



MVC Data in Action: Combining MVC and SDOH Data Sets for Regional Equity Analyses



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Disclosure

I have no financial disclosure or conflicts of interest relevant to this presentation.

Data Session Goals



Recap of MVC Data
Sources and Metrics



Mapping MVC Outcomes



Linking Social Determinants
of Health Data Sets



Physician Perspective with
Dr. Nora Becker



What Does MVC Data Tell Us?

30- and 90-Day “Episodes” for 40+ Medical and Surgical Conditions



Index
Event



Professional
Services



Post-Acute
Care



Readmission

Today's MVC Metrics

Post-Discharge Care Rate Definitions

Follow-Up Care

- **Numerator:**
 - Number of *patients with an outpatient follow-up visit (in-person or via telehealth) within 30 days following an index event.*
 - Care received following the index event but prior to a readmission, a procedure, or an ED visit
- **Denominator:** Total number of patients with an index stay for a given condition who were discharged to home or home health and did not receive SNF, LTACH, or inpatient rehabilitation services within the 30 days post-discharge

Emergency Department (ED) Visit

- **Numerator:** Number of *patients with an ED visit, but not a resulting readmission, within 30 days post-index discharge*
- **Denominator:** Total number of patients with an index stay for a given condition

Readmission

- **Numerator:** Number of *patients with an acute care hospitalization within 30 days post-index discharge*
- **Denominator:** Total number of patients with an index stay for a given condition

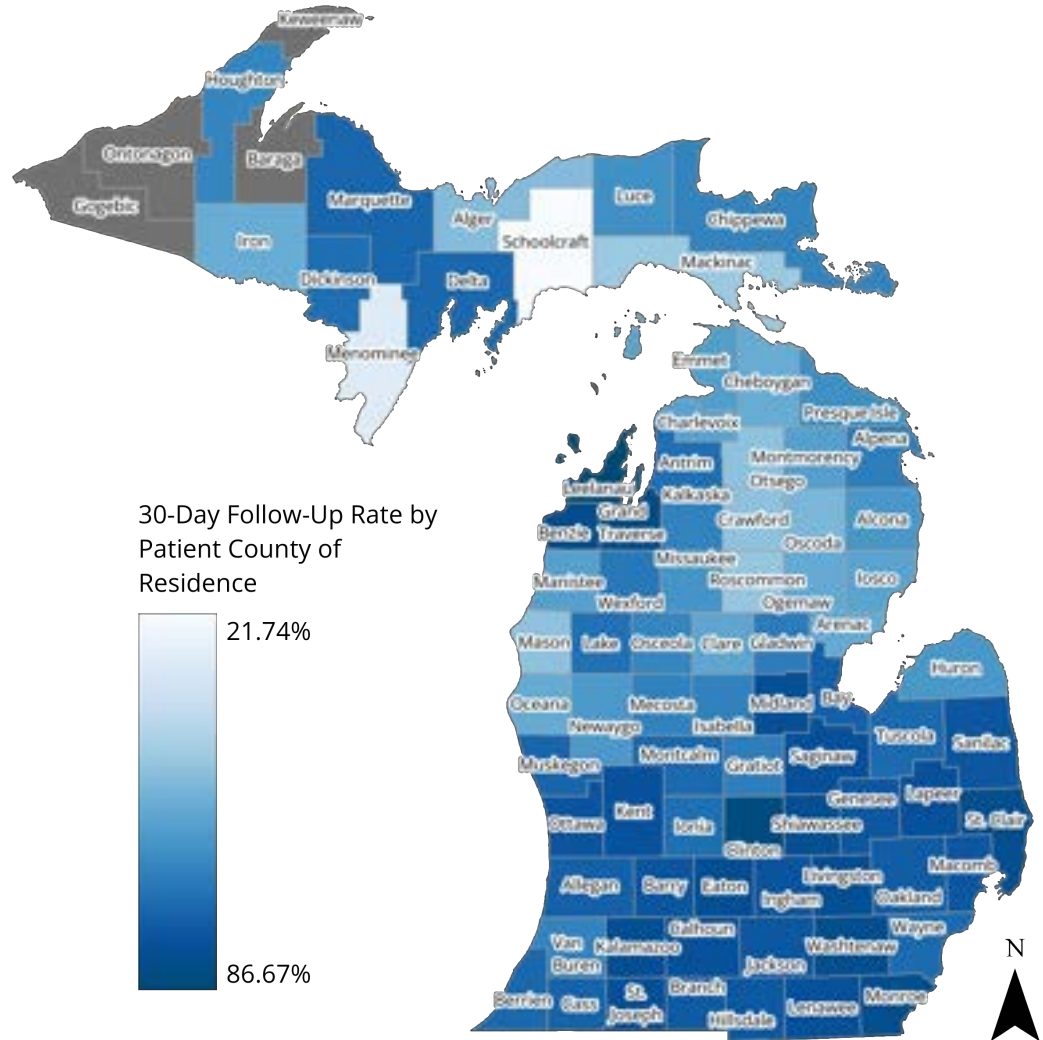
Analytic Cohort

- Patient episodes represented:
 - 30-day congestive heart failure (CHF) episodes
 - Index events 7/1/2019-6/30/2022
 - Adults aged 18 and older with residence in MI
- Payers represented:
 - BCN: HMO and Medicare Advantage (MA)
 - BCBSM: PPO Commercial and MA
 - Medicare Fee-for-Service
- Exclusions:
 - COVID-19 diagnosis in the primary position of any episode claim
 - Hospitals with <11 episodes during timeframe
 - Counties with <11 episodes during timeframe

