



OneNKYTM Summit Series

HEALTH Session – September 7, 2021

Thank-you to our Health Session Partners:



Emergency Shelter
of Northern Kentucky
Life Saving. Life Changing



Housing Opportunities
of Northern Kentucky



Parish Kitchen
A ministry of the
Diocese of Covington



St. Elizabeth
HEALTHCARE



Greater Cincinnati Regional
Food Policy Council



WELCOME
HOUSE NORTHERN KENTUCKY
HOMELESS TO HOME



the catalytic
fund



OneNKY
Summit Series

**SAVE
THE
DATE**

OneNKYTM

Summit Series

presented by OneNKY Alliance

October 27, 2021

3 p.m. – 7 p.m.
Northern Kentucky
University

Owning our voice through OneNKY

Join us as we present new initiatives
and identify transformative ways to
move our community forward.

Supporting Sessions will feature discussions around
proposed solutions to our largest challenges in:

GROWTH

August 31, 2021

Northern Kentucky Tri-ED in partnership with Catalytic Fund,
NKY Chamber and Southbank Partners

HEALTH

September 7, 2021

St. Elizabeth in partnership with HealthPoint and
NKY Health Department

EDUCATION

September 14, 2021

Northern Kentucky University and Education Partners

Location of the supporting sessions will be available upon registration.

DEI considerations guided by Horizon Fund and Greater Cincinnati Foundation

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Health Session Agenda



Welcome



Sarah Giolando
St. Elizabeth Healthcare



Garren Colvin
St. Elizabeth Healthcare

Keynote



John Halamka, M.D., M.S.
Mayo Clinic

NKY Data Overview

PRESENTERS:



Stephanie Vogel
NKY Health Dept



Sara Hamilton
St. Elizabeth Healthcare

TRANSPORTATION
HOUSING
AFFORDABLE
FOOD SECURITY

Panel Discussion on SDOH Priorities

MODERATORS:



Lisa Cooper
NKADD



Joe Klare
Catalytic Fund



Jenifer Moore
Kroger

PANELISTS:



Andrew Aiello
TANK



Danielle Amrine
Welcome House



Maria Meyer
Parish Kitchen



Greg Rose
AMR



Kim Webb
ESNKY



Michaela Oldfield
Food Policy Council



Wendie Morgan-Parrott
St. Elizabeth Healthcare



David Hastings
HONK



Roger Babik
Master Provisions

Breakout Sessions

PREASSIGNED:

- Affordable Housing/ Homelessness
- Food Security
- Transportation

Breakout Reports

BREAKOUT LEADERS:



Close

Health Session Agenda



DEI Consideration for today's program and breakout sessions

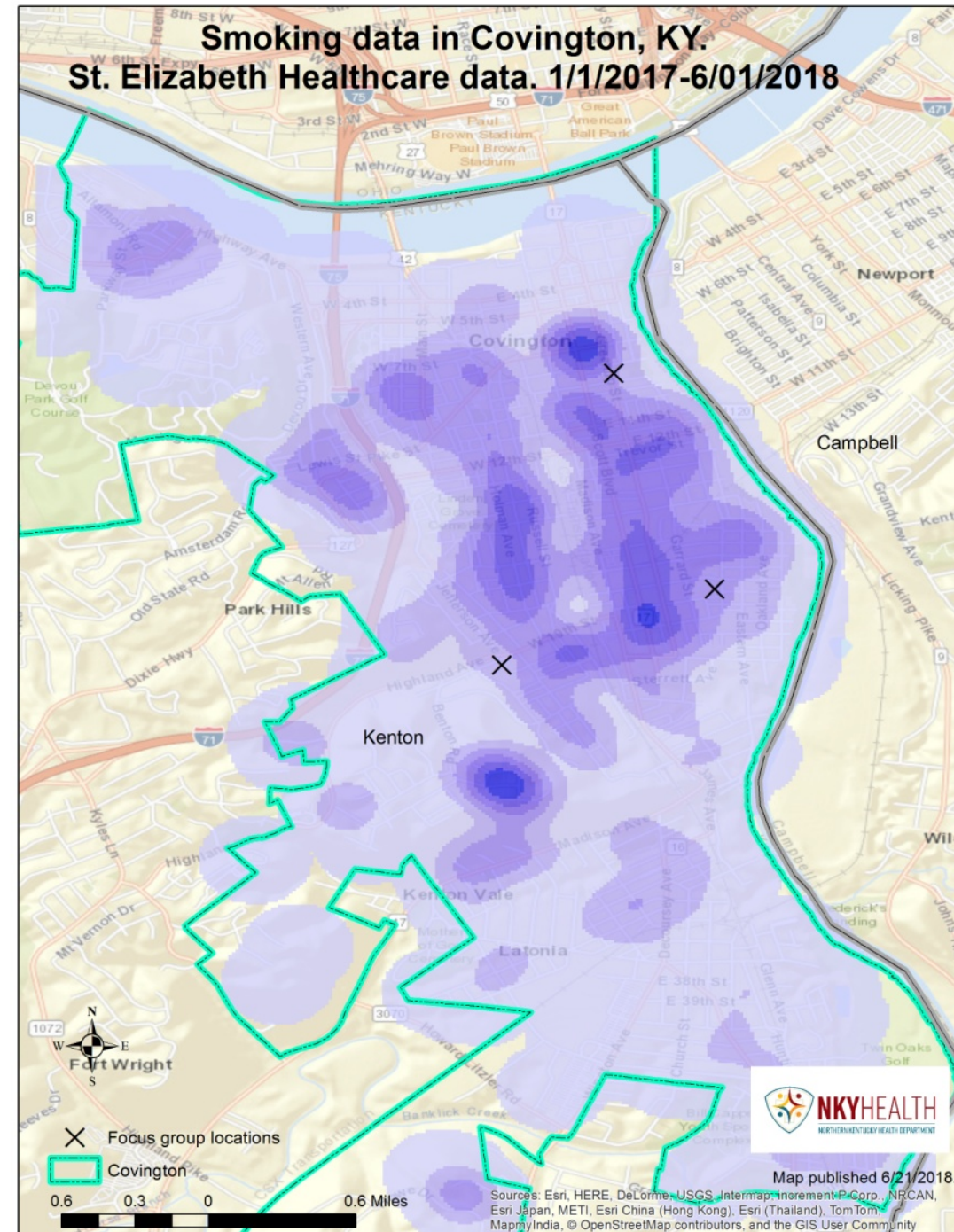
Which priority issues and solutions identified within this category will help produce the "Curb Cut Effect"? (The Curb-Cut Effect asserts that an investment in one group can cascade out and up and be a substantial investment in the broader well-being of a community -- one whose policies and practices create an equitable economy, a healthy community of opportunity.)

The solutions to identified priority issues will impact many individuals and groups across the OneNKY metro. What actions or steps should be taken for each solution to support equity for people of color and/or people of low income? For the entire community?

DEI consideration guided by Horizon Community Fund and Greater Cincinnati Foundation

NKY Data Overview

Smoke-Free Initiatives – BUILD grant



- A Collaborative of the NKY Regional Alliance, Interact for Health, St. Elizabeth Healthcare, the Northern Kentucky Health Department, Three Rivers District Health Department and the Center for Great Neighborhoods was developed to reduce smoking in targeted neighborhoods through innovative strategies
- The collaborative was funded by the BUILD Health Challenge grant – a national grantmaking organization to transform health through partnerships
- The effort brought awareness of the need for tobacco-free policies
- The effort reduced tobacco use in two Northern Kentucky communities: Covington and Gallatin County with the highest rates of smoking in the region
- The effort improved data-driven decision making through a groundbreaking data-sharing agreement while softening residents' perceptions about tobacco-free environments

Next Steps – NKY Smoke Free Coalition



- A new coalition was formed which includes St. Elizabeth Healthcare, OneNKY Alliance, Northern Kentucky Health Department, The Northern Kentucky Chamber of Commerce, Foundation for a Healthy Kentucky, Interact for Health and BREATH (Bridging Research Efforts and Advocacy Toward Healthy Environments) at The University of Kentucky College of Nursing. This coalition is funded by Interact for Health.
- The Vision of this coalition is to convene, educate, and empower stakeholders within the Northern Kentucky region to address workplace secondhand smoke exposure in order to create one of the healthiest regions within the Commonwealth.
- Members of our community are still being exposed to secondhand smoke at work. Breathing in secondhand smoke can cause heart disease, stroke, and cancer, and every year the state of KY spends almost \$2 billion on healthcare costs related to tobacco smoke exposure.
- Polling by Interact for Health in Cincinnati shows that 75 percent of registered voters in Northern Kentucky favor a smoke-free ordinance.

Transportation Overview

Transportation Overview

- **Transit is a function of density (NKY is low density)**
- **Travel shed¹ for low-income households is limited**
- **Mismatch between where people live and needed services**
- **Suburbanization of jobs; inability to arrive via transit**
- **More time commuting, less time for other needs**

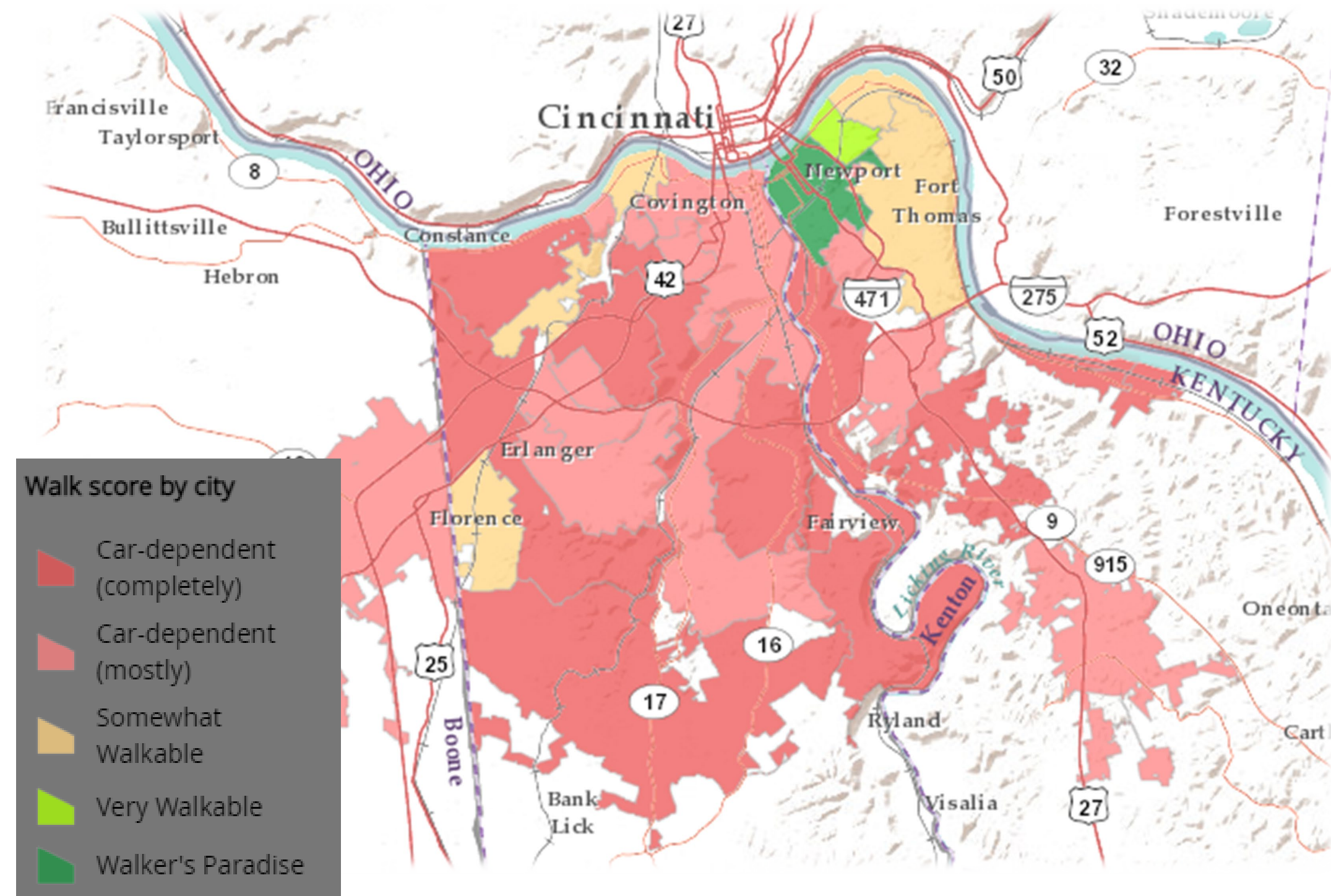
Source: Transit Authority of Northern Kentucky (TANK), System Redesign Study

1.) A travel shed is the set of all the destinations that can be reached from a location within a specified time budget

NKY's Walking Score

NKY is primarily a car-dependent region with pockets of walkable areas, associated with more densely populated communities. Walk score index classifies areas in terms of needing a car to run everyday errands.

Source: Northern Kentucky Health Department's Health Equity Series

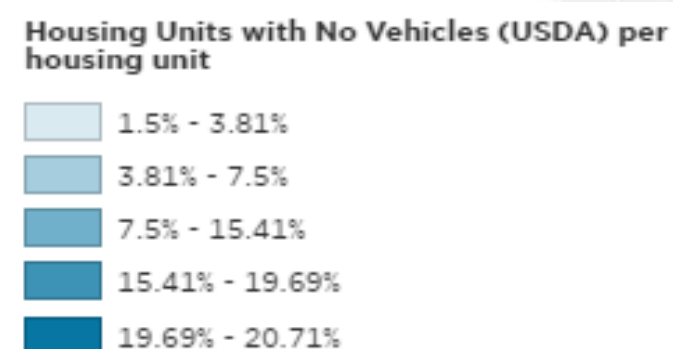


NKY's Mobility

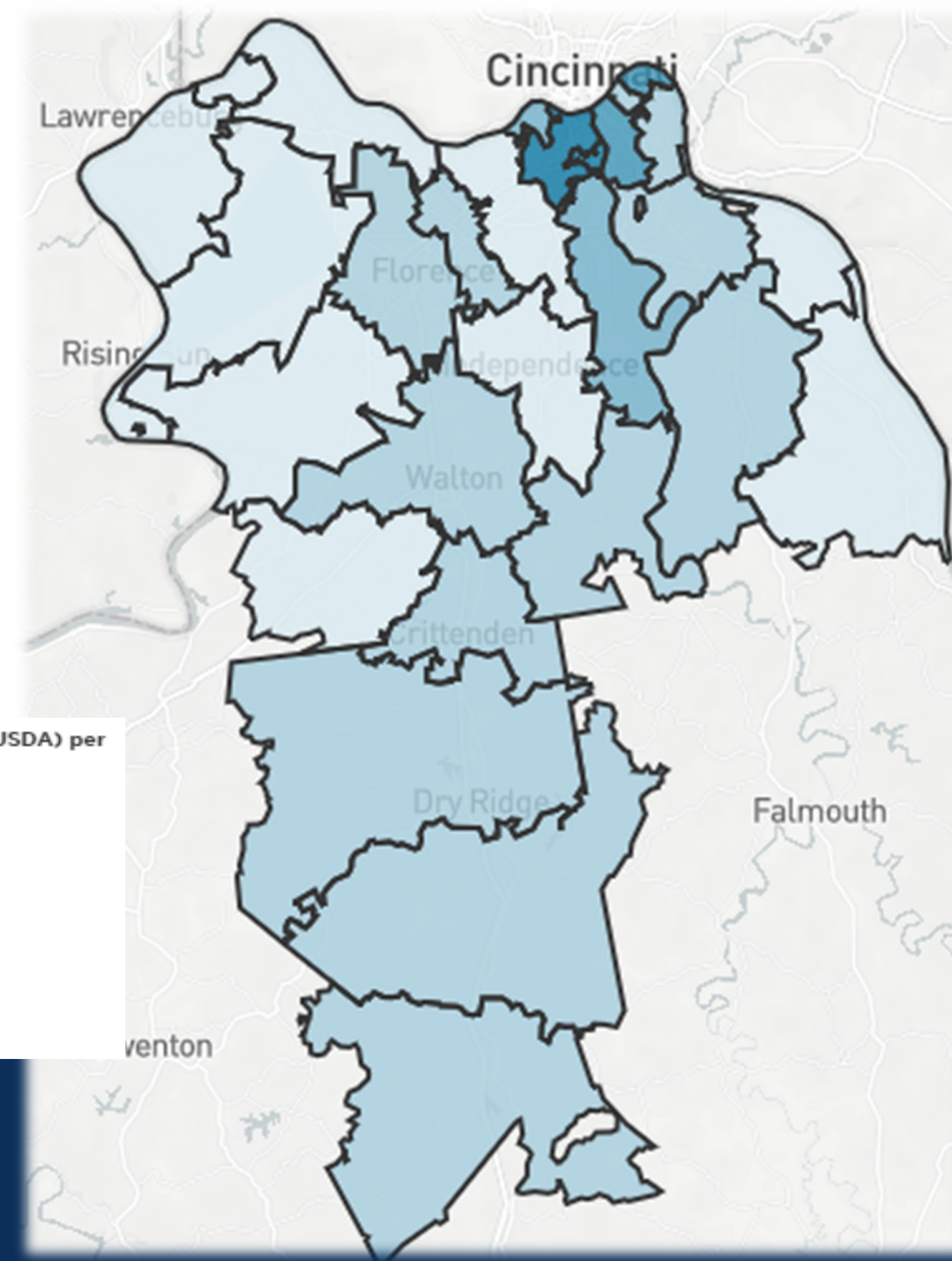
Very few places in NKY to functionally live without a car

Areas of low vehicle ownership correlate with areas of unemployment. These vulnerable populations are dependent on public transportation to get to employment. This can limit job opportunities, due to lack of service, travel time or other factors.

Source: mySidewalk.com; Understanding Livability in your City



Sources: USDA ERS 2019



Transportation

PROBLEM STATEMENT

In NKY, there is a lack of population/service density, and an extreme mismatch between where people live and needed services (e.g., jobs, education, healthcare, etc.). Success is increasing access to affordable transportation (e.g., cars, ride share services, etc.).

Affordable Housing & Homelessness Overview

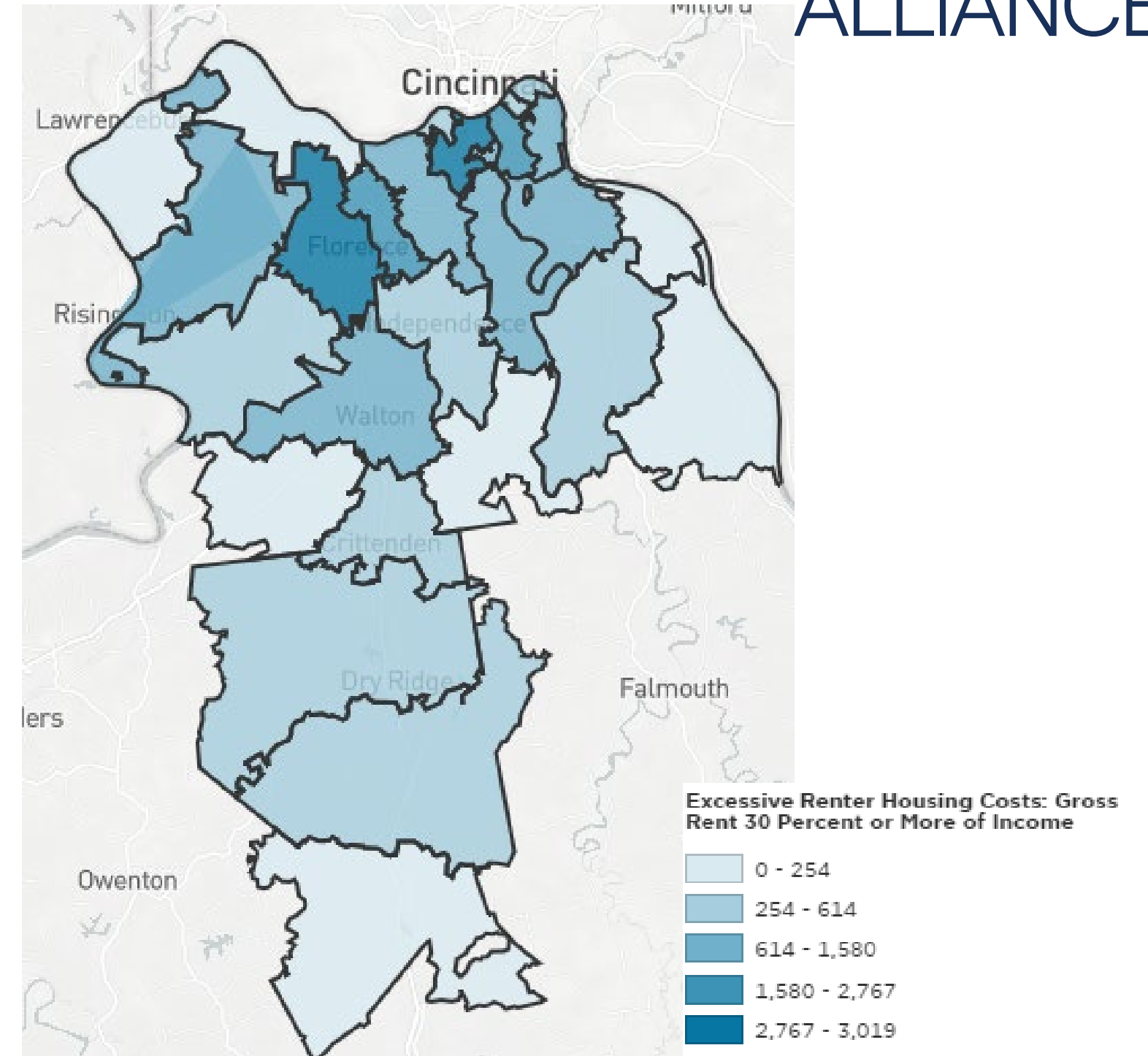
NKY Housing Costs

Cost Burden: percentage of the households where housing costs exceed 30% of total household income.



