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

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#OMAS2015
• Social determinants of health (SDOH)
  – “the circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness.”

• Health outcomes to be examined
  – Seven self-reported health related outcomes: fair/poor health; Mental Health-Related Impairment (MHI); no Usual Source of Care (USOC); ER is USOC; 3+ ER visits; 2+ hospitalizations; >12 months since doctor visit
OBJECTIVES

• Examine the relationship between SDOH and health related outcomes for Ohioans, ages 19-64, with incomes \leq 138\% Federal Poverty Level (FPL)

• Examine Medicaid status, predictors of Medicaid status and outcomes associated with Medicaid status among Ohioans 19-64 with incomes \leq 138\% FPL
METHODS

• Spatial regression modeling
  – Geographic analysis of outcomes by zip code and clusters

• Individual level modeling
  – Estimates the adjusted odds ratios of outcomes

• Data sources
  – 2008 Ohio Family Health Survey (OFHS), 2015 Ohio Medicaid Assessment Survey (OMAS), external sources
METHODS

• Conceptual model: Dahlgren and Whitehead (1993) “Determinants of Health” policy rainbowl²
KEY FINDINGS: PREVALENCE RATES ≤138% FPL IN 2015

• Southeastern, Eastern, North Central and parts of the metropolitan counties have the highest concentration of the ≤138% FPL population.

• The ≤138% FPL population has much higher rates for each of the outcomes studied, except not having a doctor visit in the last 12 months.
GEOGRAPHIC CONCENTRATION OF OHIOANS WITH INCOMES ≤138% FPL IN 2015
## Prevalence of Health Status Indicators for Ohioans, Age 19-64: >138% FPL and ≤138% FPL in 2015

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

• The lower the income the greater the odds of poorer health outcomes.
• The impact of race and ethnicity varies across the outcomes.
• The lower the level of education the greater the odds of poor health outcomes.
• The impact of education on outcomes is less in the ≤138% FPL population.
KEY FINDINGS: SDOH PREDICTORS FOR HEALTH OUTCOMES

• Those who are working have much better odds for most of the outcomes studied.

• Those with private insurance have much lower odds of poor health outcomes.

• The impact of having private insurance is much less in the population with incomes ≤138% FPL.
POVERTY AS A PREDICTOR OF FAIR/POOR HEALTH AND MHI FOR ALL OHIOANS IN 2008 AND 2015

The reference group is Ohioans with incomes >300% FPL.
POVERTY AS A PREDICTOR OF ER AS THE USUAL SOURCE OF HEALTH CARE AND 3+ ER VISITS DURING PAST 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015

The reference group is Ohioans with incomes >300% FPL.
The reference group is White.
RACE AS A PREDICTOR OF FAIR/POOR HEALTH AND MHI FOR OHIOANS ≤138% FPL IN 2015

The reference group is White.
RACE AS A PREDICTOR OF ER AS THE UsUAL SOURCE OF HEALTH CARE AND 3+ ER VISITS DURING PAST 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015

The reference group is White.
RACE AS A PREDICTOR OF ER AS THE USUAL SOURCE OF HEALTH CARE AND 3+ ER VISITS DURING PAST 12 MONTHS FOR OHIOANS <138% FPL IN 2015

The reference group is White.
The reference group is advanced degree.
EDUCATION AS A PREDICTOR OF FAIR/POOR HEALTH AND MHI FOR OHIOANS \textless 138\% FPL IN 2015

The reference group is any college degree.
EDUCATION AS A PREDICTOR OF ER AS THE USUAL SOURCE OF HEALTH CARE AND 3+ ER VISITS DURING PAST 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015

ER as Usual Source of Health Care

3+ ER Visits During Past 12 Months

The reference group is advanced degree.
EDUCATION AS A PREDICTOR OF ER AS THE USUAL SOURCE OF HEALTH CARE AND 3+ ER VISITS DURING PAST 12 MONTHS FOR OHIOANS ≤138% FPL IN 2015

ER as Usual Source of Health Care

3+ ER Visits During Past 12 Months

The reference group is any college degree.
WORK STATUS AS A PREDICTOR OF FAIR/POOR HEALTH, MHI, ER AS USUAL SOURCE OF HEALTH CARE, 3 OR MORE ER VISITS FOR OHIOANS ≤138% FPL IN 2015