Follow-Up After Hospitalization for CHF

Statewide Benchmarking

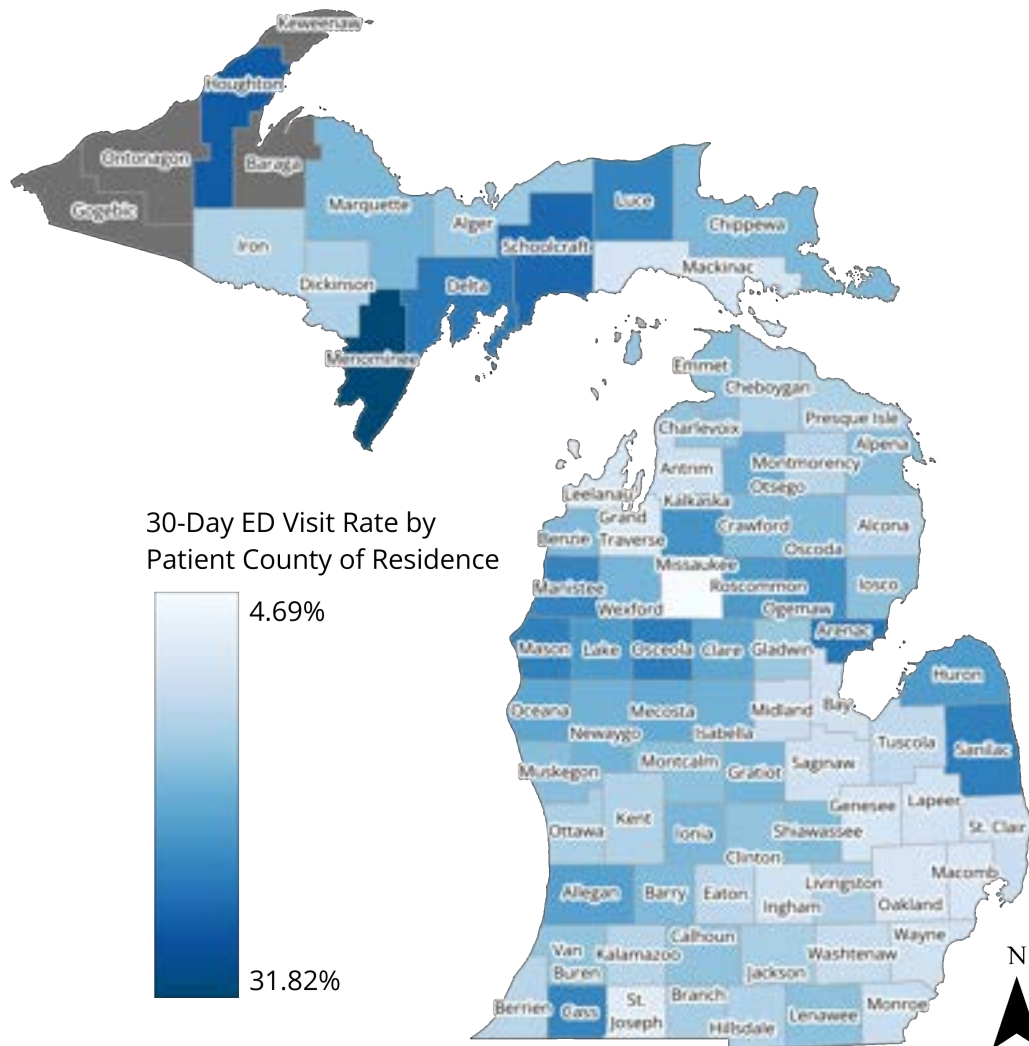
Regional variation is evident, with a trend of higher follow-up rates among patients residing in more populous counties.



Emergency Department Visits After CHF Hospitalization

Statewide Benchmarking

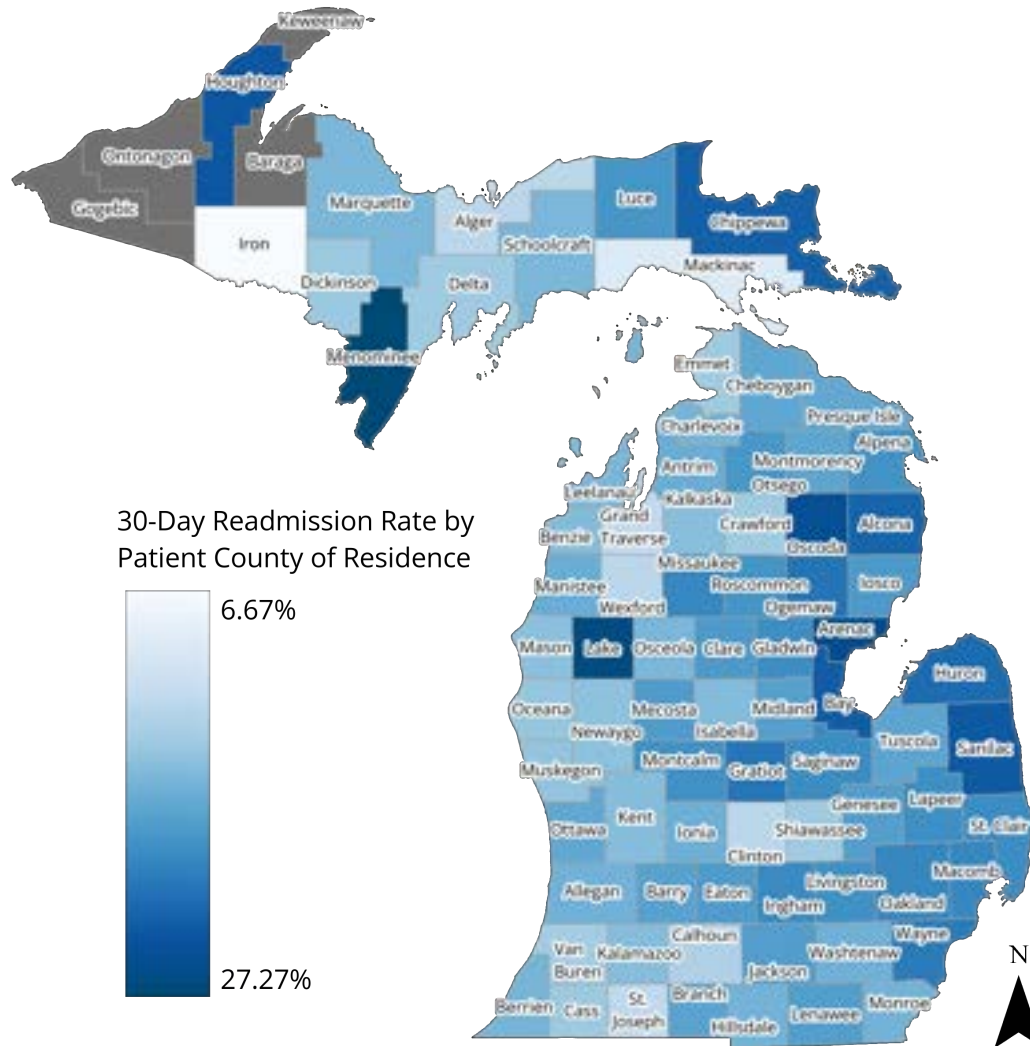
Higher rates of post-discharge ED use appear to be concentrated in Northern Michigan counties.



