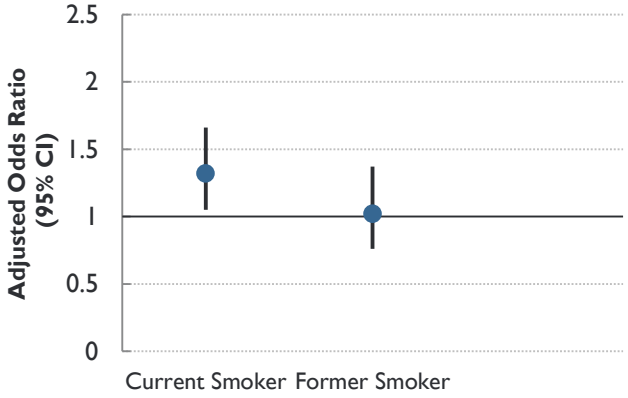
No Usual Source of Health Care



Two or More Hospitalizations



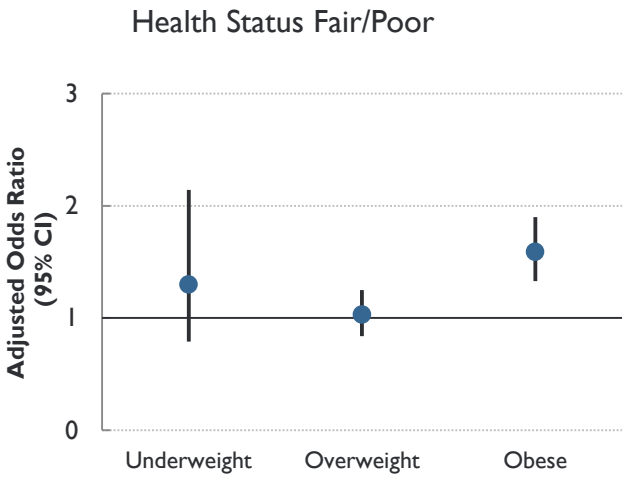
> 12 Months Since Doctor Visit

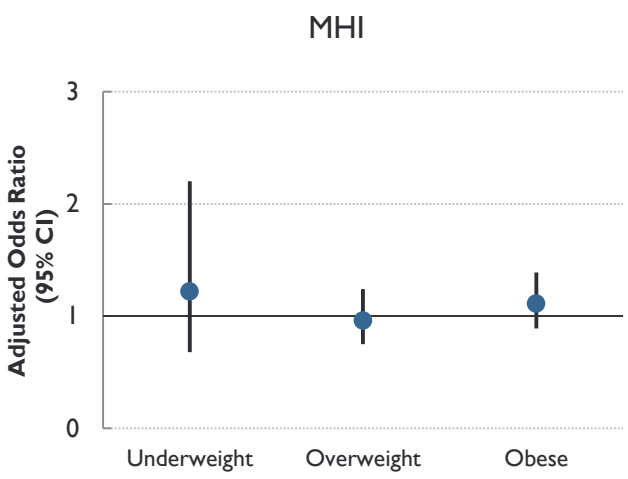


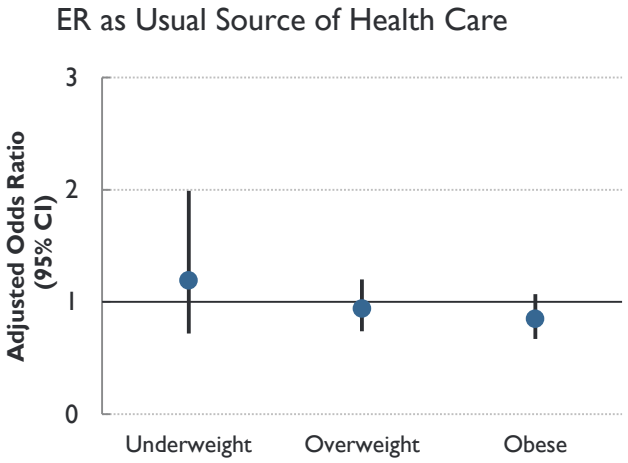
BMI AS A PREDICTOR OF FAIR/POOR HEALTH; MHI; ER AS THE USUAL SOURCE OF HEALTH CARE; 3+ ER VISITS DURING PAST 12 MONTHS FOR OHIOANS ≤138% FPL IN 2015