36,646
Households

Total Cost Burdened Households
NKY Health Zips



Sources: U.S. Census ACS 5-year 2015-2019; SparkMap Standard Report – Boone, Campbell, Grant & Kenton Counties. (2020). University of Missouri CARES; US Census Bureau, American Community Survey. 2014-18; mySidewalk.com; Understanding Livability in your City

Housing Wages



KENTUCKY

#48*

In **Kentucky**, the Fair Market Rent (FMR) for a two-bedroom apartment is **\$780**. In order to afford this level of rent and utilities — without paying more than 30% of income on housing — a household must earn **\$2,599** monthly or **\$31,183** annually. Assuming a 40-hour work week, 52 weeks per year, this level of income translates into an hourly Housing Wage of:

\$14.99
PER HOUR
STATE HOUSING
WAGE

\$23.96
PER HOUR
**National Housing
Wage**

NORTHERN KENTUCKY¹

11% higher than
overall state of KY

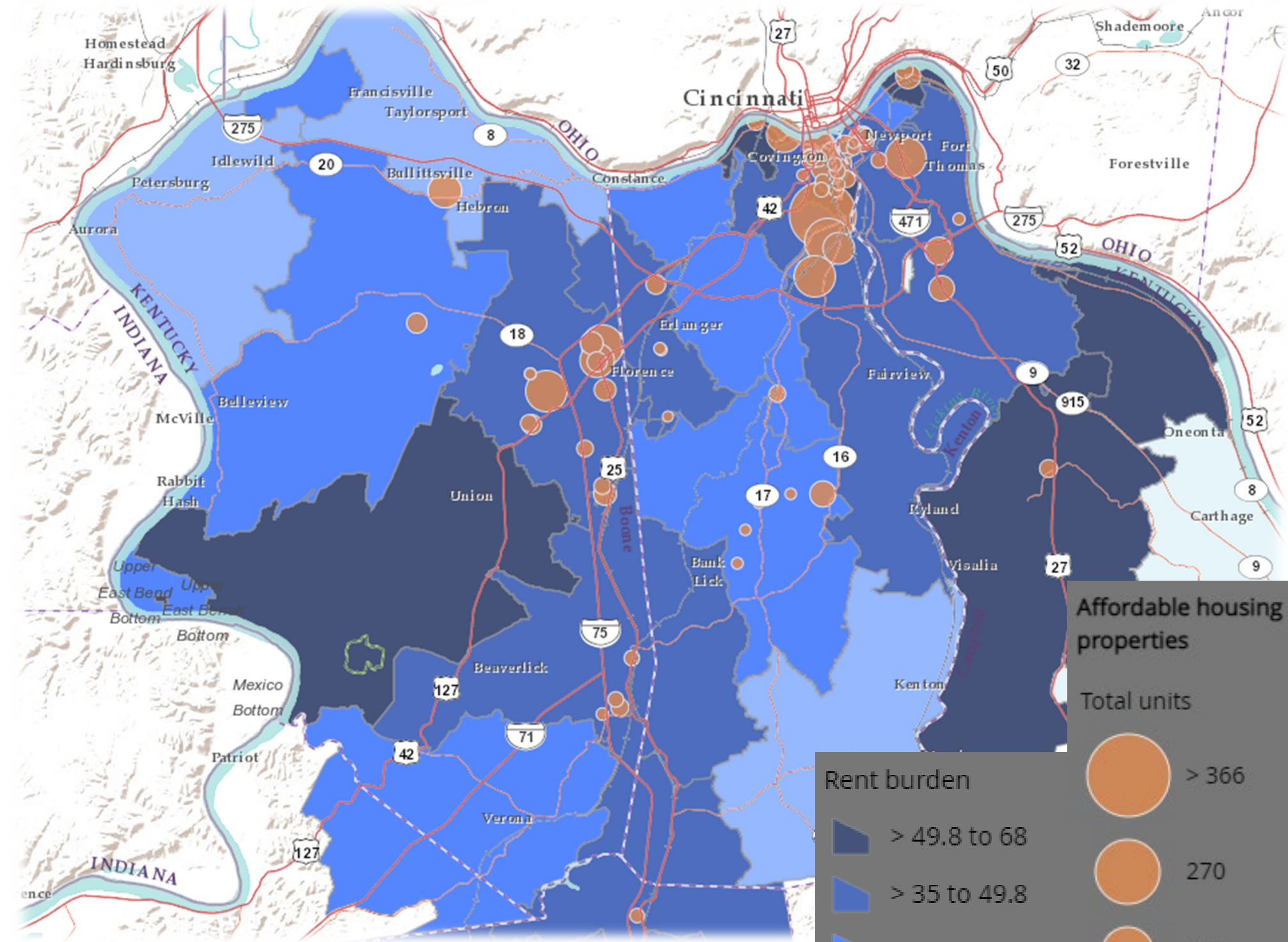
In **Northern Kentucky**, the Fair Market Rent (FMR) for a two-bedroom apartment is **\$865**. In order to afford this level of rent and utilities — without paying more than 30% of income on housing — a household must earn **\$2,883** monthly or **\$34,600** annually. Assuming a 40-hour work week, 52 weeks per year, this level of income translates into an hourly Housing Wage of:

\$16.63
PER HOUR
NKY¹ HOUSING
WAGE

Source: Out of Reach 2020 | National Low Income Housing Coalition
* Ranked from Highest to Lowest 2-Bedroom Housing Wage. Includes District of Columbia and Puerto Rico.
(1) Excludes Grant County; Grant County's hourly wage necessary to afford 2 BR FMR is lower at \$14.92

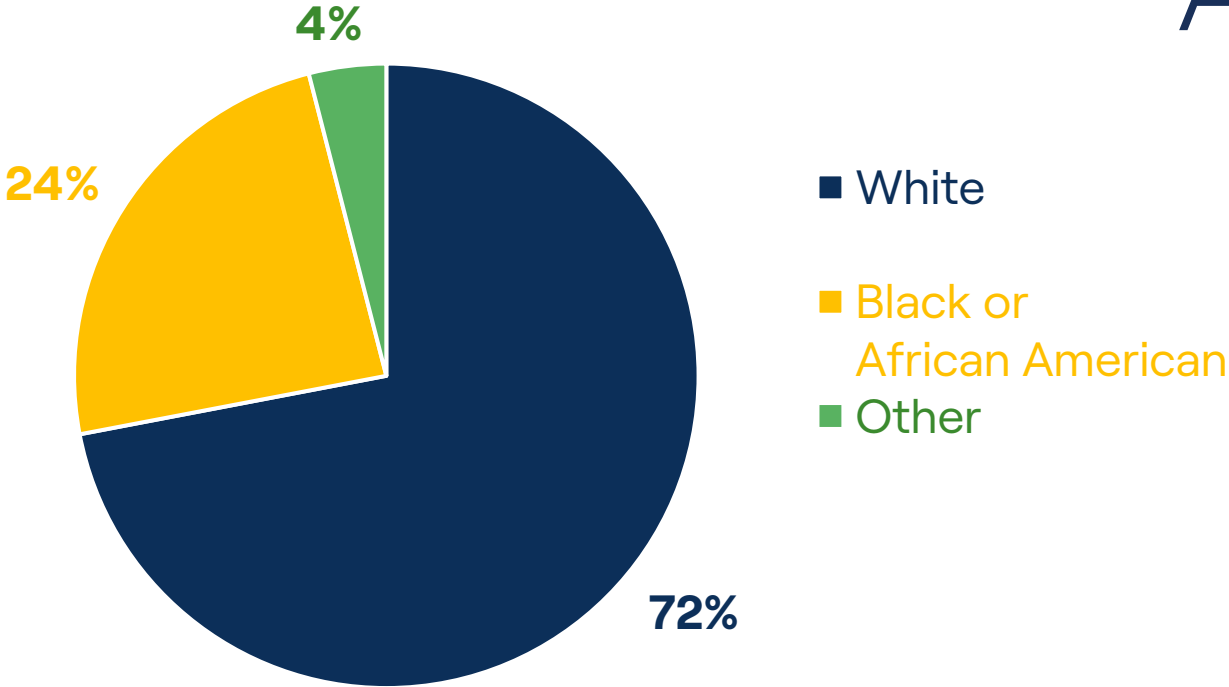
NKY Rent Burden

- 43% of households who rent in NKY experience rent burden
- Currently there are total of 73 affordable housing properties in NKY, with a total of 4,833 units
- Total number of units suggests that there are not enough to serve the population in need

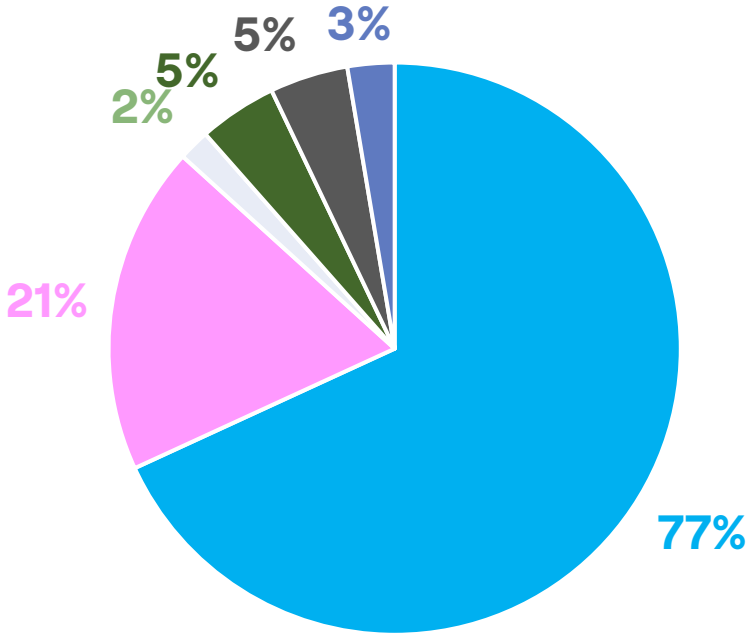


Source: Northern Kentucky Health Department's Health Equity Series

NKY Homelessness



- Adults (18+)
- Children (under 18)
- Persons with Unknown Age
- Unaccompanied Youth Under Age 25
- Parenting Youth Under Age 25 w/ Children
- Veterans (self-reported)



Source: Northern Kentucky Homelessness Working Group’s Report on the Unsheltered Homeless in Northern Kentucky Based on Findings from New Data Collection, July 1, 2018 to June 30, 2019

Affordable Housing & Homelessness



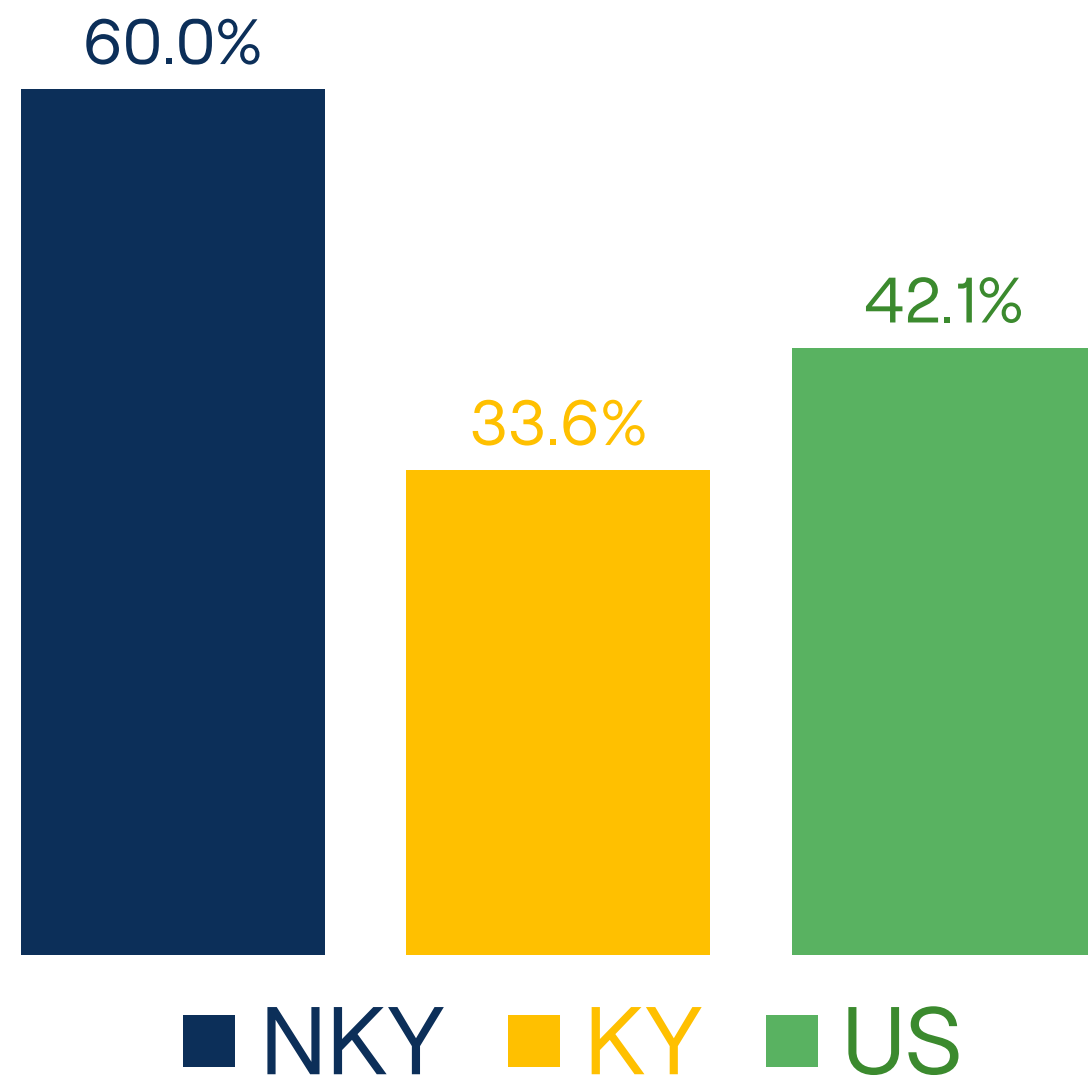
PROBLEM STATEMENT

Nearly 19,000 (40%) of Northern Kentucky households pay more than 30% of their income on rent, with over 9,000 of those spending more than 50%. As both rental and home sale prices increase in NKY, low-income households are disproportionately finding it more difficult to secure affordable housing. As it relates to those experiencing unsheltered homelessness, for the 1,530 Northern Kentuckians, this is not only devastating for the individuals involved, but a costly problem for our community. Children experiencing unsheltered homelessness are at an increased risk of behavioral and developmental problems and face greater chances of suffering from mental or physical health problems. Success is increasing the availability of quality, affordable housing.

Food Security Overview

Food Desert Tracts

USDA Food Access Research Atlas defines food deserts as neighborhoods that lack healthy food sources due to income level, distance to supermarkets, or vehicle access.



- NKYians **1.8** times more likely to be living in a food desert tract than other Kentuckians
- NKYians **1.3** times more likely to be living in a food desert tract than the rest of the United States population

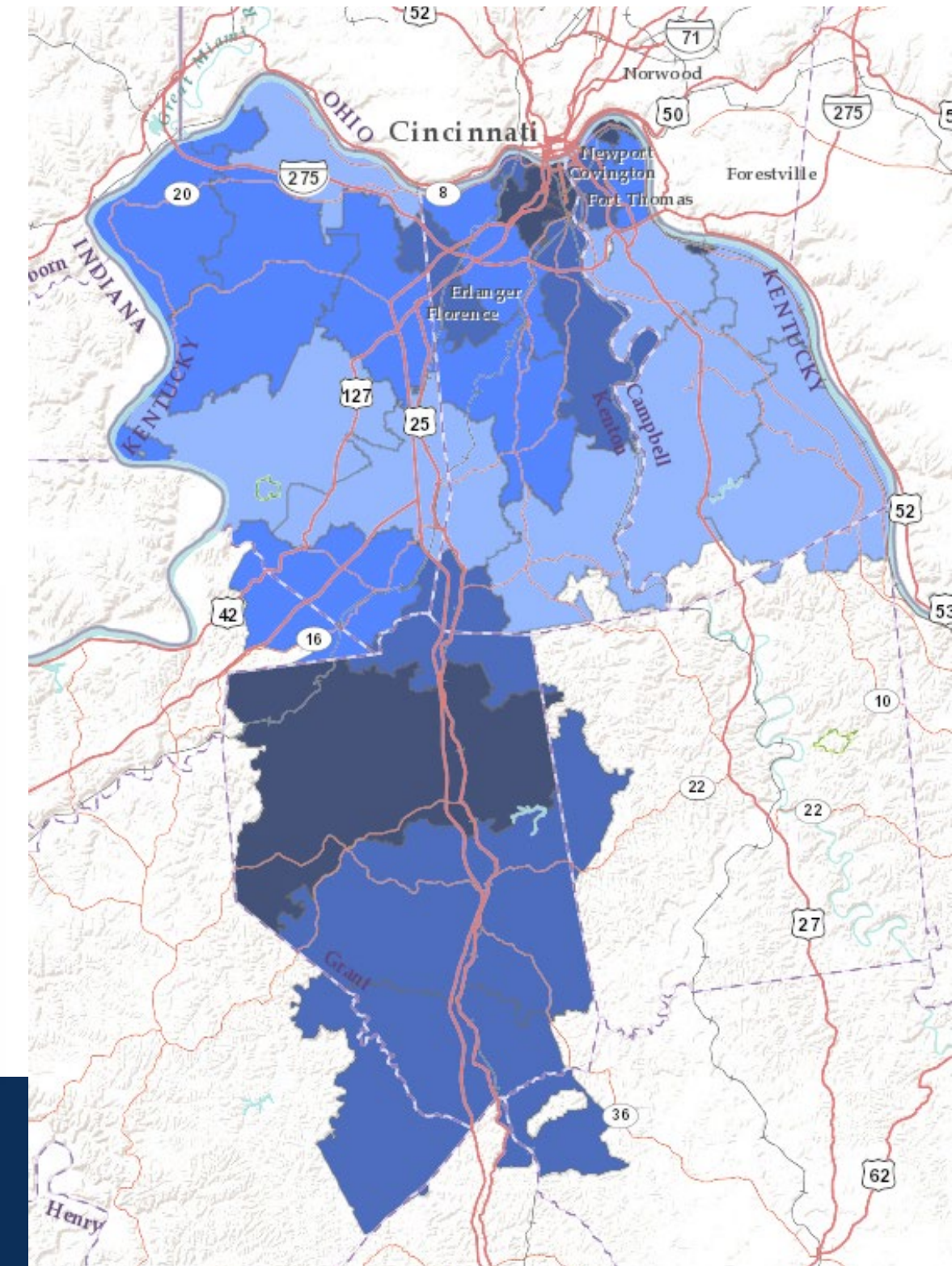
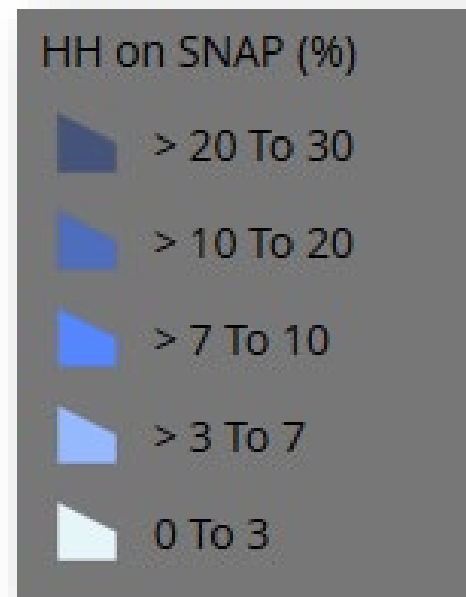
Sources: SparkMap Standard Report – Boone, Campbell, Grant & Kenton Counties. (2020). University of Missouri CARES; US Department of Agriculture, Economic Research Service, USDA – Food Access Research Atlas. 2015

Supplemental Nutrition Assistance Program (SNAP)

Key findings for NKY:

- 17,380 (12%) households receive SNAP benefits
- 52% of households in poverty receive SNAP benefits

NKY households on SNAP (%):



Source: Northern Kentucky Health Department's Health Equity Series

Food Security



PROBLEM STATEMENT

Prior to the pandemic, nearly 50,000 residents in NKY lacked accessible, affordable, and healthy food. Households with children are more likely to experience food insecurity, as are African American, Latino, and Native American families. Food insecurity is linked to many adverse effects to overall health. Success is increasing the number of food secure families in our region by coordinating access to resources and addressing the root causes of food insecurity.