Readmission After CHF Hospitalization

Statewide Benchmarking

Counties on the west side of the lower peninsula generally have lower readmission rates among residents.






Incorporating Health Equity

with patient and community characteristics

Patient Population Snapshot

- 

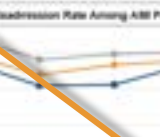
MVC Comm

Your Hospital's AMI Patient Population Snapshot*


Your Hospital's AMI Patient Population Snapshot		
	BCBSM & BCN Comm	BCBSM & BCN MA
Mean Age (years)	57.0	76.0
Average # Comorbidities	0.9	1.7
Percent Dual Eligible	N/A	N/A
Percent of Patients Living in an "At-Risk" or "Distressed" Zip Code	31.3%	27.9%
American Indian or Alaska Native	0.0%	0.0%
Asian or Pacific Islander	0.0%	0.0%
Black	2.8%	2.6%
Hispanic	0.9%	0.7%
White	94.4%	90.8%

	BCBSM & BCN Comm	BCBSM & BCN MA	Medicare FFS
Mean Age (years)	57.0	76.5	73.2
Average # Comorbidities	0.9	1.7	1.7
Percent Dual Eligible	N/A	N/A	23.1%
Percent of Patients Living in an "At-Risk" or "Distressed" Zip Code	31.3%	27.9%	34.0%
American Indian or Alaska Native	0.0%	0.0%	0.0%
Asian or Pacific Islander	0.0%	0.0%	0.5%
Black	2.8%	2.6%	3.2%
Hispanic	0.9%	0.7%	2.5%
White	94.4%	90.8%	92.3%

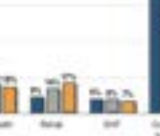
30-Day Readmission Rate Among AMI Patients




30-Day Post-Discharge Care Utilization Among AMI Patients




30-Day Post-Discharge ED Utilization Among AMI Patients



30-Day Post-Discharge ED Utilization Among AMI Patients







*Agency for Healthcare
Research and Quality*

SDOH Database

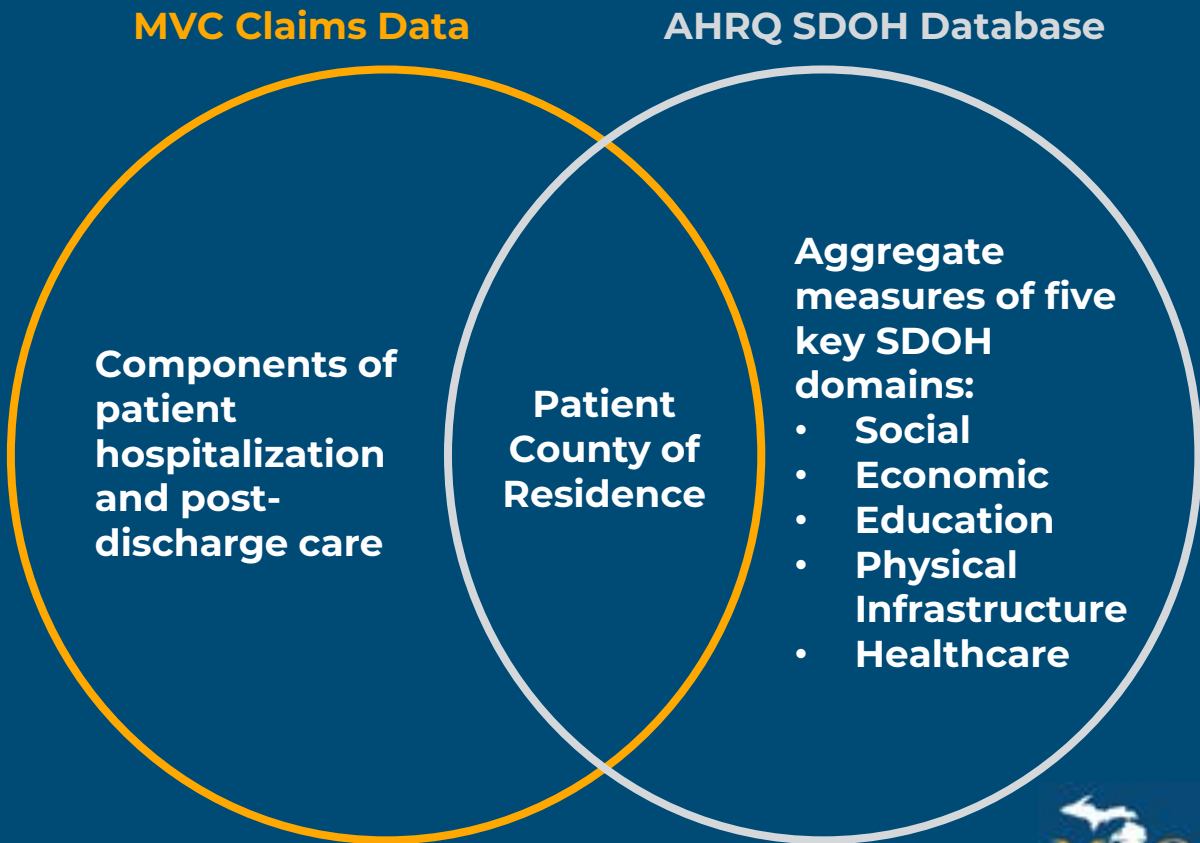
Created with funding from the
Patient Centered Outcomes
Research (PCOR) Trust Fund