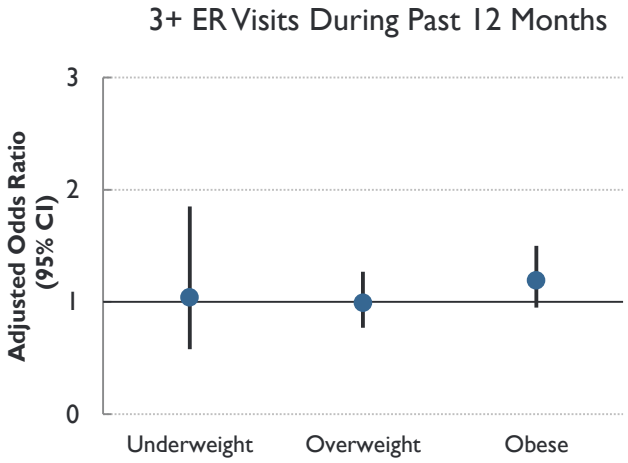
The odds of reporting each outcome in 2015 compared to Ohioans with **normal weight.**

There were no significant differences in health status, ER as the usual source of health care or having 3 or more ER visits among Ohioans with incomes ≤138% FPL, with the exceptions of significantly higher odds of self-reported fair/poor health among individuals identified as obese.



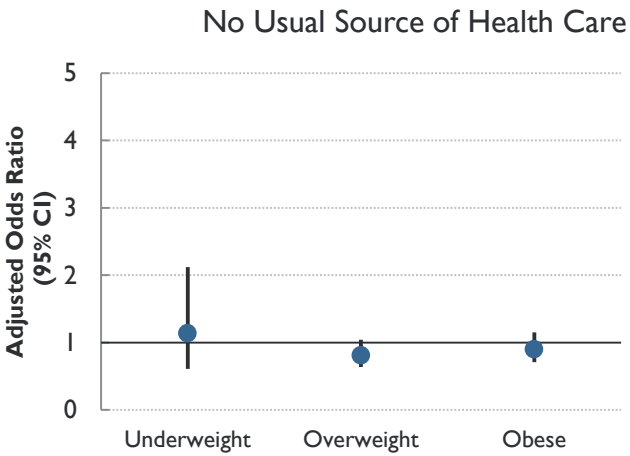
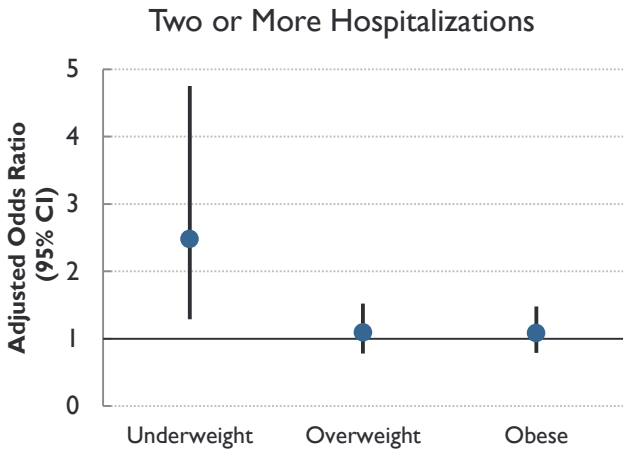
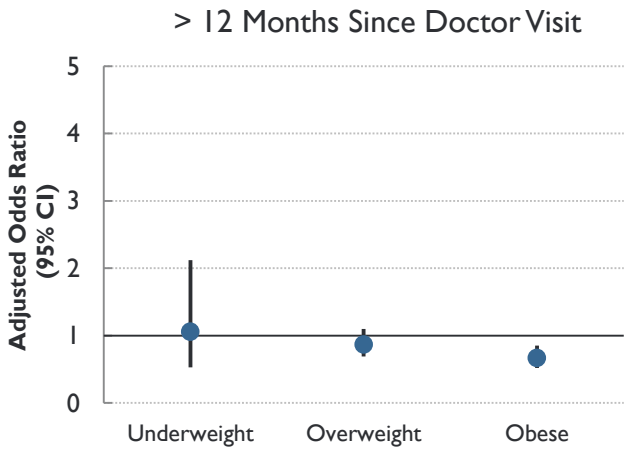






OMAS
Ohio Medicaid Assessment Survey

BMI AS A PREDICTOR OF NO USUAL SOURCE OF HEALTH CARE, TWO OR MORE HOSPITALIZATIONS, NOT SEEING A DOCTOR FOR MORE THAN 12 MONTHS FOR OHIOANS ≤138% FPL IN 2015

The odds of reporting each outcome in 2015 compared to Ohioans with **normal weight.**

There were no significant differences for having a usual source of health care among Ohioans with incomes ≤138% FPL. However, Ohioans identified as obese had significantly lower odds of not seeing a doctor for more than 12 months that did Ohioans with normal weight. Ohioans identified as underweight had significantly higher odds or 2+ hospitalizations.