Panel Discussions

PANELISTS:



Andrew Aiello
General Manager



Greg Rose
Operations Manager



Wendie Morgan-Parrott
Director System Care Coordination

Transportation Panel

MODERATOR:



Lisa Cooper
Executive Director

OneNKY
Summit Series

PANELISTS:



David Hastings

Executive Director



Danielle Amrine

Chief Executive Officer



Kim Webb

Executive Director

Affordable Housing & Homelessness Panel

MODERATOR:



Joe Klare

Vice President, Real Estate
Finance and Investments

OneNKY
Summit Series

PANELISTS:



Maria Meyer
Director



Michaela Oldfield
Executive Director



Roger Babik
President

Food Security Panel

MODERATOR:



Jenifer Moore
Corporate Affairs Manager

OneNKY
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Breakout Sessions

Breakout Reports

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Transportation



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Affordable Housing & Homelessness



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September 7, 2021

SOCIAL DETERMINANTS OF HEALTH FORUM

John Halamka, M.D.
President, Mayo Clinic Platform



MAYO CLINIC PLATFORM

Turning SDOH Data into Wisdom

Administrative Data - Change
Healthcare case study

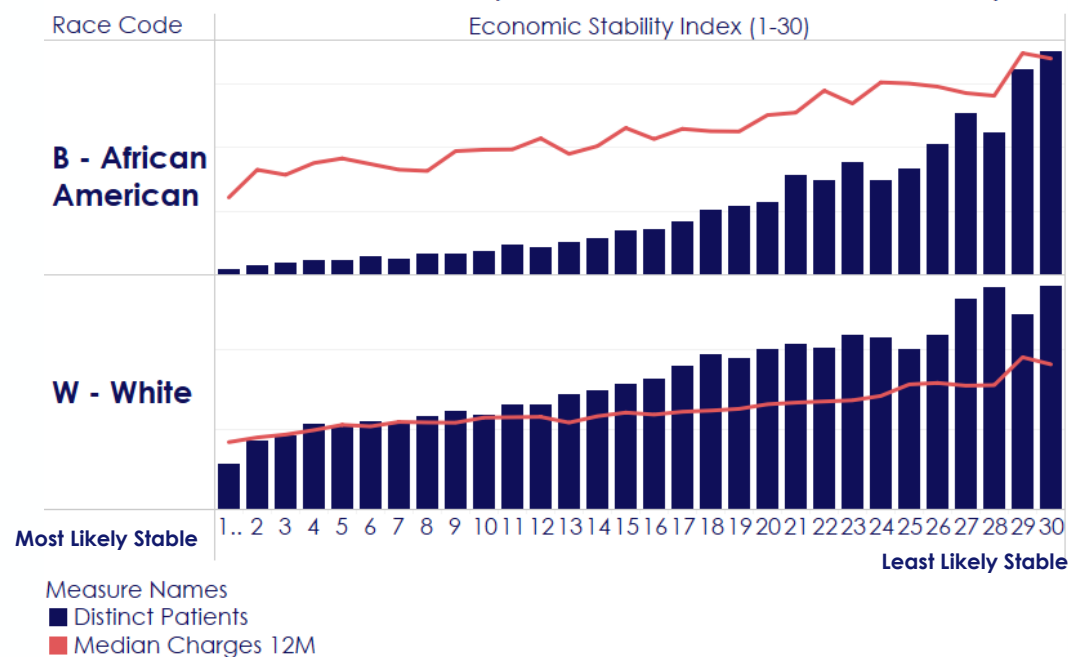
Clinical Data - HOUSES case study

Novel Data Sources and Algorithms -
Mayo Clinic Platform case study



Impact of Social Determinants on Healthcare Utilization

Race, Economic Stability and Utilization in Kentucky



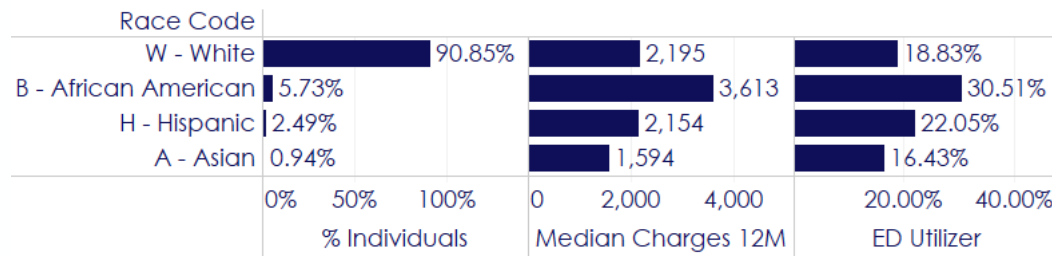
Economic Stability Index is cluster model that utilizes market behavior and financial attitudes to group individuals into one of thirty categories.

Values: 01 - 30

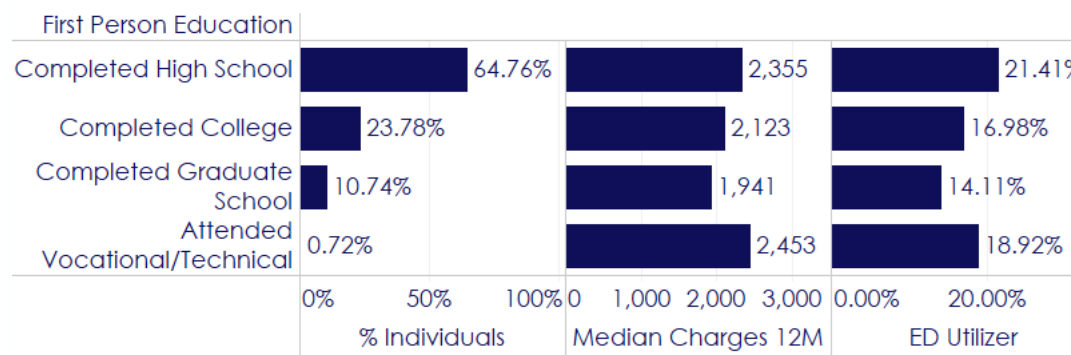
01 = Most Likely Economically Stable

30 = Least Likely Economically Stable

Race

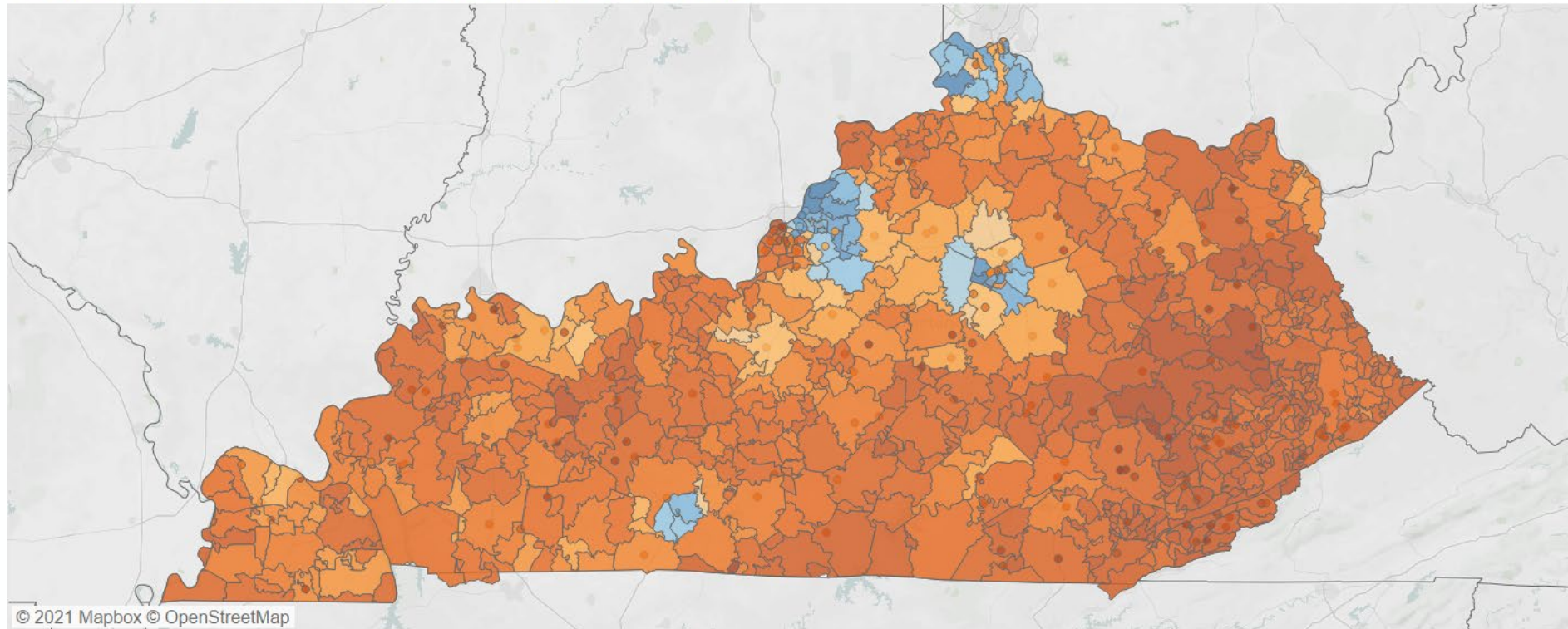


Education Level



Based on a 12m look at Kentucky patients from Change Healthcare July 2020 – June 2021 n=1,146,998

Kentucky - Mean Economic Stability Index By Zip



Mean ESI
1.00 30.00

Significant
variations in
economic
stability across
the state

Significant effect from externalities



Significant externalities:

- Social: economic stability & health literacy
- Physical: access to care
- Behaviors & attitudes
- Race/ethnicity

Tailored action is needed

- Understand life outside clinical settings
- Then meet people where they are
- Be open to new protocols

Development and initial testing of a new socioeconomic status measure based on housing data



Young J Juhn¹, Timothy J Beebe, Dawn M Finnie, Jeff Sloan, Philip H Wheeler, Barbara Yawn, Arthur R Williams

- SES is defined as “one’s ability to access to desired resources”
- Conceptually, HOUSES captures wealth and income, access to social and environmental resources and health effects of building features
- Based on assessment data (public record and basis of property taxation)
- HOUSES directly links address of clinical dataset to assessment data (no need to contact participants) and has shown to predict **38 different health outcomes and behavioral risk factors in both adults and children**

Is it an individual-level SES measure?	Yes
Is it an objective measure?	Yes
Is it scalable and de-identifiable?	Yes
Can HOUSES be formulated at any given point in time?	Yes
Is HOUSES responsive to changes of SES over time?	Yes
Can longitudinal trajectory of HOUSES be formulated?	Yes
Can it be used for GIS analysis given the geocoded index?	Yes

What type of health outcomes of adults has HOUSES predicted?

Study	Subjects	Exposure	Outcomes	Effect sizes (95% CI)
1. Chronic conditions				
Bang et al. 2014	Population-based 696 cases with MI and 718 controls without RA	HOUSES	Post –MI mortality	HR = 1.45 (0.82-2.58)*
Ghawi et al. 2015	Population-based 650 cases with RA and 650 controls without RA	HOUSES	RA diagnosis and post-RA mortality	OR = 1.06 (1.02-1.09)* (RA diagnosis) HR = 1.58 (1.05-2.36)* (Post mortality)
Takahashi et al. 2016	Biobank enrollees (n=6,402)	HOUSES	All-cause hospitalization and multiple chronic conditions (MCC)	HR = 1.53 (1.18-1.98)* (Hospitalization) OR = 2.4 (2.0-3.1)* (MCC)
Wi et al. 2016	Population-based community residents (n= 88,010)	HOUSES	Prevalence of five common chronic conditions	OR = 0.74 (0.69, 0.80) (CHD) OR = 0.78 (0.73, 0.83) (Asthma) OR = 0.56 (0.52, 0.60) (Diabetes) OR = 0.64 (0.61, 0.68) (Hypertension) OR = 0.61 (0.58, 0.63) (Mood disorder)
Kaur et al. 2019	Population-based cases (n=135) and controls (=270)	HOUSES	Post-Glioma mortality	HR = 0.62 (0.40-0.95)
Stevens et al. 2020	Population-based cases (n=181)	HOUSES	Kidney transplantation failure	HR = 0.50 [0.26-0.96]
Ryan et al. 2020	Population-based cases (n=135)	HOUSES	Post-Glioma mortality	HR = 1.61 (1.05-2.5)
Thacher et al. 2020	Population-based community residents (n=10,378)	HOUSES	25-Hydroxyvitamin D Level	Estimate = 0.28 (0.21-0.35)
2. Acute conditions				
Ryu et al. 2017	Biobank enrollees (n=12,286)	HOUSES	Accidental falls	HR = 0.58 (0.44-0.76)
Barwise et . 2020	Community-based ICU patients (n=3,378)	HOUSES	Mortality of ICU Patients	HR = 1.34 (1.08-1.79)
Aul et al. 2020	Population-based cases (n=11,002)	HOUSES	Osteoporotic fracture incidence	HR = 1.05 (1.04-1.08)
3. Behavioral risk				
Wi et al. 2016	Population –based birth cohort with asthma aged 19-22 years (n=289)	HOUSES	Smoking status	OR = 0.39 (0.18-0.87)
Ryu et al. 2018	Biobank enrollees (n=11,717)	HOUSES	Inconsistency in survey results when reporting prevalent diseases	OR = 1.46 (1.17 - 1.84)*
Barwise et al. 2018	ICU admitted adult patients (n=4,134)	HOUSES	End-of-life decision	OR = 1.46 (1.18,1.79)* (Rates of social work consultation) OR =0.77 (0.63,0.93) (Advance directives present at ICU admission)

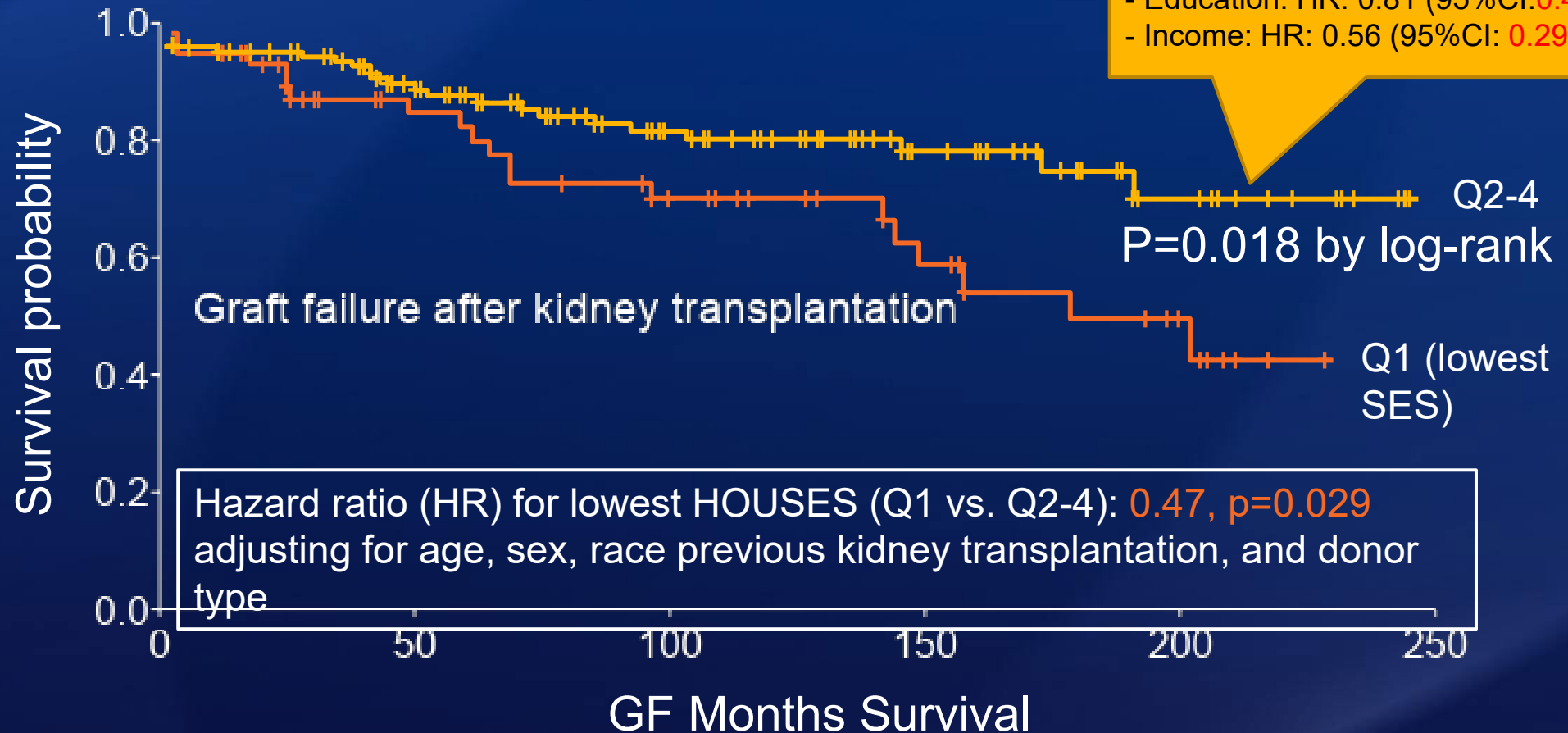
*Highest SES (ie, highest HOUSES) as a reference. Otherwise, the lowest HOUSES was used as a reference.

What type of health outcomes of children has HOUSES predicted?

Study	Subjects	Exposure	Outcomes	Effect size (95% CI)
1. Chronic conditions				
Juhn et al. 2011	Random sample of children living in Olmsted County, MN (n=750) and Jackson County, MO (n=781)	HOUSES	Overweight, low birth weight (LBW), tobacco smoking status of household	1. Olmsted County OR = 0.39 (p=0.008) (Overweight), 0.63 (p=0.330) (LBW), 0.39 (p=0.007) (Smoking) 2. Jackson County OR = 0.49 (p=0.07) (Overweight), 0.42 (p=0.018) (LBW), 0.24 (p<.001) (Smoking)
Butterfield et al. 2011	Random sample of children living in Olmsted County, MN (n=746) and Jackson County, MO (n=704)	HOUSES	Adverse self-rated health	1. Olmsted County; OR = 0.21 (0.08-0.51) 2. Jackson County: OR = 0.99 (0.25-4.04)
Harris et al. 2014	Random sample of children with asthma from Sanford Children Hospital (n=80)	HOUSES	Poorly control asthma by Asthma Control Test score	OR = 0.21 (0.05-0.89)
Lynch et al. 2015	Population-based community residents (n=34,335)	HOUSES (co-variate)	Overweight/Obesity	Mean (SD) (p<0.0001) Healthy weight: 1.7 (3.9); Overweight: 1.0 (3.8); Obesity: 0.1 (3.4)
Ryu et al. 2016	Random sample of children living in Olmsted County, MN (n=750) and Jackson County, MO (n=781)	Modified HOUSES	Overweight, low birth weight (LBW), tobacco smoking status of household	1. Olmsted County OR = 0.48 (0.25-0.94) (Overweight) OR = 0.78 (0.30-2.03) (LBW) OR = 0.24 (0.11-0.49) (Smoking) 2. Jackson County OR = 0.45 (0.23-0.89) (Overweight) OR = 0.54 (0.34-1.21) (LBW) OR = 0.26 (0.16-0.44) (Smoking)
Bjur et al. 2019	Population-based community residents (n= 31,523)	HOUSES	Asthma, epilepsy, mood disorders	OR = 0.87 (0.77-0.97) (Asthma) OR = 0.53 (0.35-0.82) (Epilepsy) OR = 0.72 (0.62-0.84) (Mood disorder)
Bjur et al. 2019	Population-based community residents (n=32,490)	HOUSES	Multiple complex chronic conditions prevalence	5-year prevalence in 2004: Q1 (1,443), Q2 (1,435), Q3 (1,134), Q4 (1,124)
2. Acute condition				
Johnson et al. 2013	Population-based cases (n=35) and controls (n=70)	HOUSES	Invasive pneumococcal disease	OR = 0.16 (0.02–1.11)
Bjur et al. 2019	Population-based community residents (n= 31,523)	HOUSES	Bronchiolitis, Pneumonia, Urinary Tract Infection (UTI), Accident and adverse childhood experiences	OR = 0.69 (0.61-0.78) (Bronchiolitis) OR = 0.88 (0.78,-0.99) (Pneumonia) OR = 0.66 (0.56-0.78) (UTI) OR = 0.54 (0.44-0.66) (Accident and adverse childhood experiences)
3. Behavioral risk				
Hammer et al. 2016	Population-based case (n=130) and controls (n=261)	HOUSES	Pertussis vaccine up-to-date status	OR = 3.66 (1.34-9.96)*
*Highest SES (ie, highest HOUSES) as a reference. Otherwise, the lowest HOUSES was used as a reference.				