- Available for download
- Readily linkable SDOH variables
- Drawn from multiple sources
- Link to other data by geography
 - County
 - Zip code
 - Census Tract

Linking Data

Expands our context

Data from the U.S. Census Bureau and other sources is linked using patient residence



American Community Survey

U.S. Census Bureau

Homeland Infrastructure Foundation-Level Data

U.S. Department of Homeland Security

Provider of Service Files

U.S. Department of Health and Human Services, Centers for Medicare & Medicaid Services



ACS Estimates Illuminate Potential **Barriers to Care**



Percentage of households with **no internet access**

- Numerator: No internet access
- Denominator: Total households



Percentage of households with **no computing device**

- Numerator: Households with no computer
- Denominator: Total households



Percentage of housing units with **no vehicle available**

- Numerator: Owner occupied with no vehicle available + renter occupied with no vehicle available
- Denominator: Total occupied housing units



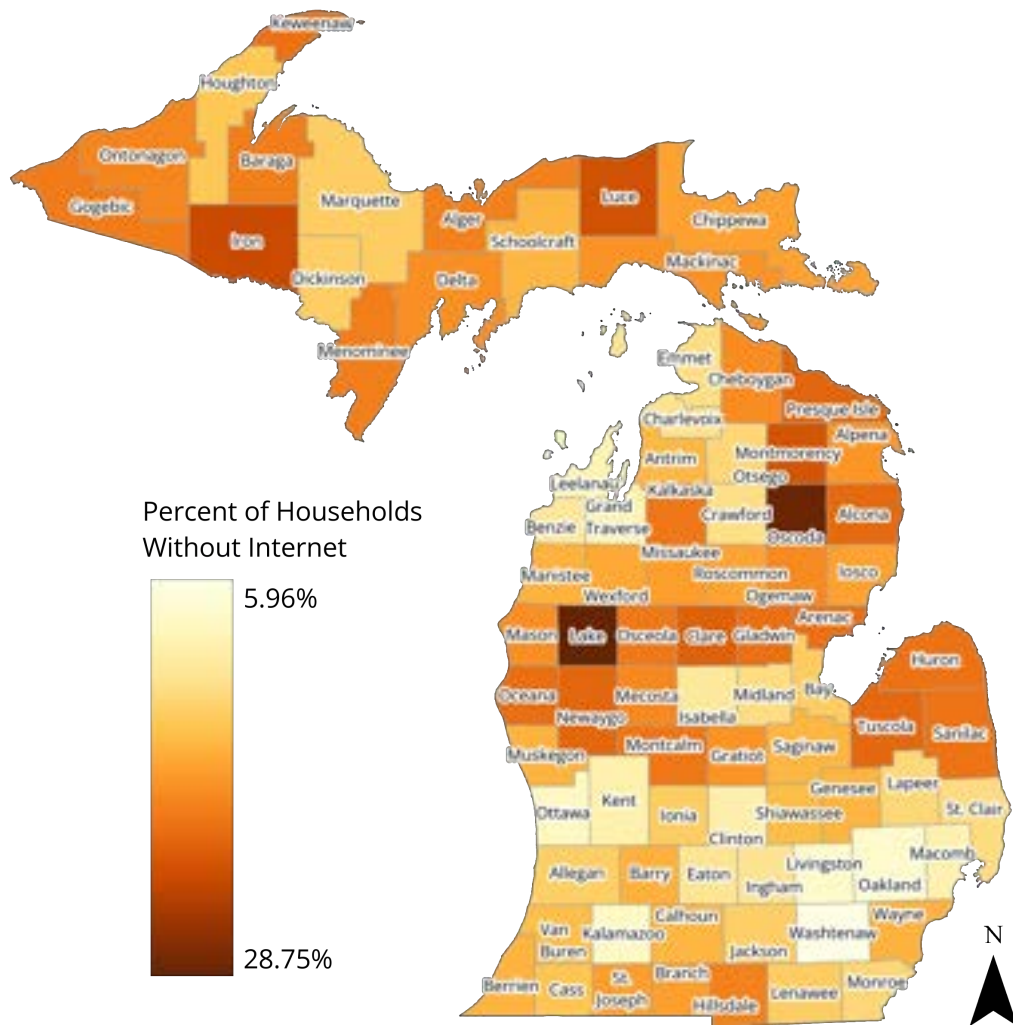
Percentage of households with **public assistance income or SNAP**

- Numerator: Households with Public Assistance Income
- Denominator: Total households