The reference group is working.
The reference group is job-based coverage.
The reference group is job-based coverage. Ohioans may be newly or oldly eligible for Medicaid or Dual eligible and eligible for both Medicaid and Medicare.
INSURANCE STATUS AS A PREDICTOR OF ER AS THE USUAL SOURCE OF HEALTH CARE AND 3+ ER VISITS DURING PAST 12 MONTHS FOR ALL OHIOANS IN 2008 AND 2015

The reference group is job-based coverage.
INSURANCE STATUS AS A PREDICTOR OF ER AS THE USUAL SOURCE OF HEALTH CARE AND 3+ ER VISITS DURING PAST 12 MONTHS FOR OHIOANS ≤138% FPL IN 2015

ER as Usual Source of Health Care

3+ ER Visits During Past 12 Months

The reference group is job-based coverage.
MEDICAI Status as a Predictor of Fair/Poor Health, MHI, ER as Usual Source of Health Care, 3 or More ER Visits for Ohioans ≤138% FPL in 2015

The reference group is oldy eligible and enrolled (OE&E). The other groups examined are Ohioans who are newly eligible and enrolled in Medicaid (NE&E) and those who are potentially eligible and not enrolled (PE&NE).
KEY FINDINGS: GEOGRAPHICAL ANALYSIS FOR 4 OUTCOMES

• There were fewer areas with high clusters of poor outcomes in 2015 than there were in 2008.

• Several area-level predictors of poor outcomes were present for more than one indicator, including:
  – % renter occupied
  – % unemployment
  – % uninsured
LISA CLUSTER MAPS

• The maps display geographic locations where rates cluster together or are similar to each other
  – Statistically significant associations are designated on the maps by color (e.g. area with high rate next to another high rate area)

• The charts are prediction plots that display the relationship between area-level outcomes and area-level socioeconomic and resource variables.
AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF SELF-REPORTED FAIR/POOR HEALTH
AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF SELF-REPORTED MHI

- Unemployment
  - 2008
  - 2015

- Insurance Status

- FQHCs
  - % 4+ Mental Health Days
  - FQHCs Per 10,000 Population

- Renter Occupied Housing
  - % 4+ Mental Health Days
  - % Renter Occupied Housing

- 2008 OFHS
- 2015 OMAS

LISA Cluster
- High-High
- High-Low
- Low-High
- Low-Low
- Not Sig.
AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF OHIOANS WHO REPORT THE EMERGENCY ROOM IS THEIR USUAL SOURCE OF HEALTH CARE
AREA-LEVEL PREDICTORS OF GEOGRAPHIC CLUSTERING OF OHIOANS WITH THREE OF MORE ER VISITS DURING THE PAST 12 MONTHS

- **Insurance Status**: 2008 vs. 2015
- **Race**: % with 3+ ER Visits vs. % African American
- ** Household Income**: Median HH Income (in $1,000)
- **Pharmacies**: % with 3+ ER Visits vs. Pharmacies per 10,000 Population
KEY FINDINGS: MEDICAID ELIGIBILITY GROUPS

• Different area predictors are associated with areas of newly, oldly and potentially eligible, but not enrolled, populations.
• The impact of these factors varies among the eligibility groups.
• The most significant factors are:
  – Income
  – Unemployment
  – Ethnicity
  – Rental occupied housing
  – Race
  – Education
MEDICAID STATUS OF OHIOANS WITH INCOMES ≤138% FPL IN 2015

Holmes county is designated with diagonal lines.
AREA LEVEL PREDICTORS OF MEDICAID STATUS

Unemployment

Income

Ethnicity

Race

Housing Tenure

Education

% of Population

% Unemployed

Median HH Income (in $1,000)

% Hispanic

% African American

% Renter Occupied Housing

% Less Than HS Education

Newly Eligible, Enrolled

Oldly Eligible, Enrolled

Potentially Eligible, Not enrolled
AREA LEVEL PREDICTORS OF MEDICAID STATUS
KEY FINDINGS: POLICY CONSIDERATIONS

• Several SDOH factors do account for likelihood of being on Medicaid and for differences in odds of poor outcomes.
• These factors include:
  – Level of income
  – Level of education
  – Work status
• Income is especially important as the impact of other SDOH and non-SDOH factors are smaller for the ≤138% FPL population than the total 19-64 year old population.
• Race and ethnicity are important factors, but their impact varies across the outcomes.

• It is possible for Medicaid and others to use area level factors to target policy and program efforts.

• Effective SDOH analysis requires:
  – data at smaller units of geography than zip codes (e.g. census tracts) and
  – Inclusion of SDOH questions in future OMAS versions.