HOUSES index as an innovative socioeconomic measure predicts graft failure among kidney transplant recipients

Maria A. Stevens, MA, MPH,¹ Timothy J. Beebe, PhD,² Chung-II Wi, MD,³ Sandra J. Taler, MD,⁴
Jennifer L. St. Sauver, PhD,¹ and Young J. Juhn, MD, MPH³

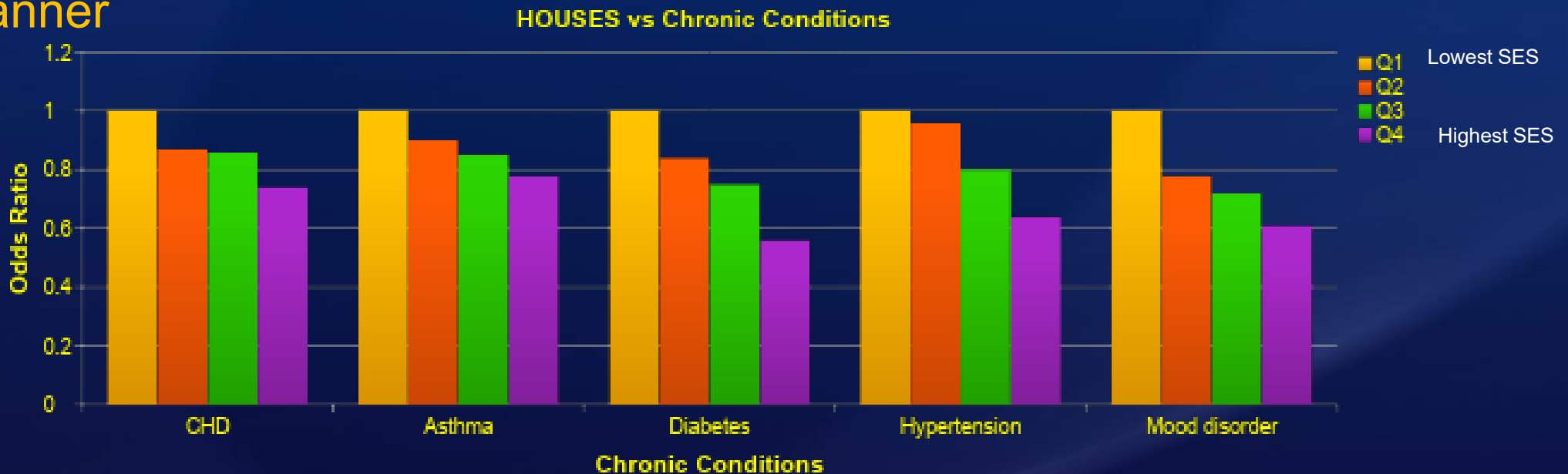


Stevens M et al: Transplantation, 2020

Ethnicity, Socioeconomic Status, and Health Disparities in a Mixed Rural-Urban US Community—Olmsted County, Minnesota

Chung-II Wi, MD • Jennifer L. St. Sauver, PhD • Debra J. Jacobson, MS • ... Elizabeth A. Krusemark, AAS •
YuBin Choi, BS • Young J. Juhn, MD, MPH • [Show all authors](#)

- 2009 Olmsted County adults (n=88,010)
- Outcome: 5-year prevalence of 5 most burdensome chronic conditions
- Findings: **Inverse associations with HOUSES index in dose-response manner**



CHD: Coronary heart disease; Odds ratios were adjusted for age, gender, and race

Wi et al: Mayo Clin Proc, 2016

An individual-level socioeconomic measure for assessing algorithmic bias in health care settings: A case for HOUSES index

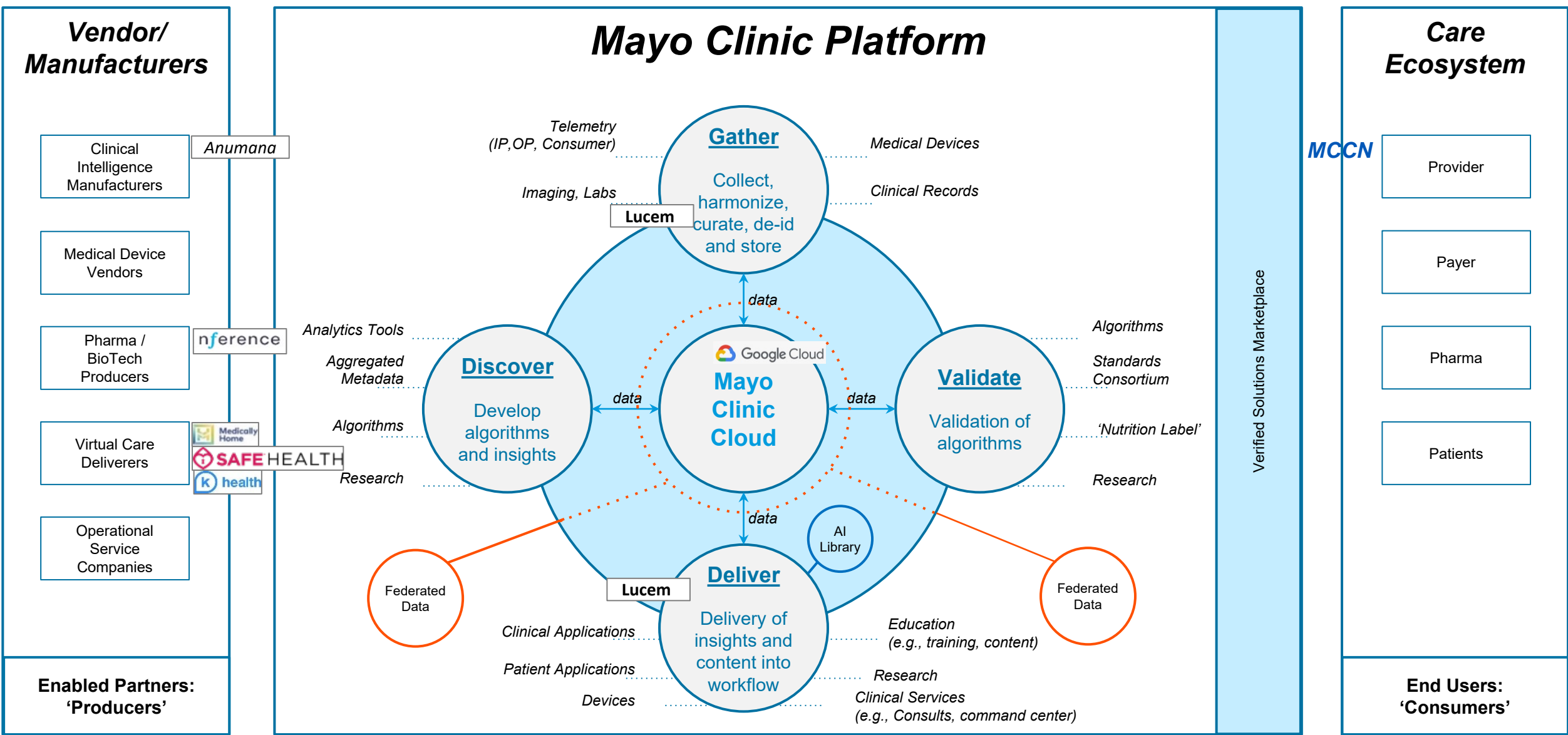
Young J. Juhn, Euijung Ryu, Chung-Il Wi, Katherine S. King, Santiago Romero Brufau, Chunhua Weng, Sunghwan Sohn, Richard Sharp, John D. Halamka

doi: <https://doi.org/10.1101/2021.08.10.21261833>

- Specifically, children in lower SES groups had higher error rates than those in the higher SES group in both ML models (ratio = 1.35 for NB model and 1.25 for GBM model) which exceed those for race/ethnicity (1.23 and 1.04, respectively)
- Children in the higher SES group had significantly higher sensitivity of both algorithms, compared to those in the lower SES group in a way exceeding the impact of other demographic factors
- Understanding the extent to which SES impacts contributes to algorithmic bias, and examining the potential impact of SES on emerging applications of AI in healthcare will be crucially important for recognizing and mitigating algorithmic bias, ultimately supporting efforts to promote health equity and fairness

Juhn et al. medRxiv, 2021. doi: <https://doi.org/10.1101/2021.08.10.21261833>

Mayo Clinic Platform Framework



DATA
TRANSPARENCY

RadAbd

Summary

Machine learning-based decision support software to augment medical imaging-related diagnosis of abdominal CT scans

Type of algorithm employed

Convolutional neural

network

Population composition

Ethnic composition

Non-Hispanic White

60%

Hispanic and Latino

18%

Black or African

American 13%

Asian 6%

Other 3%

Gender balance

Male/Female



Thank
You





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University

Owning our voice through OneNKY

Join us as we present new initiatives
and identify transformative ways to
move our community forward.

Supporting Sessions will feature discussions around
proposed solutions to our largest challenges in:

GROWTH

August 31, 2021

Northern Kentucky Tri-ED in partnership with Catalytic Fund,
NKY Chamber and Southbank Partners

HEALTH

September 7, 2021

St. Elizabeth in partnership with HealthPoint and
NKY Health Department

EDUCATION

September 14, 2021

Northern Kentucky University and Education Partners

Location of the supporting sessions will be available upon registration.

DEI considerations guided by Horizon Fund and Greater Cincinnati Foundation

REGISTER NOW

[OneNKYAlliance.com/onenky-summit-rsvp](https://onenkyalliance.com/onenky-summit-rsvp)
or scan the QR Code >>>>



“See” you on Tuesday, September 7th to collectively address these top priorities for our region:

- 1. Affordable Housing/Homelessness**
- 2. Food Security**
- 3. Transportation**



[Click here](#) to pre-register for this meeting!



PRE-READ

September 2021

NORTHERN KENTUCKY (NKY) DEFINED

Northern Kentucky (NKY) is defined in this presentation as the following counties:

- Boone County
- Campbell County
- Grant County
- Kenton County

NKY HEALTH DEPARTMENT'S HEALTH EQUITY SERIES



- NKY Health Department examined a variety of health impact factors to better understand the health of our Northern Kentucky region; their findings are layered into this presentation
- Their analysis focused on our same 4-county PSA, segmented into the following 17 geographic regions:

	Zip Code Description	Zip Code	2018 Population
Region 1	Burlington Petersburg	41005 41080	26,665
Region 2	Hebron	41048	15,560
Region 3	Florence	41042	51,892
Region 4	Erlanger/Elsmere	41018	27,663
Region 5	Ft. Mitchell	41017	40,051
Region 6	Covington Ludlow	41011 41014 41016	38,943
Region 7	Newport Bellevue Dayton	41071 41073 41074	32,043
Region 8	Ft. Thomas	41075	16,525
Region 9	Union	41091	20,170

	Zip Code Description	Zip Code	2010 Population
Region 10	Walton Verona	41092 41094	19,660
Region 11	Independence	41051	30,166
Region 12	Taylor Mill Morning View	41015 41063	23,547
Region 13	Cold Spring Highland Heights	41076 41099	18,275
Region 14	Alexandria	41001	17,398
Region 15	California Melbourne Silver Grove	41007 41059 41085	7,656
Region 16	Crittenden Dry Ridge	41030 41035	17,551
Region 17	Corinth Williamstown	41010 41097	10,875

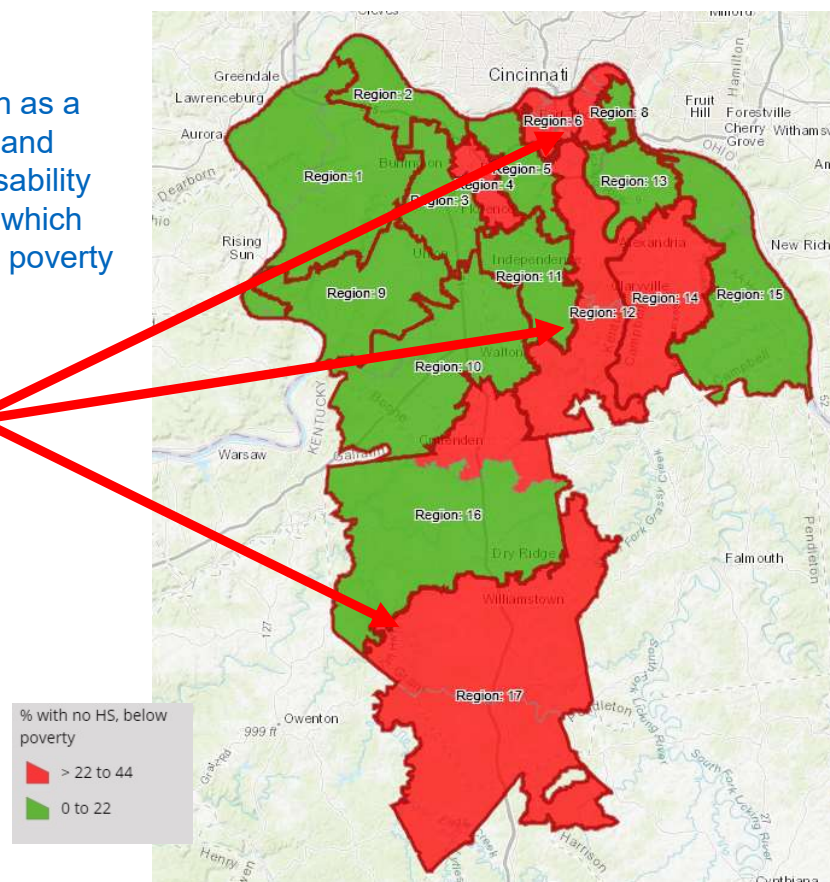
NKY VULNERABLE POPULATIONS

Vulnerable Population:

- Defined as groups and communities at a higher risk for poor health as a result of the barriers they experience to social, economic, political and environmental resources, as well as limitations due to illness or disability
- Shown here in NKY Health Dept's Health Equity map as any area which has high percentage (22% or more) of people below 100% federal poverty line with less than a high school education.

Using these thresholds, we have several vulnerable populations:

- Region 4 (Erlanger/Elsmere)
- Region 6 (Covington, Ludlow)
- Region 7 (Newport, Bellevue, Dayton)
- Region 12 (Taylor Mill, Morning View)
- Region 14 (Alexandria)
- Region 16 (Crittenden only)
- Region 17 (Williamstown, Corinth)



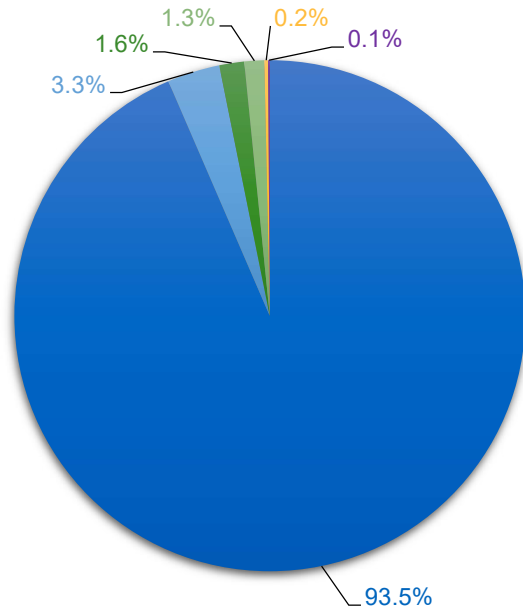
Source: Northern Kentucky Health Department's Health Equity Series, and Krieger N, Chen JT, Waterman PD, Rehkopf DH, Subramanian SV. Painting a truer picture of US socioeconomic and racial/ethnic health inequalities: The Public Health Disparities Geocoding Project.

WHO WE ARE AND HOW WE'RE CHANGING

NKY DEMOGRAPHICS

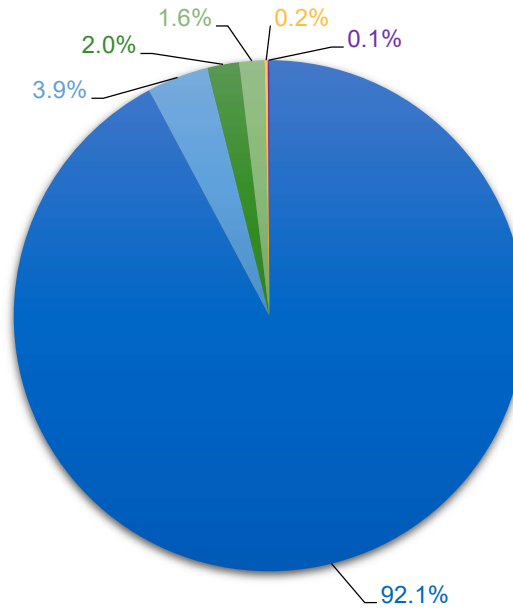
2010 Census

Total Population: 393,529



2019 Estimate

Total Population: 419,232



↑ People of Color, as a % of total population, grew from **6.5%** in 2010 to an estimated **7.9%** in 2019

■ White
 ■ Black or African American
 ■ Two or more races
 ■ Asian
 ■ American Indian and Alaskan Native
 ■ Native Hawaiian and Other Pacific Islander

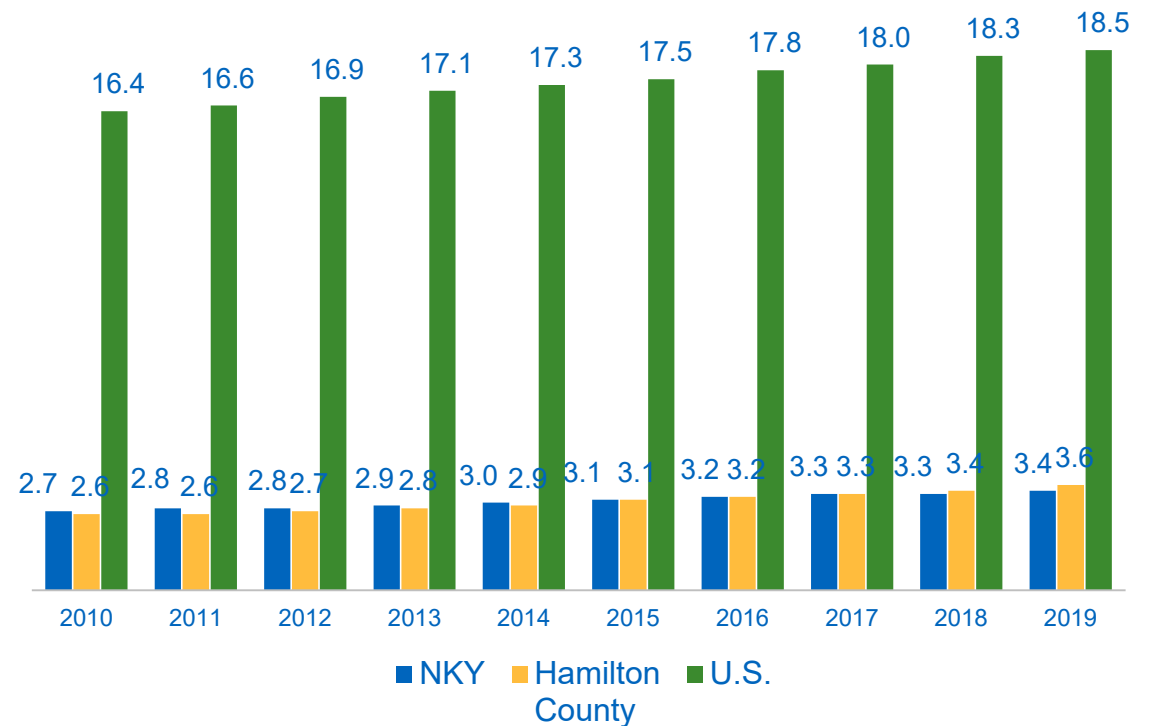
Source: U.S. Census Bureau

NKY DEMOGRAPHICS

Hispanic or Latino population, as a % of total population, grew **0.7% in NKY** compared to **2.1% Nationally, & 1.0% Hamilton Cty**

2019 Hispanic or Latino population size:
U.S.60,572,237
NKY:14,341
Hamilton Cty:29,074

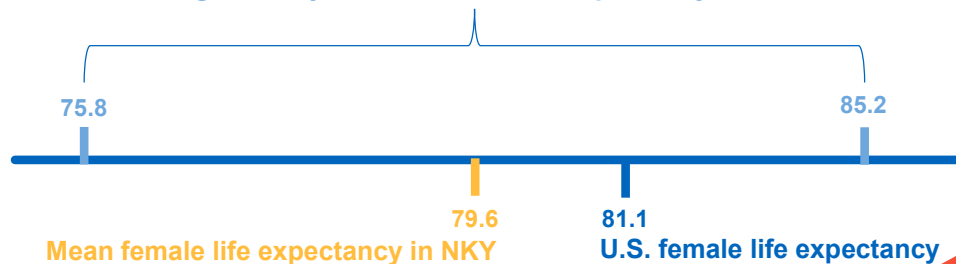
Percentage of Total Population



LIFE EXPECTANCY: NKY FEMALES

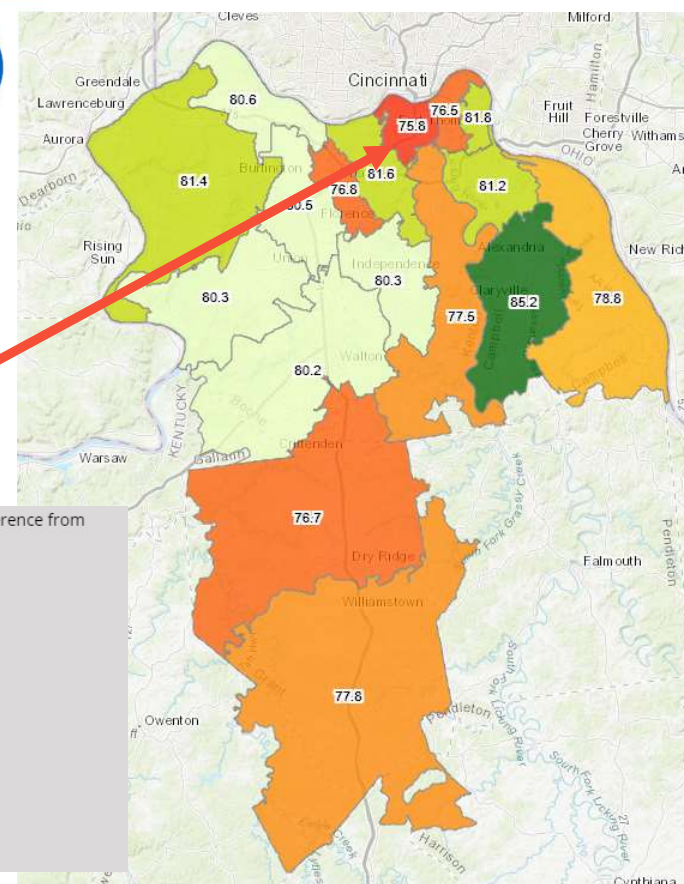
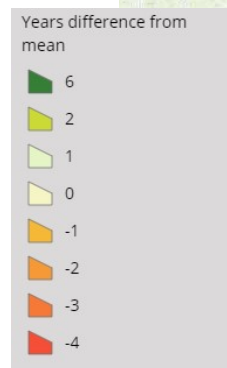
Female Life Expectancy ♀

Range of 9.4 years for female life expectancy in NKY



Area with lowest female life expectancy:

Region 6 (Covington, Ludlow) at 75.8 years

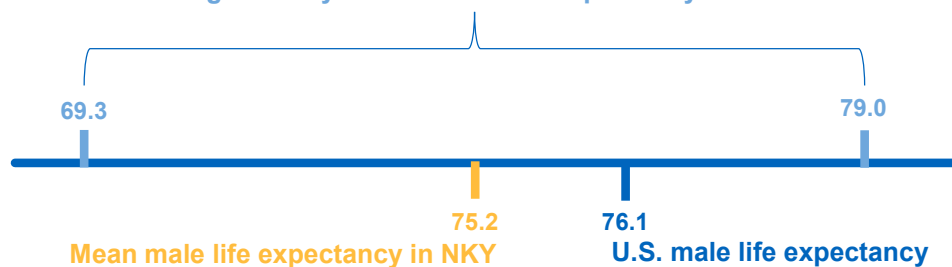


LIFE EXPECTANCY: NKY MALES

Male Life Expectancy



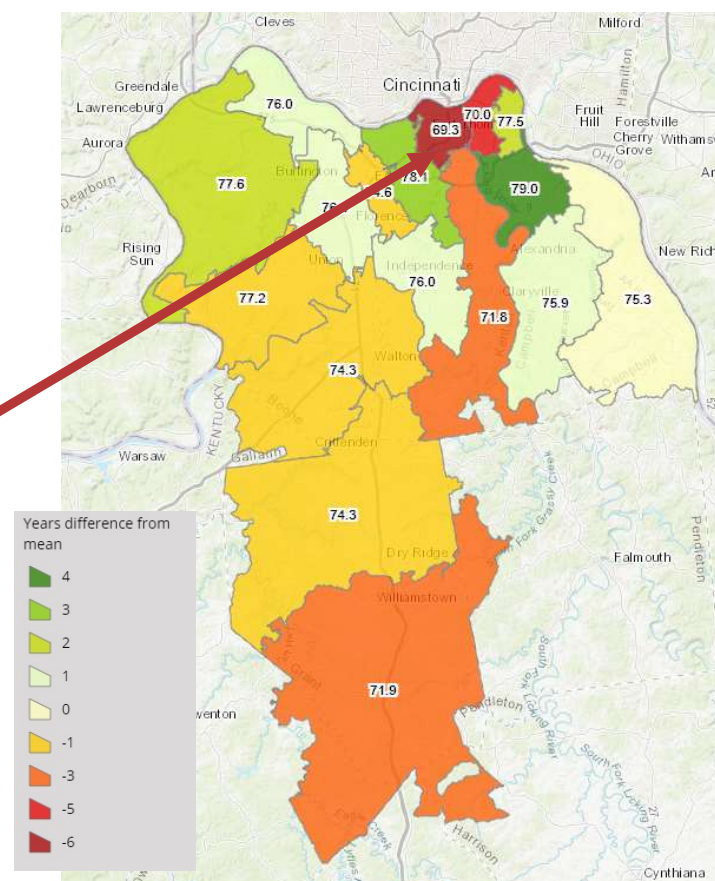
Range of 9.7 years for male life expectancy in NKY