Home Internet Access

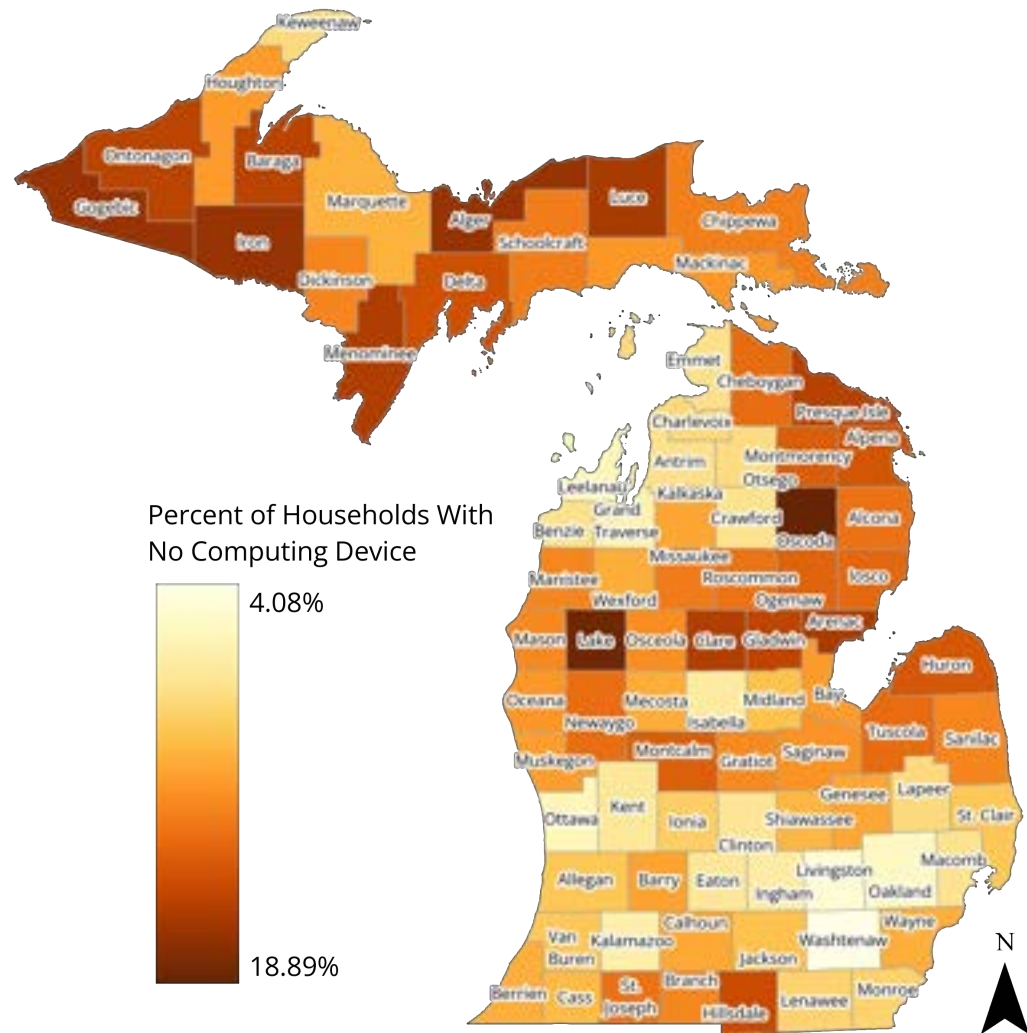
ACS estimates the county percent of households without internet range from 5.96% - 28.75%.

Home internet access is not universal and may impact patient access to remote care and scheduling services.



ACS estimates the county percent of households with no computing device range from 4.08% - 18.89%.

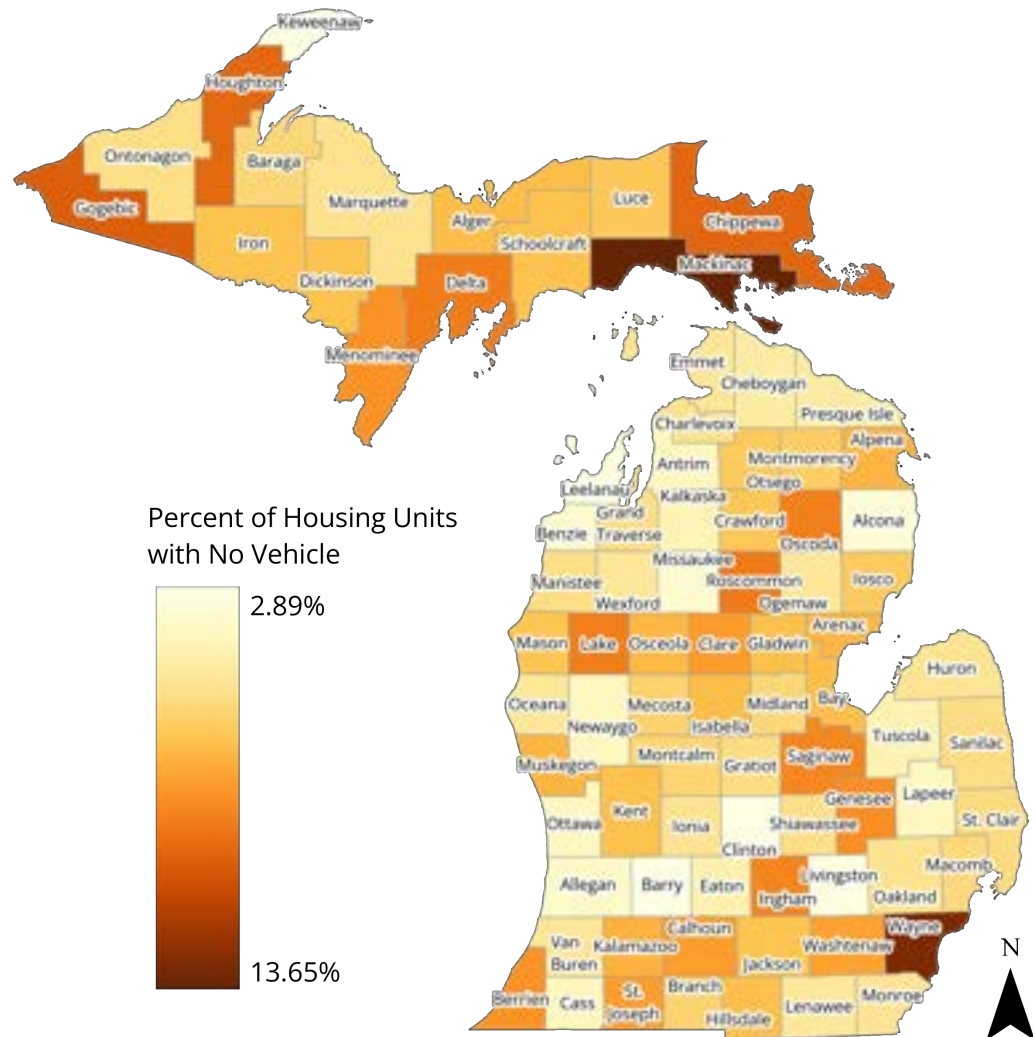
Lack of a home computing device may present a barrier to remote care, follow-up, and/or scheduling.



Vehicle Access

ACS estimates the county percent of housing units with no vehicle range from 2.89% - 13.65%.

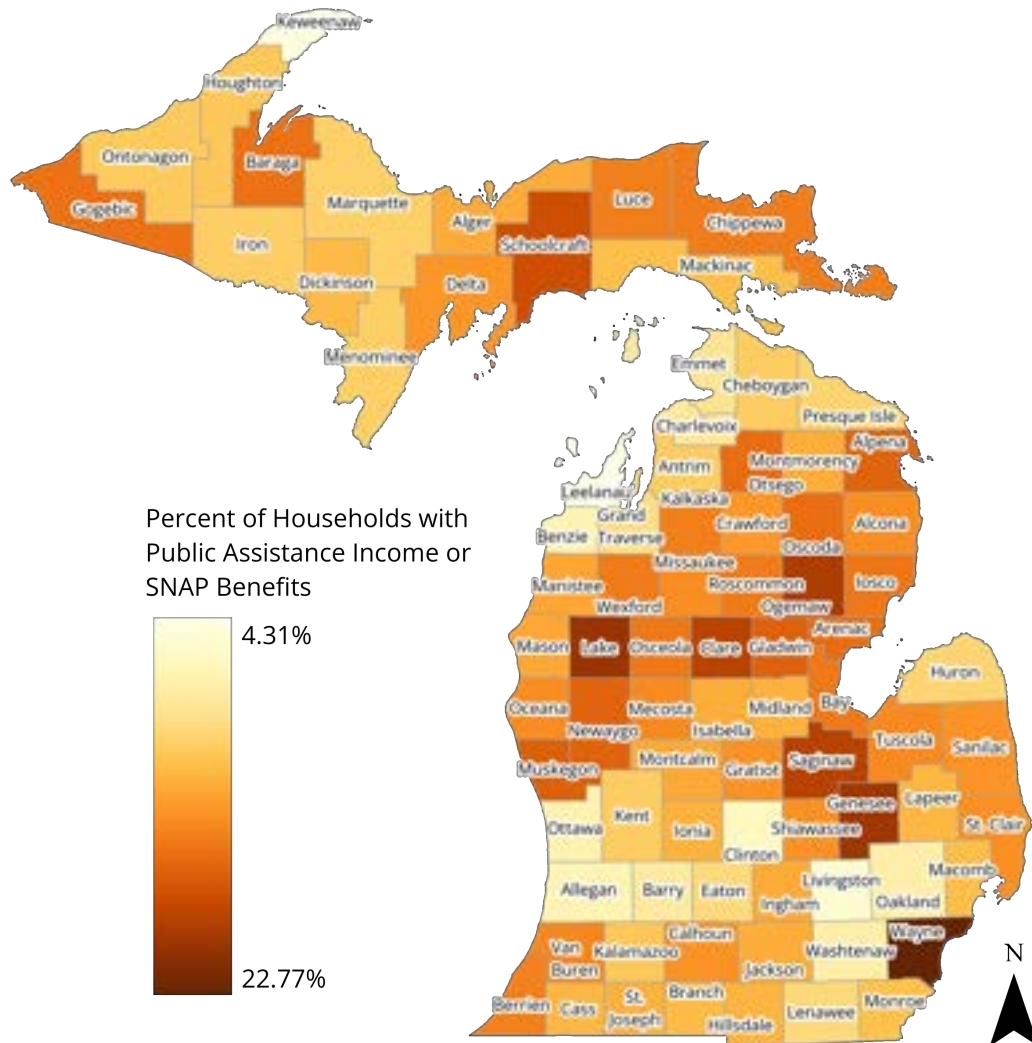
Access to a reliable vehicle may impact the feasibility or convenience of using preventative and/or follow-up care.



Public Assistance

ACS estimates the county percent of households with public assistance/ SNAP benefits range from 4.31% - 22.77%.

Public assistance income and SNAP benefits serve as proxies for financial security.