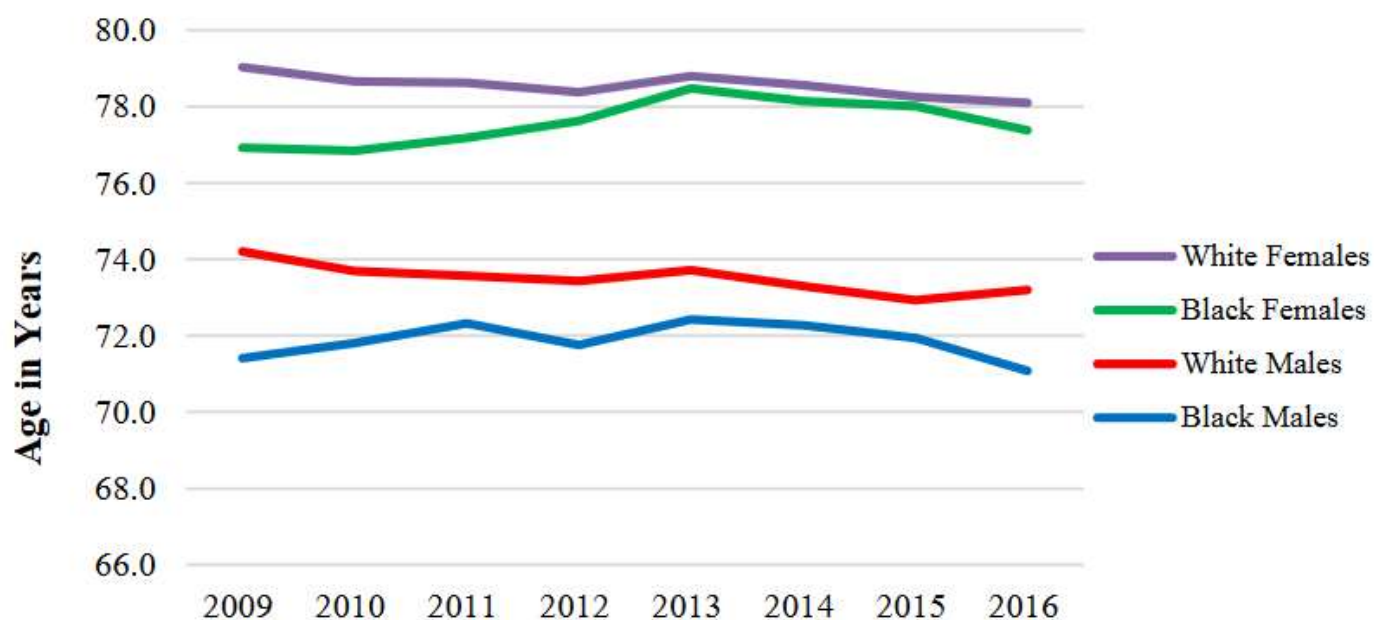
Area with lowest male life expectancy:

Region 6 (Covington, Ludlow) at 69.3 years

! (same region as females)



LIFE EXPECTANCY: KENTUCKY BY RACE & GENDER



Black men in Kentucky have the shortest life expectancy of all groups when stratified by race and gender

THE WHAT –

HEALTH IMPACTS & EXCESS DEATHS

HIGH PREVALENCE/HIGH DEATH RATE DISEASES

Leading Causes of Death in NKY

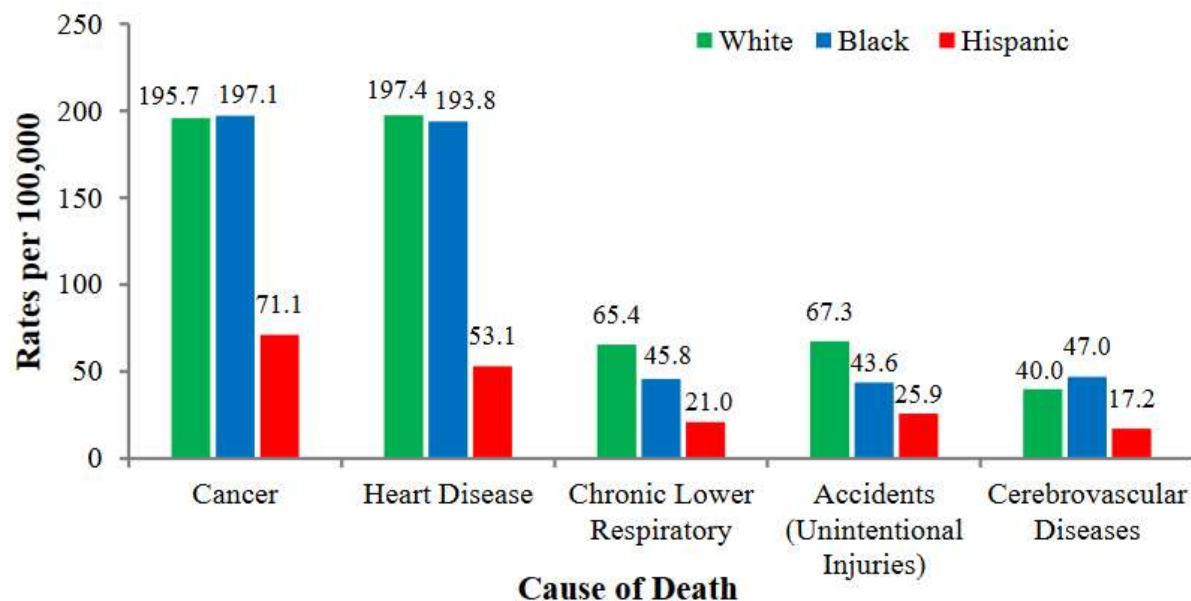
- **Cancer** – Kentucky ranks 1st in # of deaths out of all 50 states
- **COPD/Respiratory Illnesses** – Kentucky ranks 1st in # of deaths out all 50 states
- **Heart Disease**
- **Obesity/Diabetes**
- **Substance Use/Abuse**
- **Mental Health**

Factors contributing to these high prevalence diseases:

- **Poor health behaviors (smoking, lack of physical activity, substance use/abuse)**
- **Lack of preventative screenings/lack of insurance**
- **Lack of education**
- **Economic deprivation**

LEADING CAUSES OF DEATH IN KENTUCKY

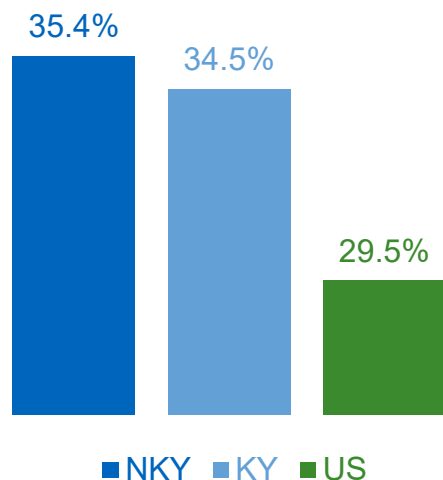
Age-Adjusted Rates per 100,000, by Race and Ethnicity, 2015



- From 1999-2015, the national age-adjusted mortality rate for both White and Black populations declined significantly.
- During the same period, Blacks experienced a sharper decrease reducing the Black-White disparity mortality rates from 33% to 16%.
- However, Blacks under sixty-five had higher levels of risk behaviors, chronic conditions, and mortality for conditions most common in those sixty-five and older.
- The Hispanic population in Kentucky is significantly younger than the White population; since the overall leading causes of death for the commonwealth primarily reflect diseases more commonly found in older individuals, rates among the Hispanic population are significantly lower than that of the Black and White populations.

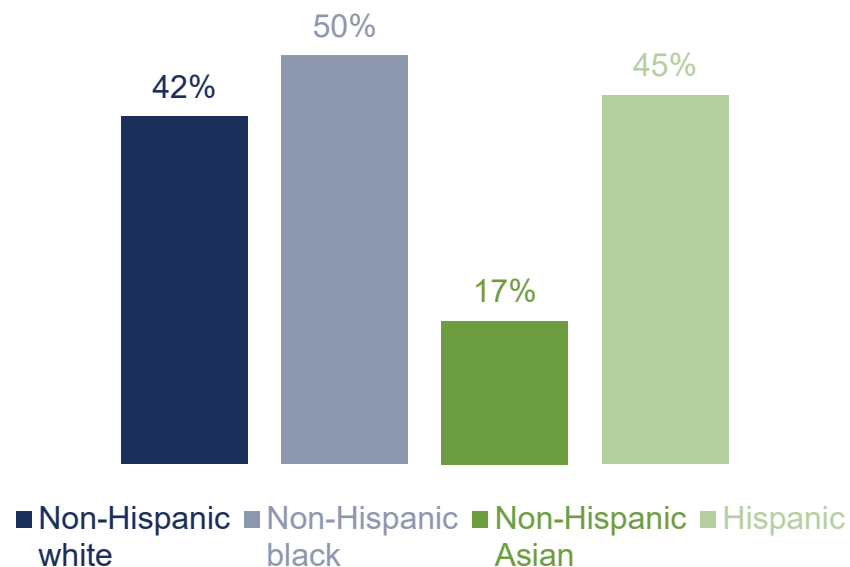
% OF ADULT POPULATION WITH OBESITY

- NKYians **1.1** times more likely to be obese than other Kentuckians
- NKYians **1.2** times more likely to be obese than the rest of the United States population



Prevalence of Obesity and Severe Obesity Among Adults: United States, 2017–2018

Key finding: among adults, the prevalence of both obesity and severe obesity was highest in non-Hispanic Black adults compared with other race and Hispanic-origin groups.



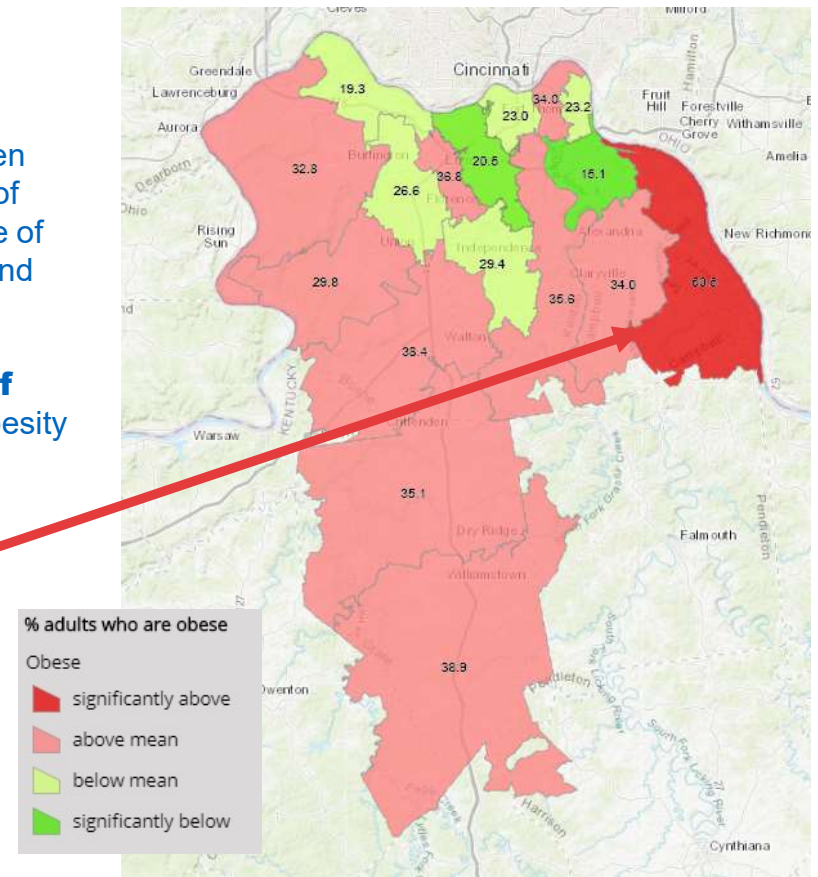
AREAS WITH OBESITY

Obesity

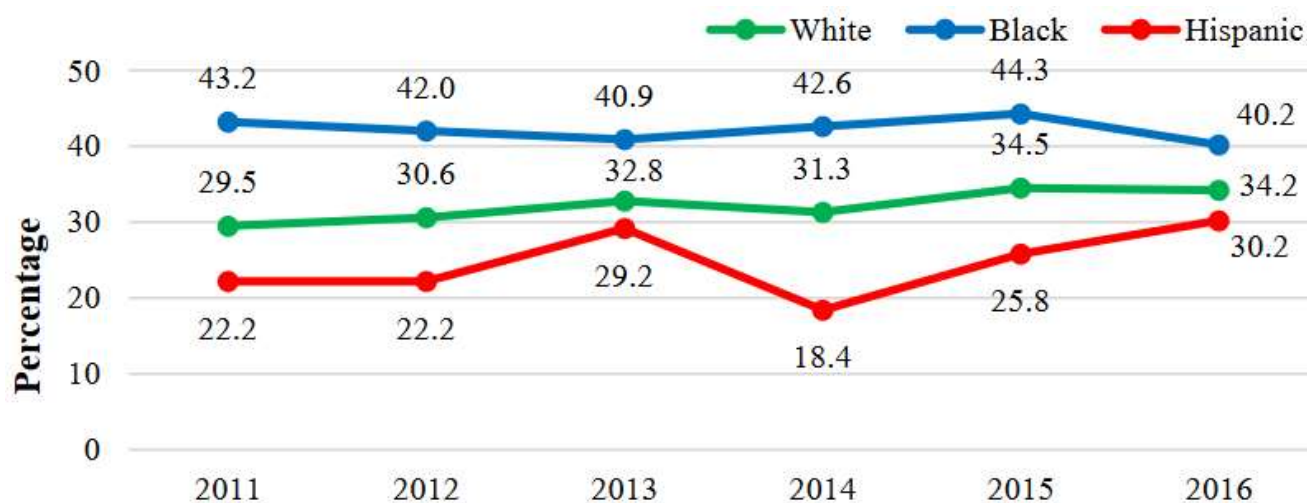
- Obesity is a complex health issue. There are known linkages between obesity and the onset of diabetes and other chronic diseases. Lack of healthy food selection and exercise also contribute to the prevalence of obesity and diabetes. In cases of obesity and diabetes, preventive and treatment efforts include a regimen of regular exercise.
- The 2015 obesity rates for the **U.S. and the Commonwealth of Kentucky were 29.8% and 34.6%**, respectively. The **NKY** obesity rate was **29.7%** (similar to the U.S. rate).

Area with significantly high obesity rate:

- Region 15 (California, Melbourne).....**50.5%**



KENTUCKY PREVALENCE OF ADULT OBESITY BY RACE & ETHNICITY



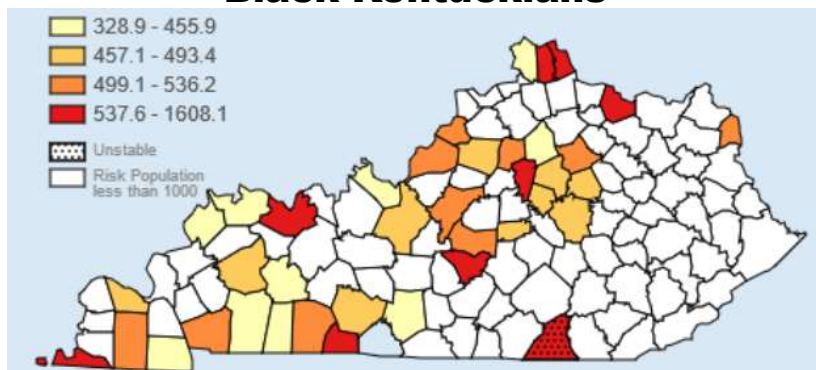
**Hispanic
Kentuckians
less likely to be
obese, whereas
Black
Kentuckians
have the
highest rate of
obesity**

CANCER RATES FOR BLACK VS. WHITE KENTUCKIANS

Age-Adjusted Invasive Cancer Incidence Rates in Kentucky 2013-2017

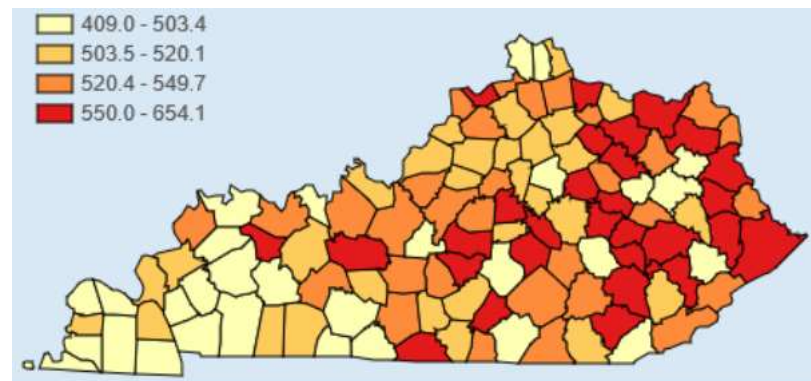
(Age-adjusted to the 2000 U.S. Standard Million Population)

Black Kentuckians



Kenton and Campbell among 9 counties significantly above average risk for Black residents developing cancer

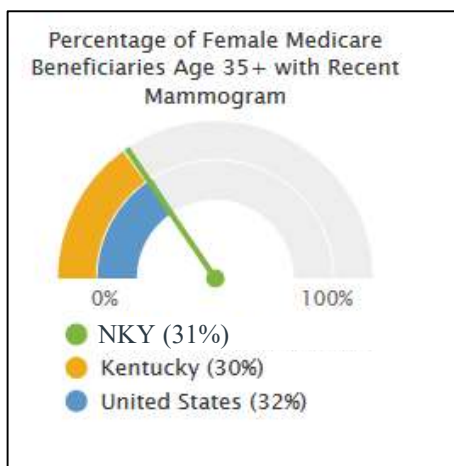
White Kentuckians



Grant and Campbell rank in the middle compared to other counties for White residents developing cancer

SCREENING MAMMOGRAMS BY RACE & ETHNICITY

NKY Medicare enrollees only



In 2017, 31% of Medicare enrollees in NKY age 35 or older had a mammogram in the past year, which is slightly higher than the state rate of 30%

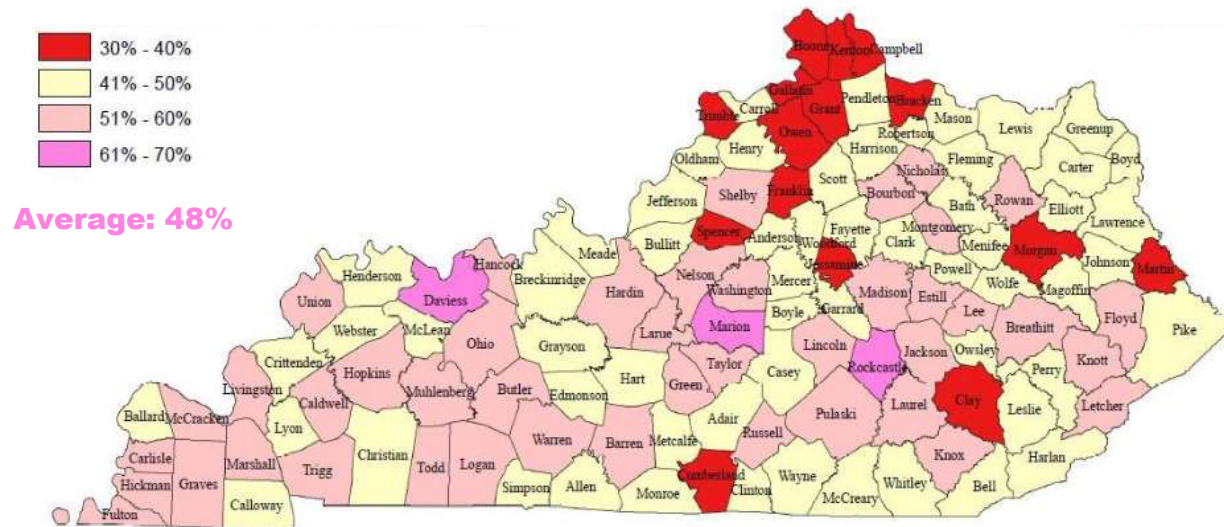
National % of women ages 50-74 who had a mammogram in the past 2 years in 2018

Black	74%
White	73%
Hispanic	71%
Asian	71%
American Indian and Alaska Native	66%

Sources: SparkMap Standard Report – Boone, Campbell, Grant & Kenton Counties. (2020). University of Missouri CARES; Centers for Medicare and Medicaid Services, Mapping Medicare Disparities Tool. 2017
American Cancer Society. Breast Cancer Facts and Figures 2019-2020. Atlanta, GA: American Cancer Society, 2019