Calculated Mean Distances Depict Estimated Proximity to Care

Weighted Population Centroids

- Census tract and county centroids produced by U.S. Census Bureau
- Coordinates (lat/long) for the center of population at a given geographic extent

Mean distance in miles to nearest urgent care

- Geocoded information for urgent care facilities (HIFLD)
- Mean distance calculated using population weighted tract centroids in the county

Mean distance in miles to nearest health clinic (FHQC, RHC)

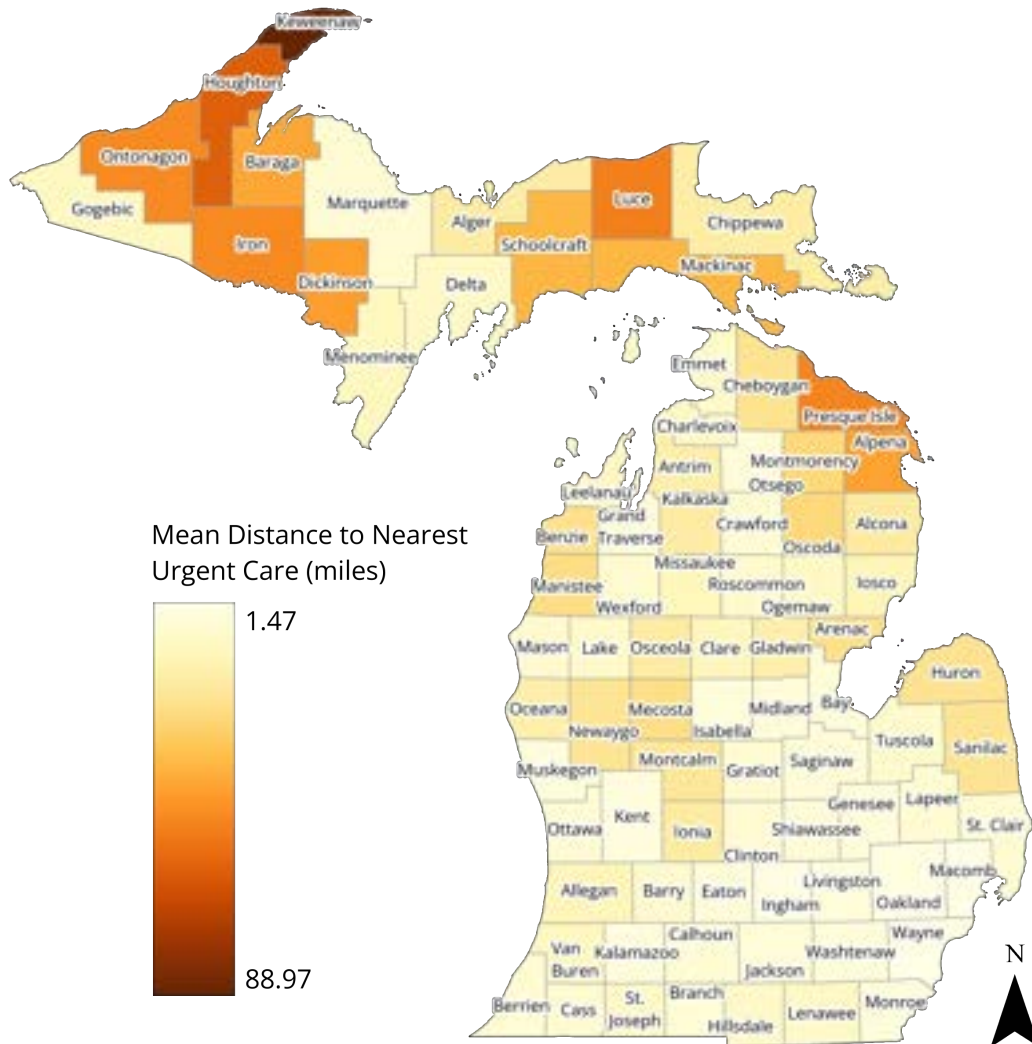
- Geocoded data derived from provider address information (POS)
- Mean distance calculated using population weighted tract centroids in the county

Mean distance in miles to nearest emergency department

- Geocoded data (hospitals with an ED) derived from provider address information (POS)
- Mean distance calculated using population weighted tract centroids in the county

Derived from HIFLD

AHRQ SDOH Database (v1), from the Department of Homeland Security. Homeland Infrastructure Foundation-Level Data (HIFLD)—Urgent Care Facilities.