SCREENING MAMMOGRAMS FOR MEDICAID ENROLLEES

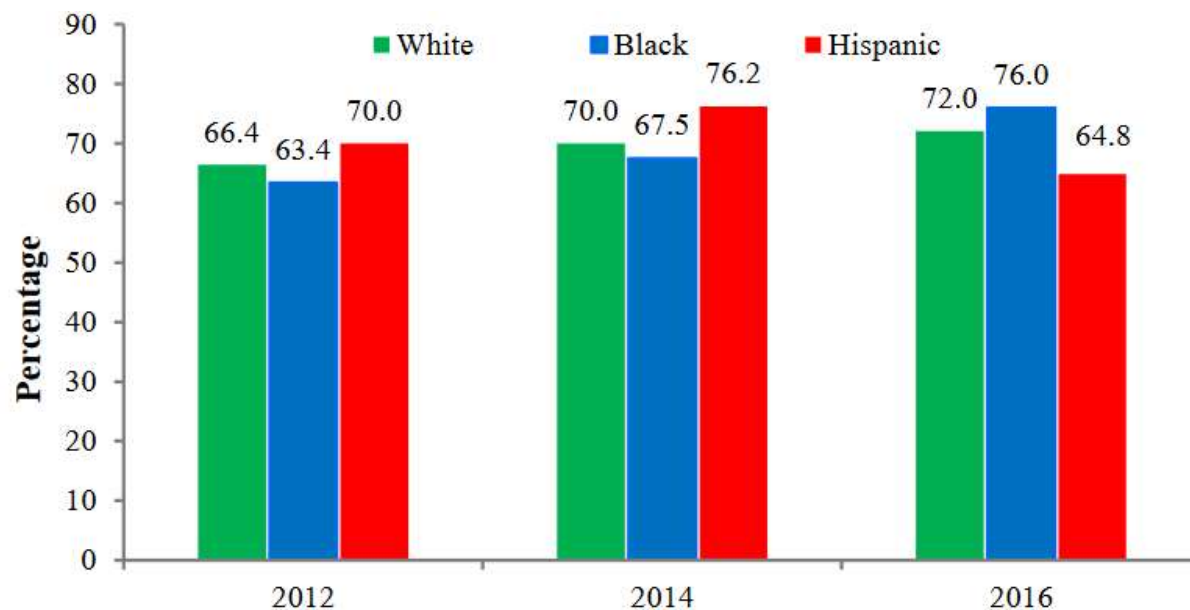
Percentage of Medicaid Enrollee Women 40-64 years of age who had screening mammograms, FY 2015 and 2016



This Medicaid population presents an opportunity for focused social and cultural messaging and outreach to navigate women who have not had a mammogram in the recommended timeframe to screening services

KENTUCKIANS WHO HAD A COLONOSCOPY BY RACE & ETHNICITY

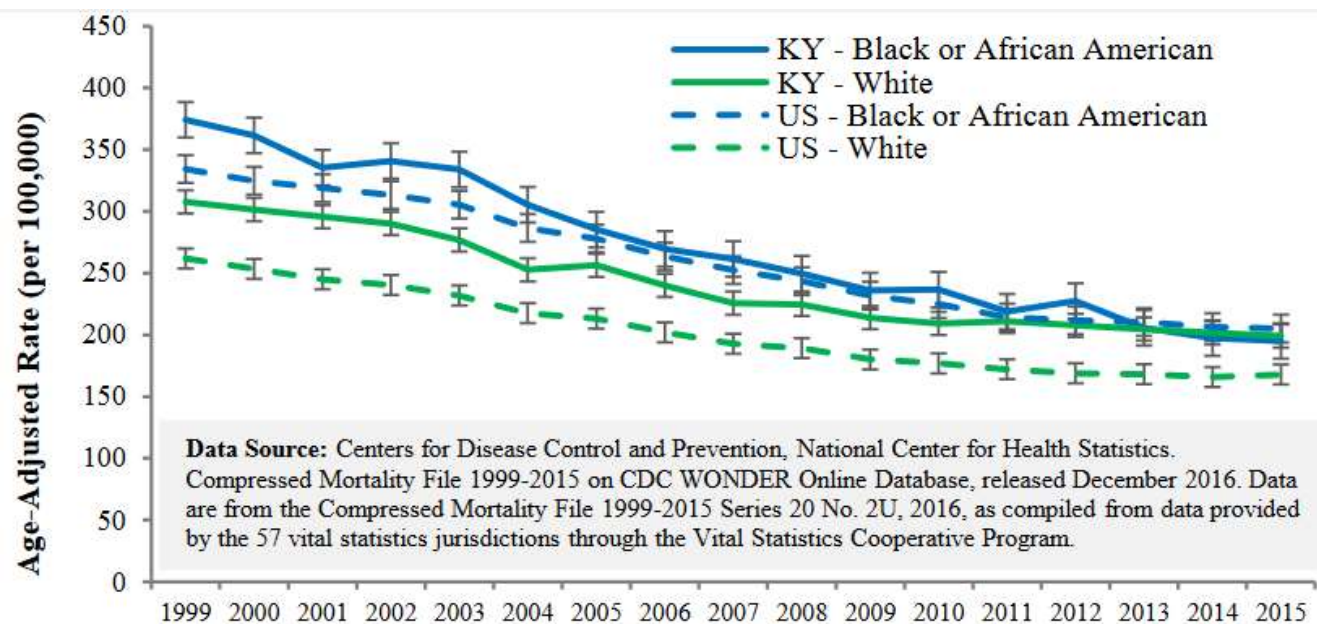
Percentage of Kentuckians over 50 Years Old, Who Have Ever Had a Sigmoidoscopy or Colonoscopy



Although screening rates increased for both White and Black residents from 2012 to 2016, the screening rate among Hispanic population decreased

CARDIOVASCULAR DISEASE

Age-Adjusted Death Rates for Major Cardiovascular Diseases by Race for Kentucky and U.S., 1999-2015



- Cardiovascular disease death rates in Kentucky have consistently declined over the last twenty years.
- In addition, the disparity gap between Kentucky Black and White residents has become almost non-existent.
- Kentucky age-adjusted death rate for Blacks mirror the national rate, while the age-adjusted death rate for White Kentuckians is higher than the rate for Whites nationally.

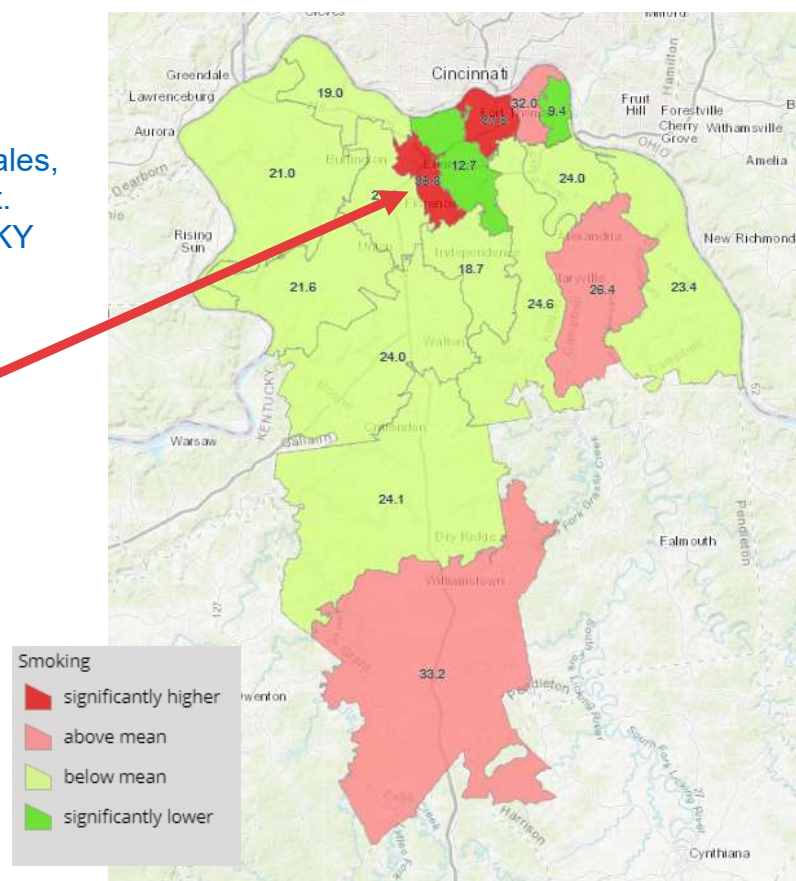
AREAS OF SMOKING

Smoking

- The CDC reports that nationally, smoking rates are higher among males, as well as those with lower income and lower educational attainment. U.S. smoking rates are 17.5%, Kentucky rates are 26.0% and the NKY Health smoking rates are 24.6%.

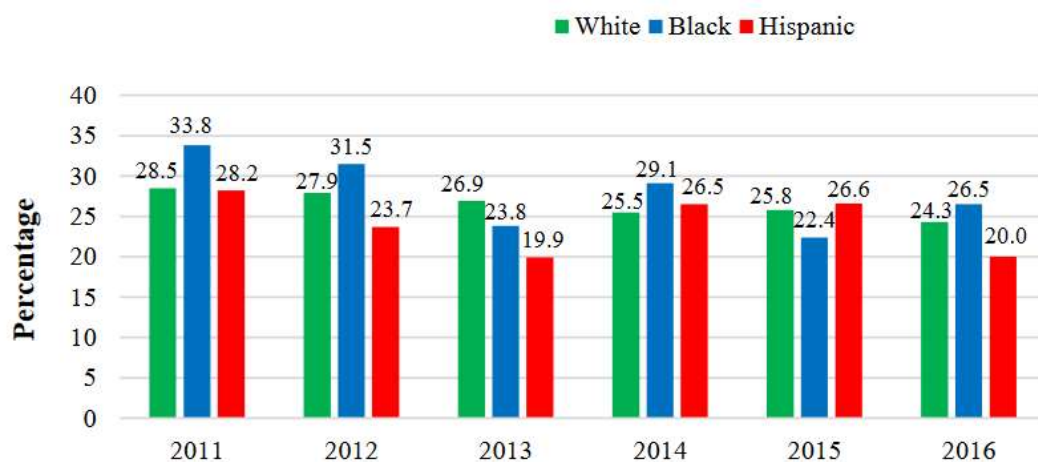
Areas with significantly high smoking rates:

- Region 6 (Covington, Ludlow).....**37.8%**
- Region 4 (Erlanger, Elsmere).....**36.8%**

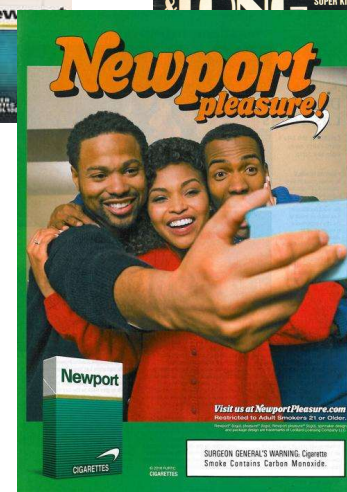


TOBACCO USE AMONGST KENTUCKIANS BY RACE AND ETHNICITY

Percentage of Adult Current Smokers in Kentucky

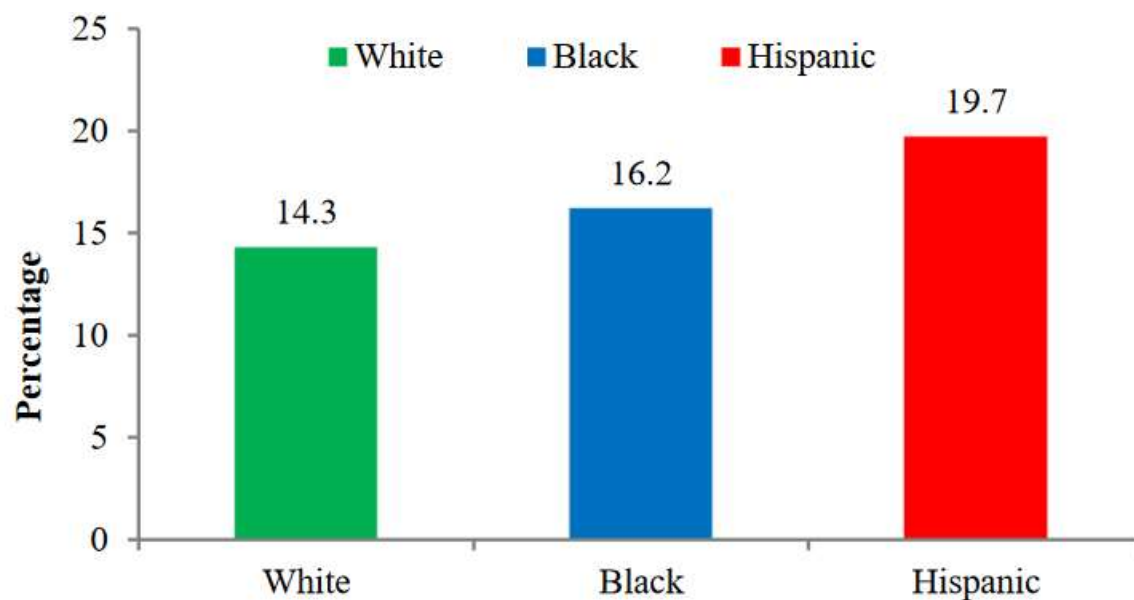


Black Health Experts Renew Fight Against Menthol Cigarettes



MENTAL HEALTH IN KENTUCKIANS BY RACE & ETHNICITY

Percentage of Kentucky Adults Self-Reporting Being Mentally Unhealthy for 14 Days or More in Past Month (2016)



In comparison to White Kentuckians:

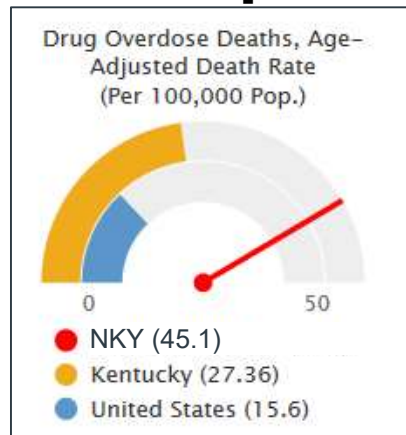
- **1.4** times worse for Hispanic Kentuckians
- **1.1** times worse for Black Kentuckians

ADDICTION IN NKY

Drug Overdose Deaths in NKY:

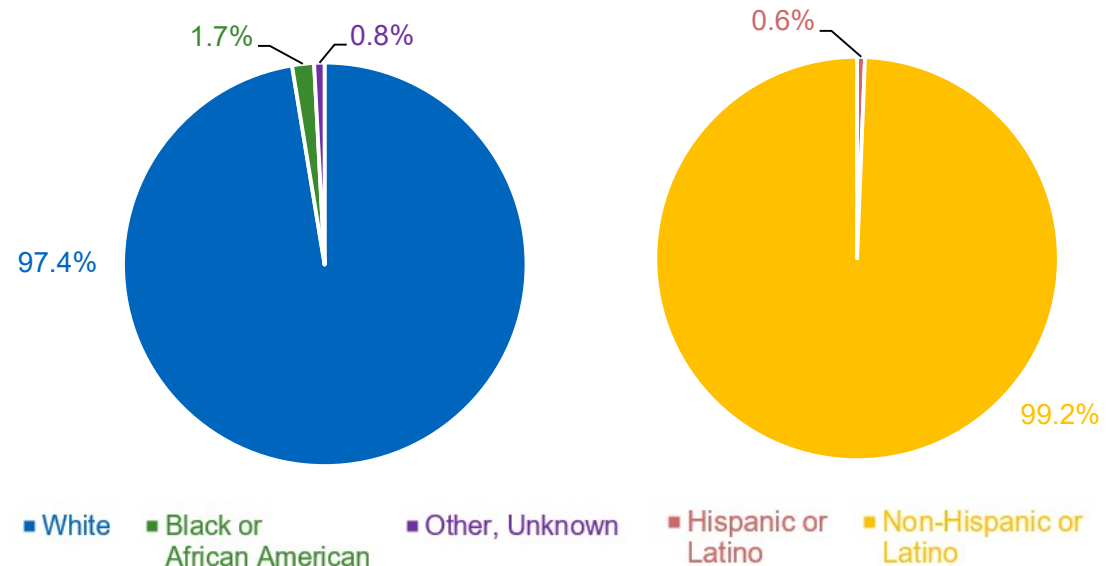
- NKYians **1.6** times more likely to die from a drug overdose than other Kentuckians
- NKYians **2.9** times more likely to die from a drug overdose than the rest of the United States population

NKY Comparison



Journey Recovery Center Patients:

Jan 2018 – Sept 2020, unique patients: 2,357



DRUG OVERDOSE DEATHS IN U.S.

**For Medium and Small Metro areas in U.S.,
Age-Specific Crude Rates per 100,000 persons:**

National opioid-involved overdose deaths:

	2015 no. (rate)	2016 no. (rate)	2017 no. (rate)	Absolute rate change ¹	% Rate Change ¹
Black, overall	553 (7.3)	776 (10.1)	1,036 (13.3)	6.0	82%
White, overall	8,794 (16.4)	10,530 (19.6)	11,767 (21.9)	5.5	34%
Hispanic, overall ²	709 (7.3)	870 (8.8)	1,012 (9.9)	2.6	36%

National opioid-involved overdose deaths involving synthetic opioids:

	2015 no. (rate)	2016 no. (rate)	2017 no. (rate)	Absolute rate change ¹	% Rate change ¹
Black, overall	199 (2.6)	387 (5.0)	698 (8.9)	6.3	242%
White, overall	2,547 (4.8)	4,449 (8.3)	6,803 (12.6)	7.8	163%
Hispanic, overall ²	127 (1.3)	321 (3.2)	485 (4.7)	3.4	262%

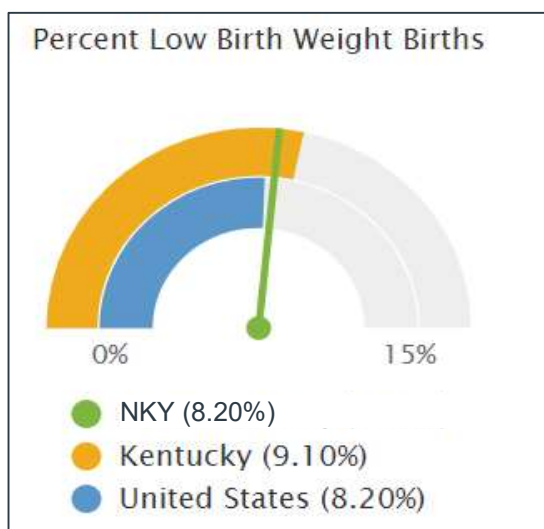
- From 2015 to 2017, death rates for drug overdoses involving any opioid increased across all racial/ethnic groups
- Blacks experienced the largest percentage change in drug overdose death rates involving any opioid (82%, from 7.3 to 13.3)
- Hispanics experienced the largest percentage change in drug overdose deaths involving synthetic opioids (262%, from 1.3 to 4.7)

Source: Centers for Disease Control and Prevention, Racial/Ethnic and Group Differences in Opioid and Synthetic Opioid-Involved Overdose Deaths Among Adults Aged ≥ 18, 2015 – 2017

1. Absolute rate change is the difference between the 2015 and 2017 rates. Percent change in rate is calculated as the absolute rate change divided by the 2015 rate, multiplied by 100.
2. Data for Hispanic origin should be interpreted with caution; studies comparing Hispanic origin on death certificates and on census surveys have indicated that reporting on Hispanic ethnicity is inconsistent.
https://www.cdc.gov/nchs/data/series/sr_02/sr02_172.pdf

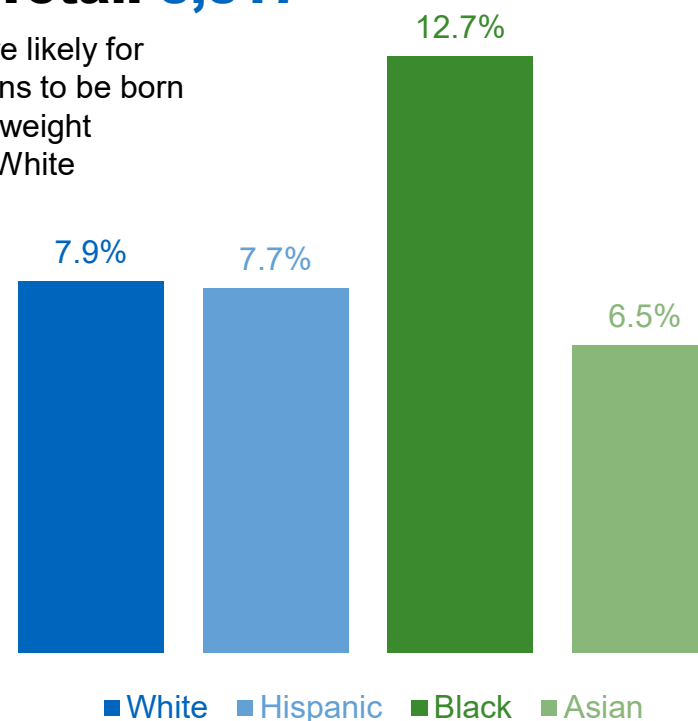
% OF NKY BABIES BORN W. LOW BIRTH WEIGHT BY RACE

NKY Comparison



2006-12 Total: 3,317

- **1.6** times more likely for Black newborns to be born with low birth weight compared to White newborns



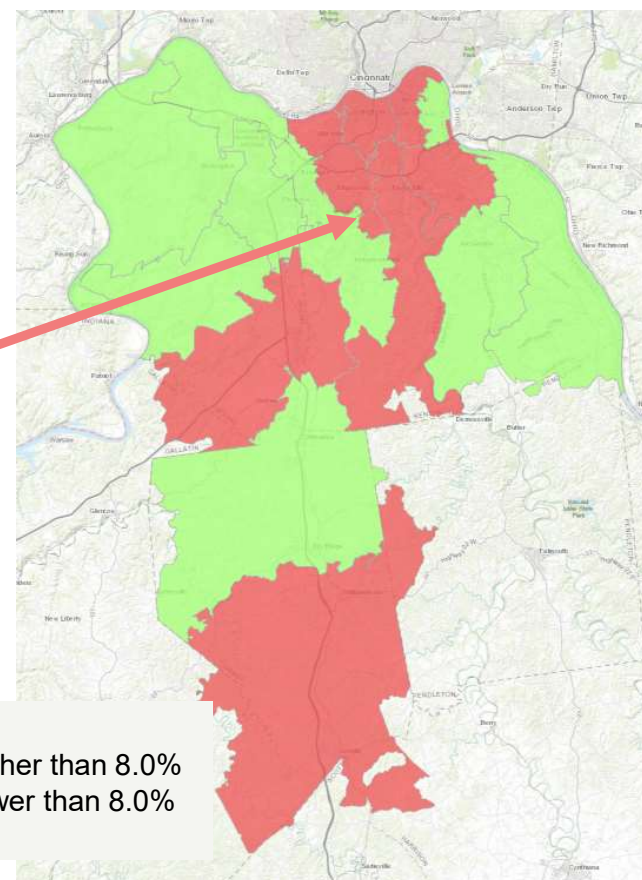
AREAS WITH LOW BIRTH WEIGHT

Low Birth Weight

- Defined as a baby born weighing less than 5 pounds, 8 ounces or less than 2500 grams; the calculated percentage is number of LBW infants divided by number of live births.

Areas with high % of LBWs:

- Region 6 (Covington)..... **11.2%**
- Region 7 (Dayton)..... **9.5%**



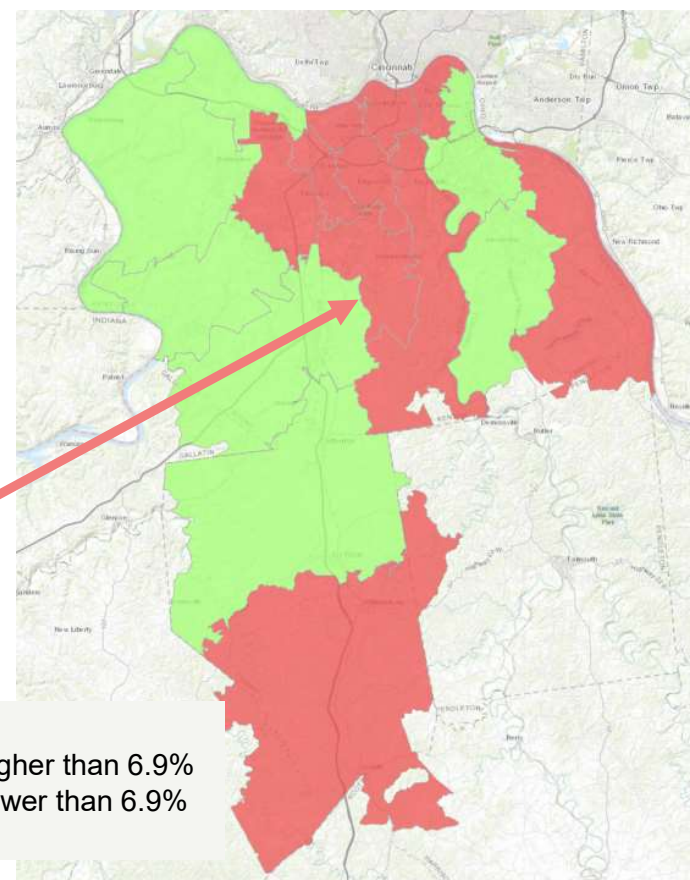
AREAS OF INFANT MORTALITY

Infant Mortality

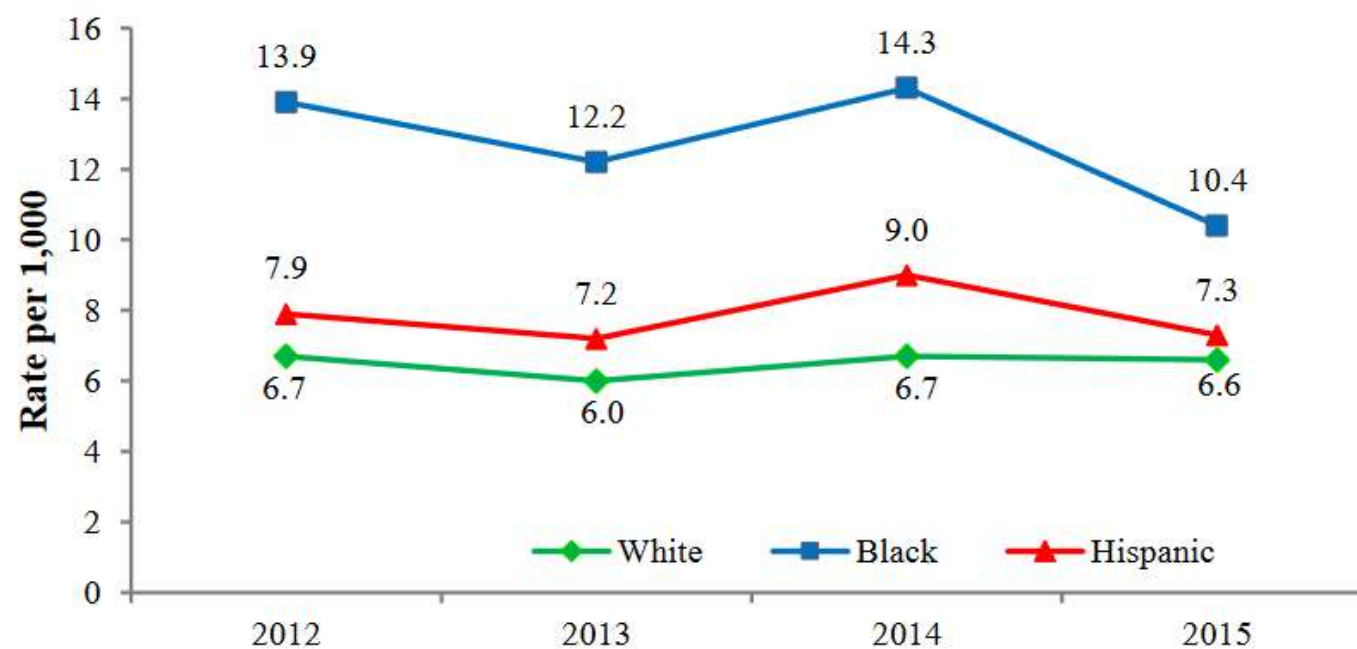
- The CDC states that the infant mortality rate “is an important marker of the overall health of a society”, in addition to providing key information about maternal and infant health. Infant mortality is the death of an infant before his or her first birthday. The calculated rate is the number of infant deaths for every 1,000 live births.
- In 2012-2016, **186** infants died before their first birthday in our 4-county region, producing an infant mortality rate of 6.9 deaths per 1,000 live births.
- The 2016 infant mortality rates for the **U.S. and the Commonwealth of Kentucky were 5.9 and 6.7**, respectively. The **NKY** infant mortality rate for 2016 was **5.9** (same as the U.S. rate).

Areas with high infant mortality:

- Region 6 (Covington)..... **12.7**
- Region 12 (Taylor Mill)..... **9.5**



KENTUCKY INFANT MORTALITY RATES BY RACE & ETHNICITY



**Black infants
in Kentucky
continue to be
nearly twice as
likely to die as
White infants**

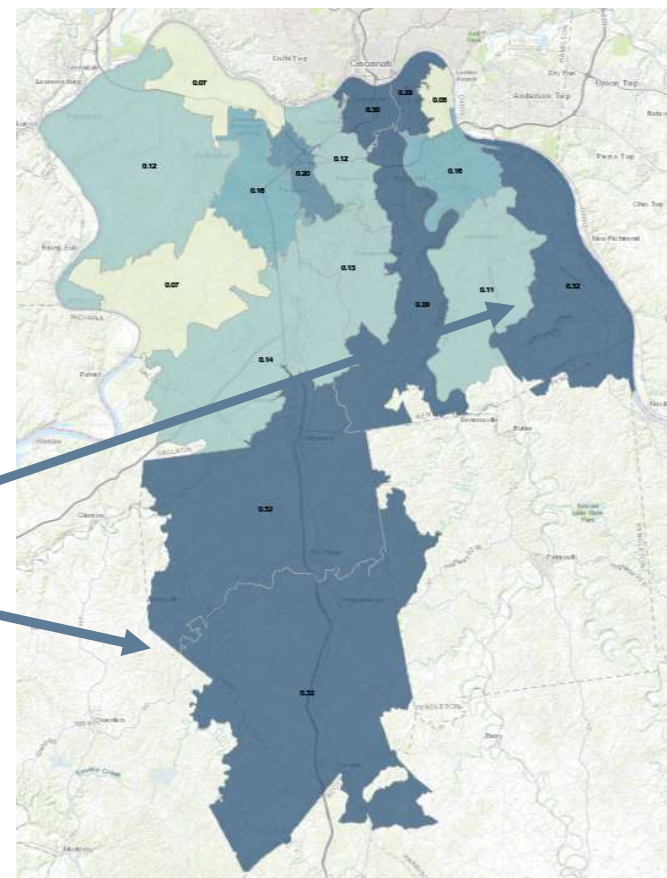
AREAS OF SMOKING DURING PREGNANCY

Smoking during pregnancy

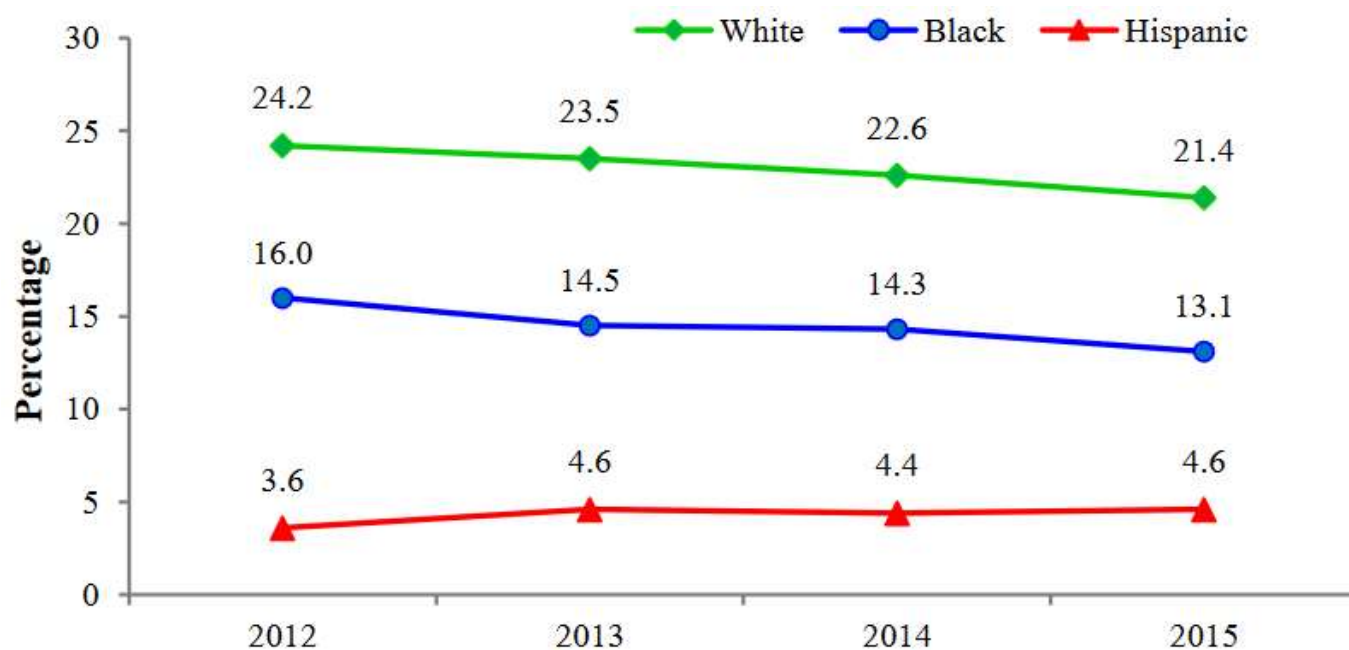
- Smoking during pregnancy can result in tissue damage in unborn babies, low birth weight, miscarriage, and still birth. Smoking can also cause difficulty in becoming pregnant.
- In 2016, **19.3%** of women pregnant in NKY who gave birth smoked during their pregnancy, compared to the national rate of **7.2%**.

Areas with high % of mothers who smoked while pregnant:

- Region 17 (Corinth, Williamstown).....**32.2%**
- Region 15 (Crittenden, Dry Ridge).....**31.9%**
- Region 16 (California, Melbourne, Silver Grove).....**31.9%**



KENTUCKY RATES OF MOTHERS SMOKING DURING PREGNANCY BY RACE & ETHNICITY



Prevalence of smoking during pregnancy is lower among People of Color in Kentucky, than for White Kentuckians

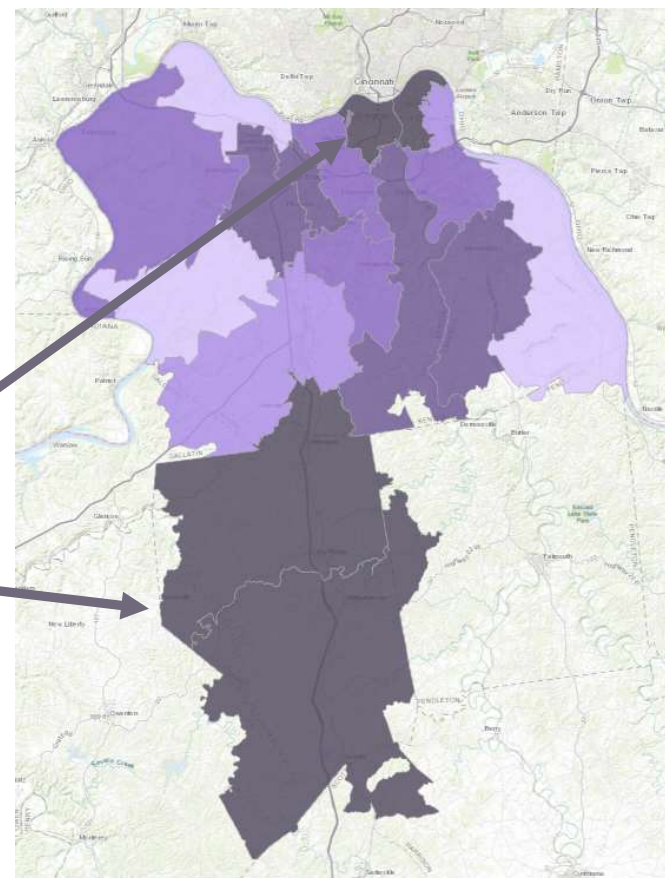
AREAS OF TEEN BIRTHS (AGES 15-19)

Teen births

- In 2016, teen births by subcounty region varied from 1.2% to 10.1%; the overall rate in NKY was **5.8%**, compared to a national rate of **5.3%**.
- Percent of live births to teens has decreased over the last 7 years. Grant County consistently has the highest percentage of teen live births in NKY.

Areas with high % of teen births:

- Region 17 (Corinth, Williamstown).....**10.5%**
- Region 6 (Covington).....**9.7%**
- Region 16 (California, Melbourne, Silver Grove).....**9.4%**



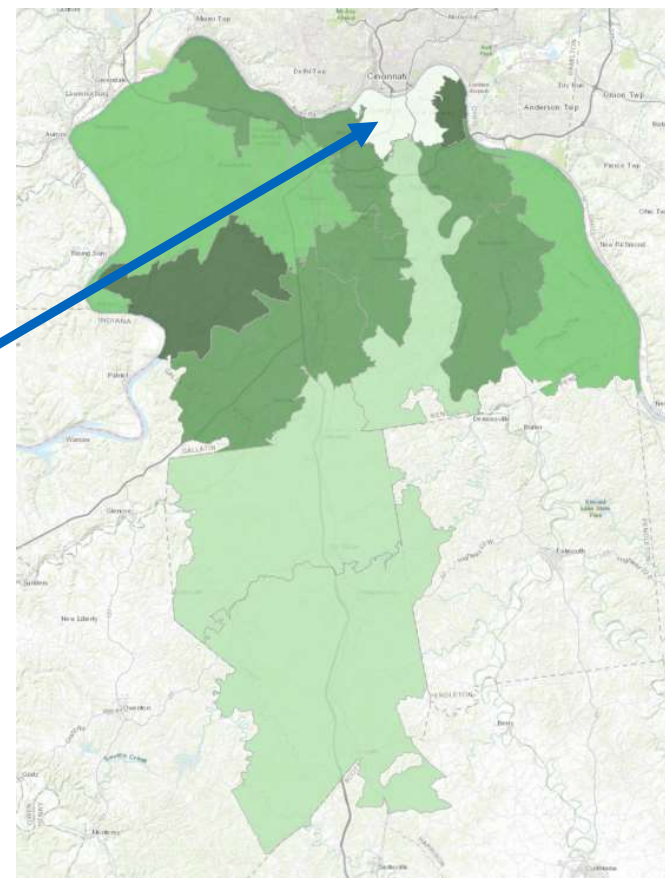
AREAS OF BREASTFEEDING AT BIRTH

Breastfeeding at birth

- In 2016, percent of mothers breastfeeding at birth by subcounty region varied from 58.6% to 89.5%; the overall rate in NKY was **73.6%**.

Areas with lower rates of breastfeeding:

- Region 6 (Covington).....**58.6%**
- Region 7 (California, Melbourne, Silver Grove).....**61.8%**



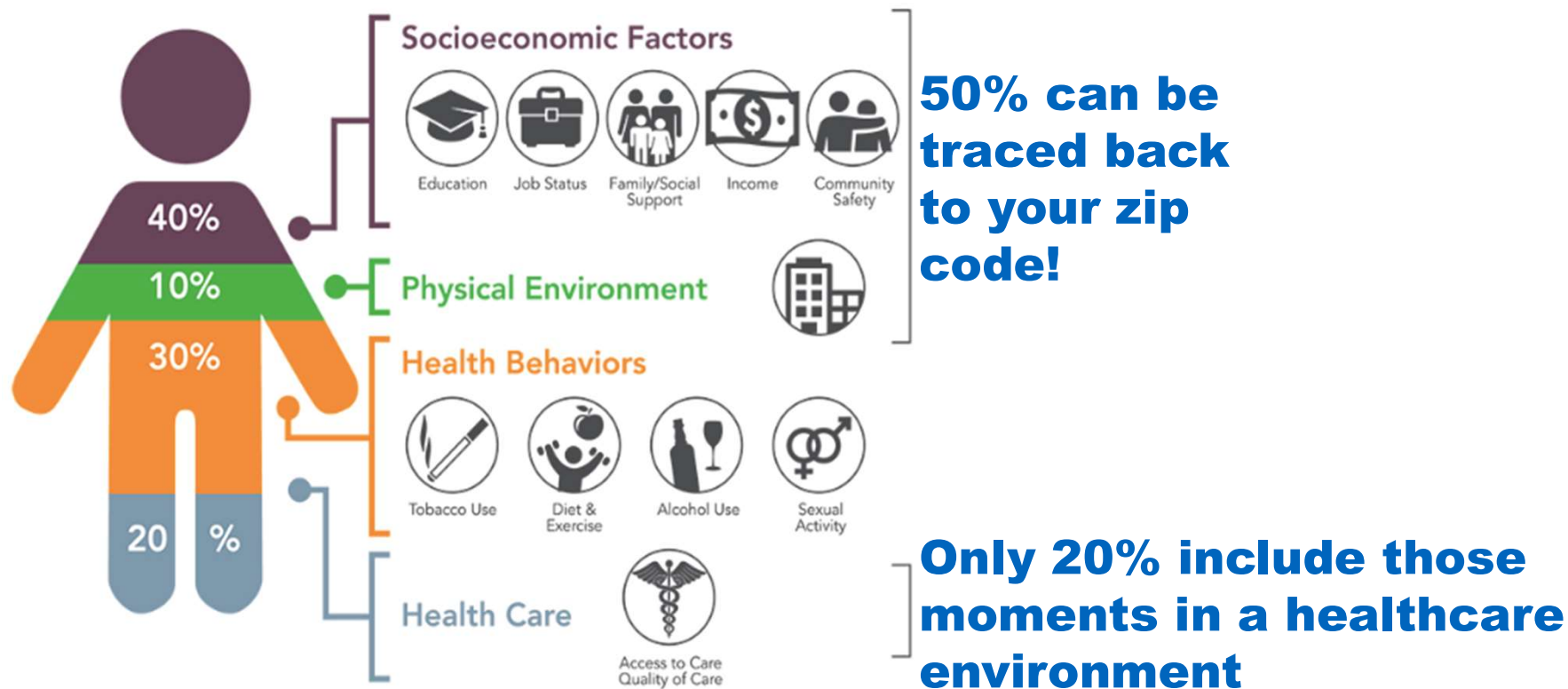
KEY FINDINGS: HEALTH IMPACTS

Life Expectancy	<ul style="list-style-type: none"> Black men in Kentucky have the shortest life expectancy of all groups when stratified by race and gender NKY areas with lowest life expectancy similar to 7 identified NKY regions with vulnerable populations
Obesity	<ul style="list-style-type: none"> Northern Kentuckians 1.1 times more likely to be obese than other Kentuckians Northern Kentuckians 1.2 times more likely to be obese than the rest of United States population Black Kentuckians have highest rate of obesity
Cancer Rates	<ul style="list-style-type: none"> Kenton and Campbell among 9 counties significantly above average risk for Black residents developing cancer Grant and Campbell rank in the middle compared to other counties for White residents developing cancer
Screening Mammograms	<ul style="list-style-type: none"> Our PSA among lowest in Kentucky for % of Medicaid enrollee women who had screening mammograms
Colonoscopy	<ul style="list-style-type: none"> Screening rate for Hispanic Kentuckians decreased by over 5% from 2012-2016

Cardiovascular	<ul style="list-style-type: none"> Kentucky age-adjusted death rate for Blacks mirror the national rate, while the age-adjusted death rate for White Kentuckians is higher than the rate for Whites nationally
Smoking	<ul style="list-style-type: none"> Black Kentuckians remain largest % of current smokers NKY areas with significantly high smoking rates similar to 7 identified NKY regions with vulnerable populations
Mental Health	<p>In comparison to White Kentuckians:</p> <ul style="list-style-type: none"> 1.4 times worse for Hispanic Kentuckians 1.1 times worse for Black Kentuckians
Drug Overdose Deaths	<ul style="list-style-type: none"> Northern Kentuckians 1.6 times more likely to die from a drug overdose than other Kentuckians Northern Kentuckians 2.9 times more likely to die from a drug overdose than the rest of United States population
Infant Mortality	<ul style="list-style-type: none"> 1.6 times more likely for Black NKY newborns to be born with low birth weight in comparison to White NKY newborns NKY areas with significantly high % of low birth weight, high infant mortality, high % of mothers who smoked while pregnant, and high % of teen births, all similar to 7 identified NKY regions with vulnerable populations

THE WHY – DETERMINANTS OF HEALTH

WHAT DETERMINES OUR HEALTH?