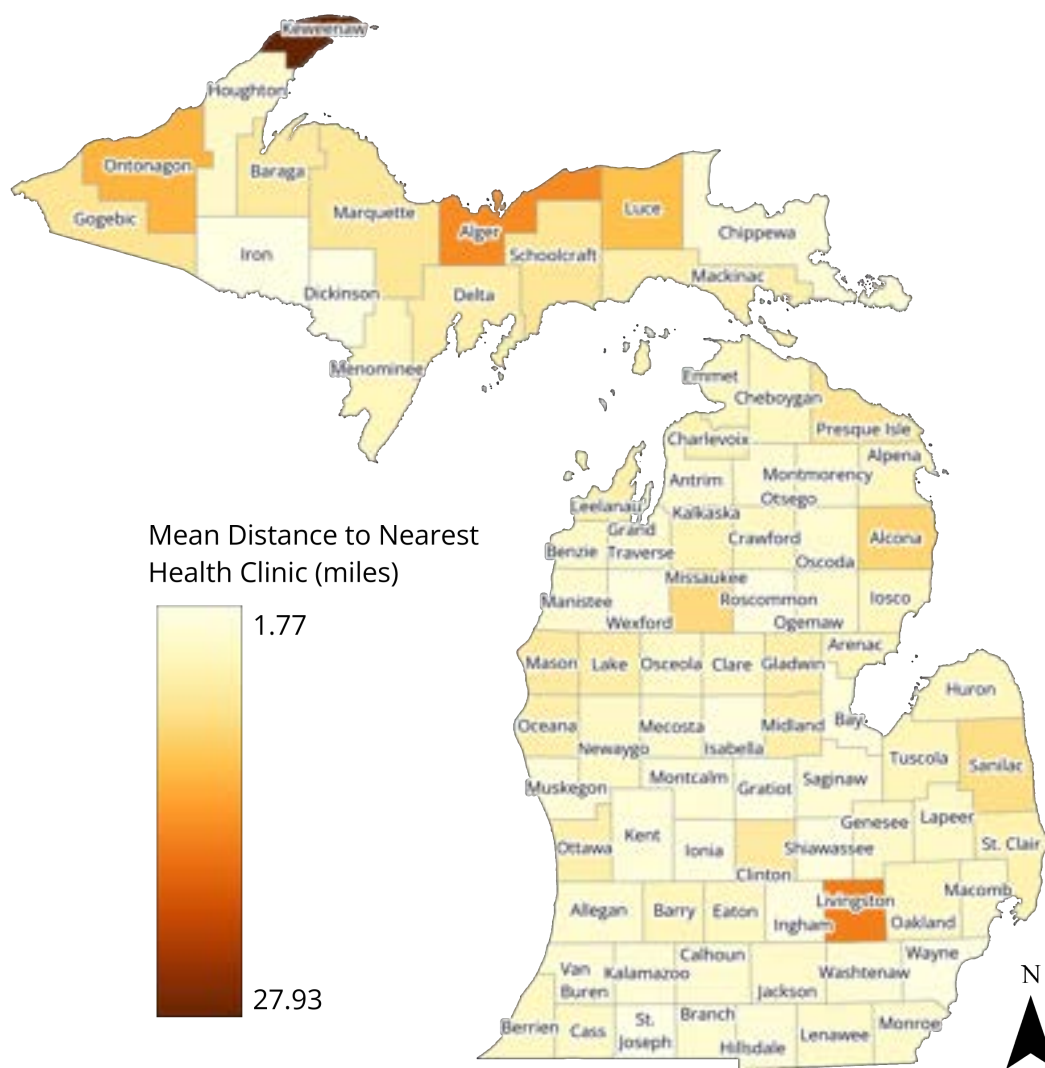


Nearest Health Clinic

Derived from POS

In most counties, health clinics are relatively close by. However, other factors may prevent patient utilization.

AHRQ SDOH Database (v1), from Centers for Medicare & Medicaid Services. (n.d.).
Provider of Services File.

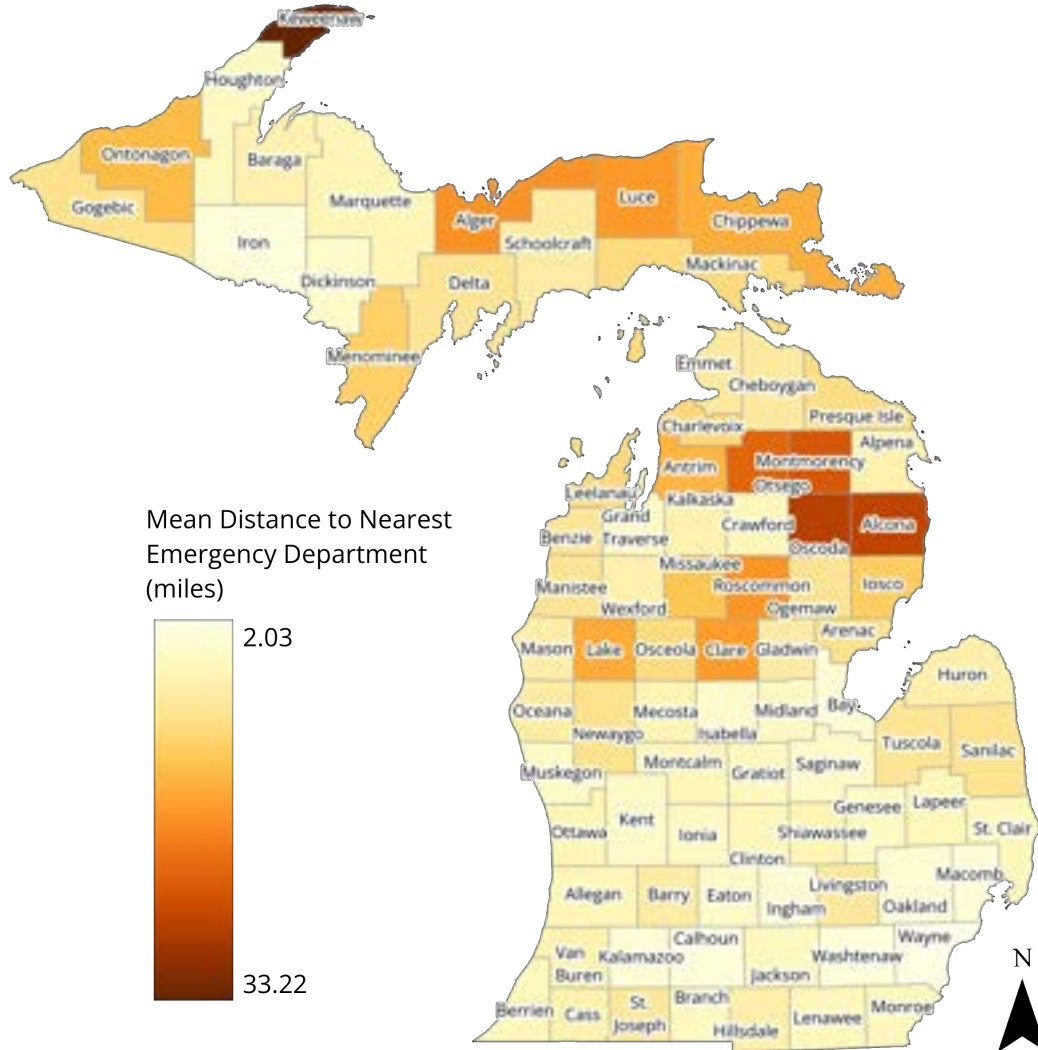


Nearest Emergency Department

Derived from POS

For some patients in Northern Michigan or U.P. counties, the nearest ED may be farther away than other provider types.

AHRQ SDOH Database (v1), from Centers for Medicare & Medicaid Services. (n.d).
Provider of Services File.



Breakout Sessions

- County rates
- Unblinded data
- Open discussion

Afternoon breakout sessions will take a deeper look at the data shared this morning.



Questions?