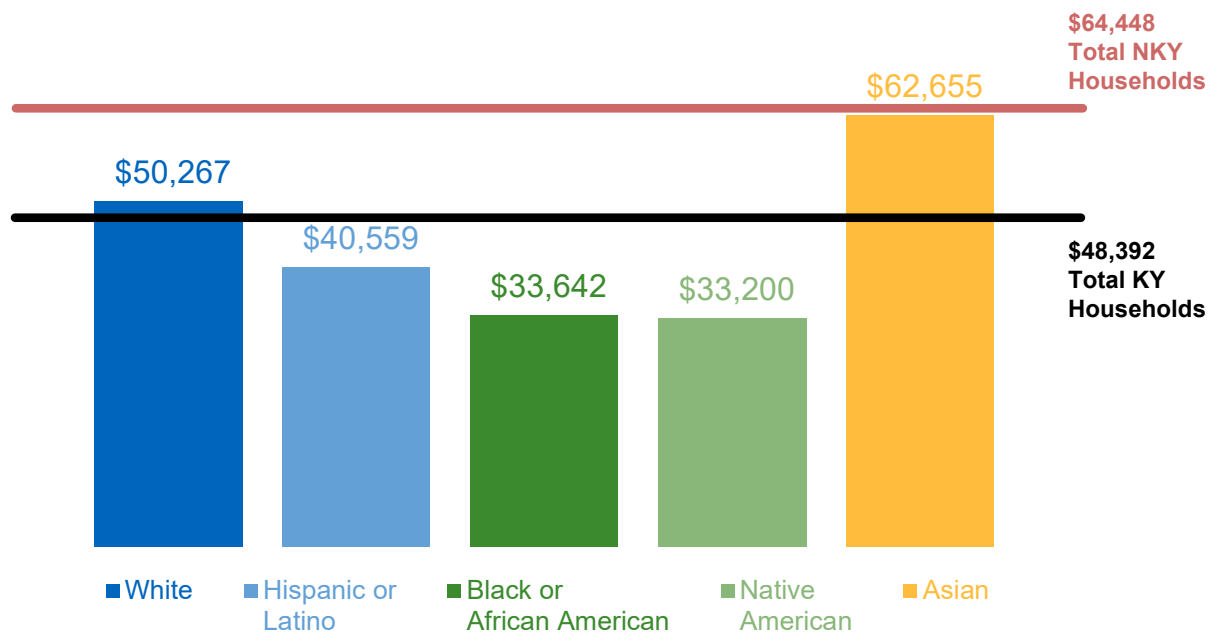
SOCIAL DETERMINANTS OF HEALTH (SDOH)

Economic, psychological, educational, environmental and social barriers that limit healthy behaviors, access to care and adherence to treatment resulting in poor health outcomes.



MEDIAN HOUSEHOLD INCOME BY RACE & ETHNICITY

Kentucky Households by Race & Ethnicity:



- On average, income of Black Kentuckians is **1.5** times less than that of White Kentuckians
- On average, income of Hispanic or Latino Kentuckians is **1.2** times less than White Kentuckians

AREAS BY MEDIAN INCOME

Median Income

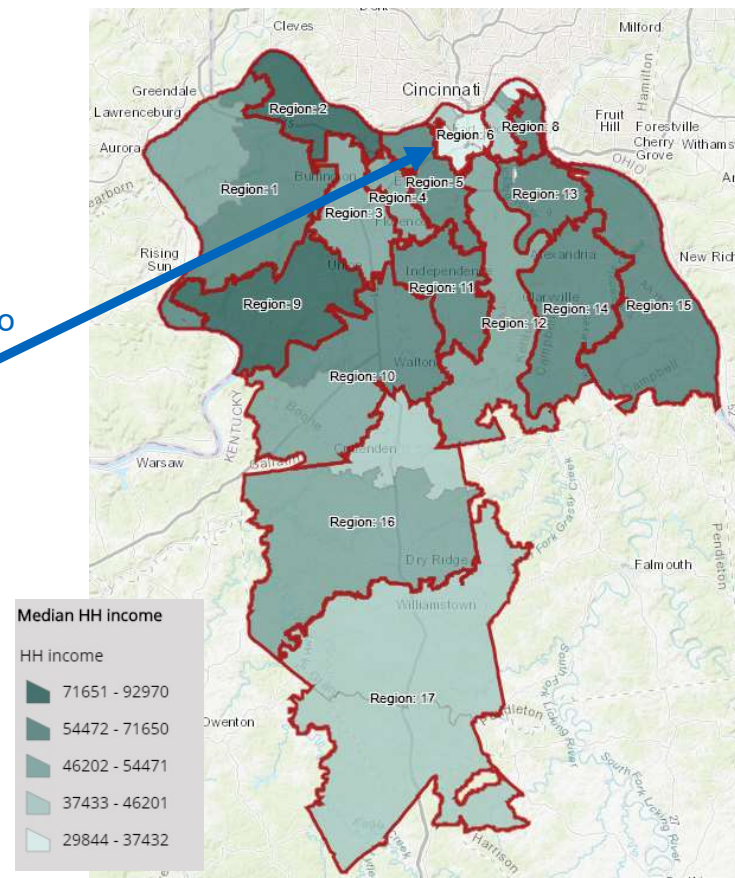
Poverty measure can serve as a surrogate for multiple neighborhood risk factors including deteriorated housing, crime, limited access to resources, low education attainment levels, and pollution.

Our overall 4-county median household income was **\$64,448**, compared to national median of **\$60,293**

Areas significantly below local median HH income:

% of local median HH income

- 41074 (Dayton).....**66.4%**
- 41011 (Covington).....**67.5%**
- 41071 (Newport).....**72.7%**



% OF NKY LIVING BELOW 100% FEDERAL POVERTY LINE

Child Poverty

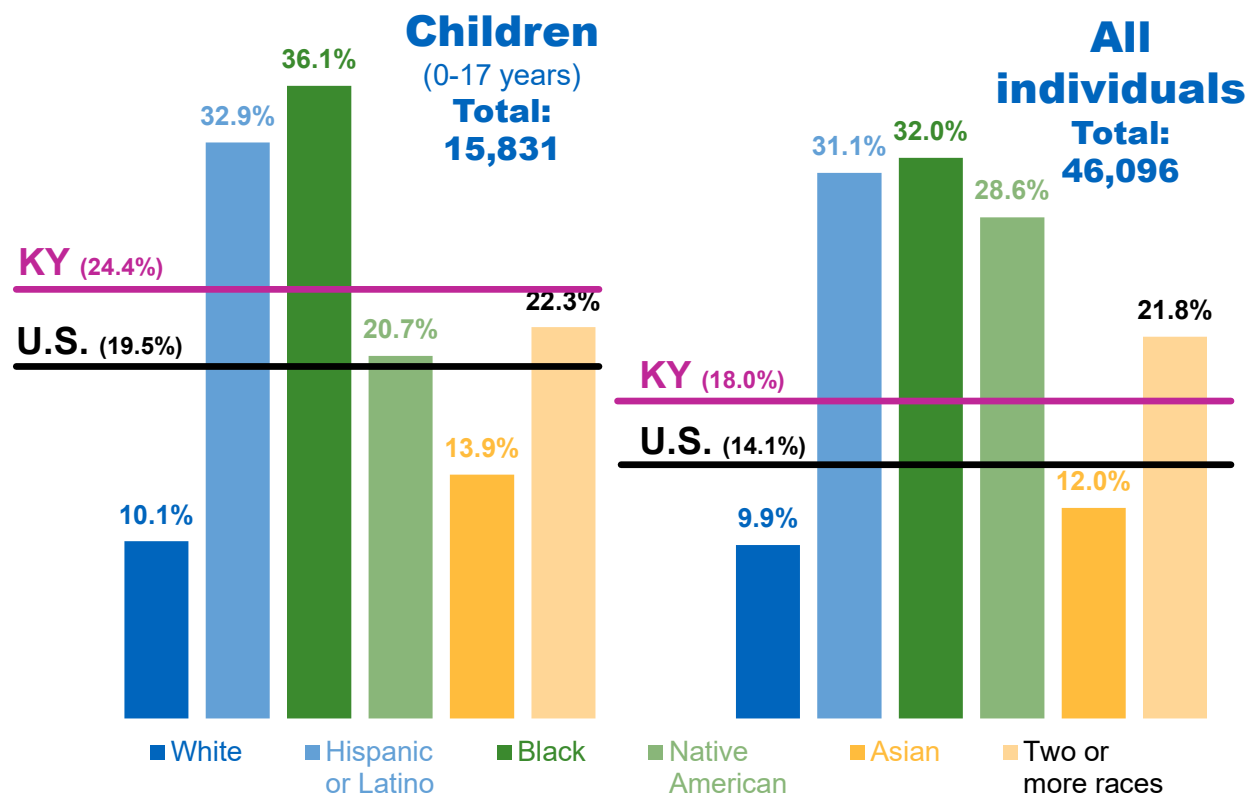
In comparison to White NKYians:

- **3.3** times worse for Hispanic NKYians
- **3.6** times worse for Black NKYians
- **2.2** times worse for multi-racial NKYians

All in Poverty

In comparison to White NKYians:

- **3.1** times worse for Hispanic NKYians
- **3.2** times worse for Black NKYians
- **2.2** times worse for multi-racial NKYians

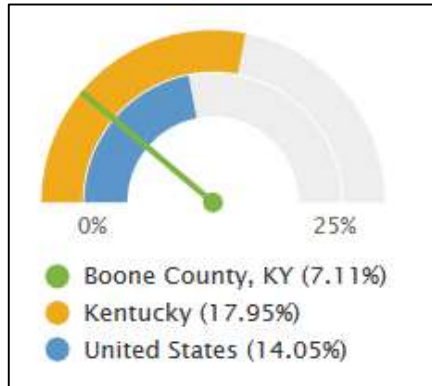


BELOW 100% FPL: COUNTY COMPARISON

Number of individuals living below 100% FPL:

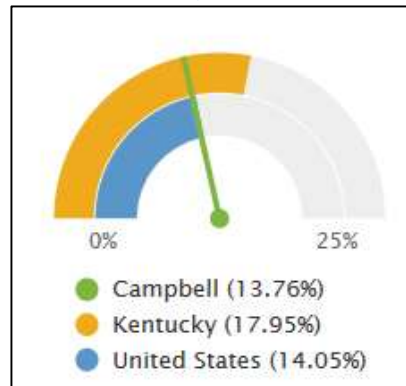
44% of NKYians below 100% FPL live in Kenton County

9,080



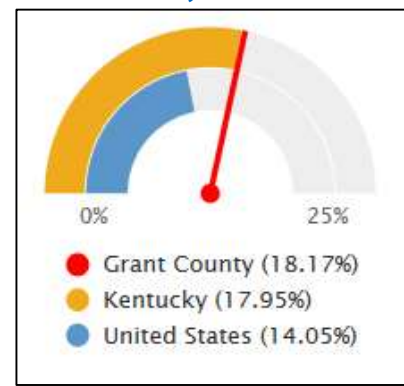
Boone

12,228



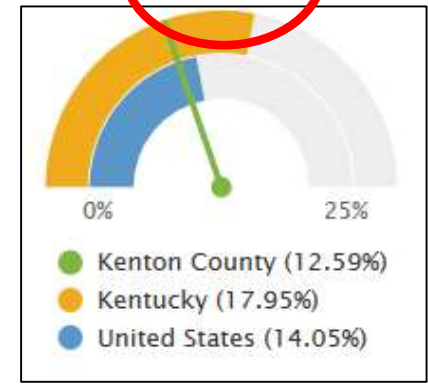
Campbell

4,419



Grant

20,369



Kenton

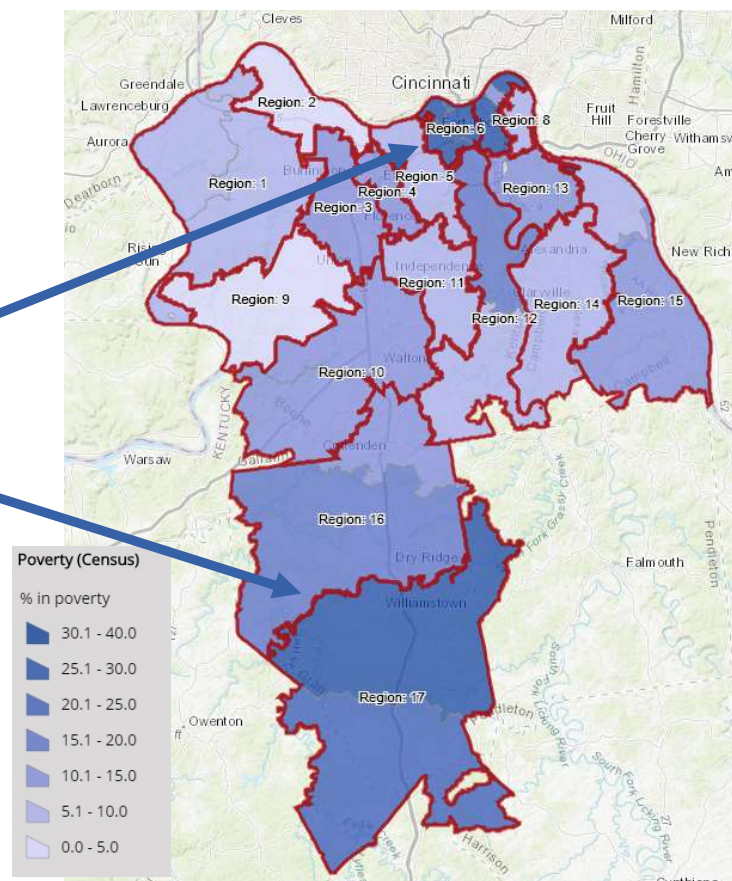
AREAS WITH POVERTY

Poverty

Studies suggest that any census tracts with 20% or more of the population living in poverty (households with incomes less than below 100% of the federal poverty level) should be considered as vulnerable to health inequities.

Areas with higher poverty:

	<u>% of population in poverty</u>
• All Region 6 (Covington, Ludlow).....	~27.0%
• 41074 (Dayton).....	26.0%
• 41071 (Newport).....	26.7%
• 41097 (Williamstown).....	25.7%

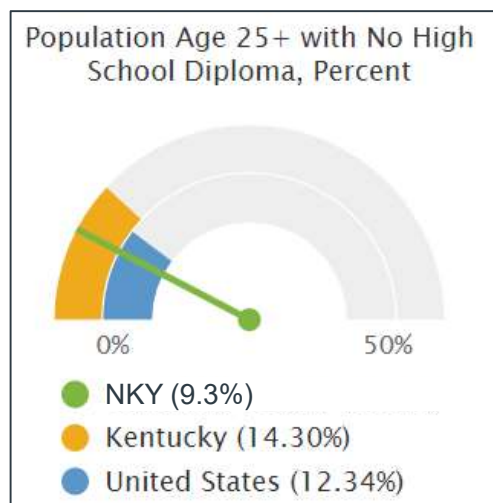


Source: Northern Kentucky Health Department's Health Equity Series, and Krieger N, Chen JT, Waterman PD, Rehkopf DH, Subramanian SV. Painting a truer picture of US socioeconomic and racial/ethnic health inequalities: The Public Health Disparities Geocoding Project.

% OF NKY WITHOUT HIGH SCHOOL DIPLOMA BY RACE & ETHNICITY

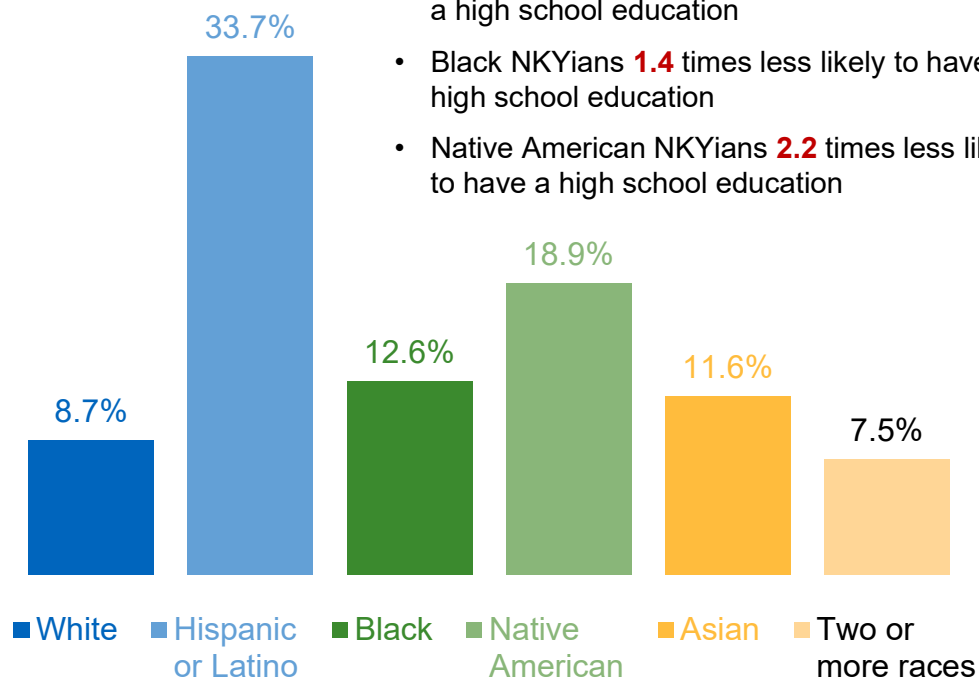
Total: 38,147

NKY Comparison



In comparison to White NKYians:

- Hispanic NKYians **3.9** times less likely to have a high school education
- Black NKYians **1.4** times less likely to have a high school education
- Native American NKYians **2.2** times less likely to have a high school education



AREAS WITHOUT A HIGH SCHOOL DIPLOMA

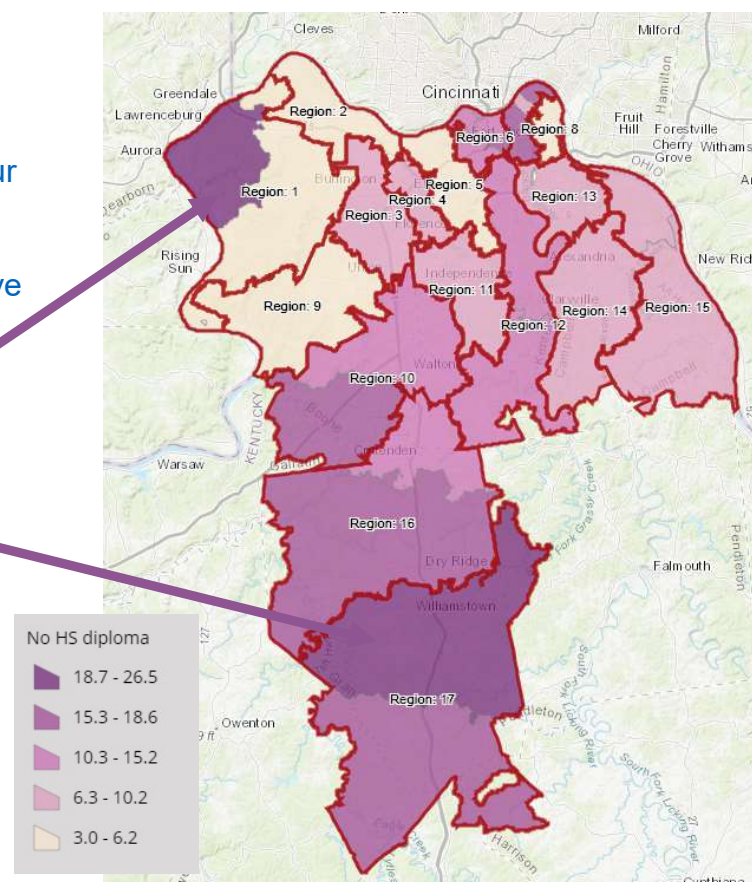
Education

Next to income, educational attainment is the strongest determinant of your overall health.

In our overall 4-county region, **12.2%** of people over 25 years of age, have less than a high school education, compared to national rate of **10.4%**

Areas with high percentages without a high school diploma:

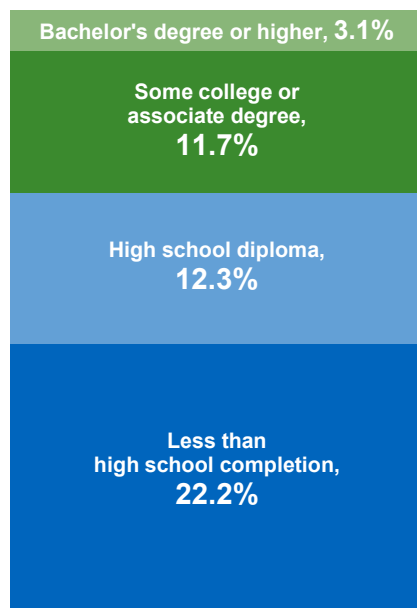
- | | <u>% w/o HS diploma</u> |
|-----------------------------|-------------------------|
| • 41080 (Petersburg)..... | 26.5% |
| • 41097 (Williamstown)..... | 22.7% |



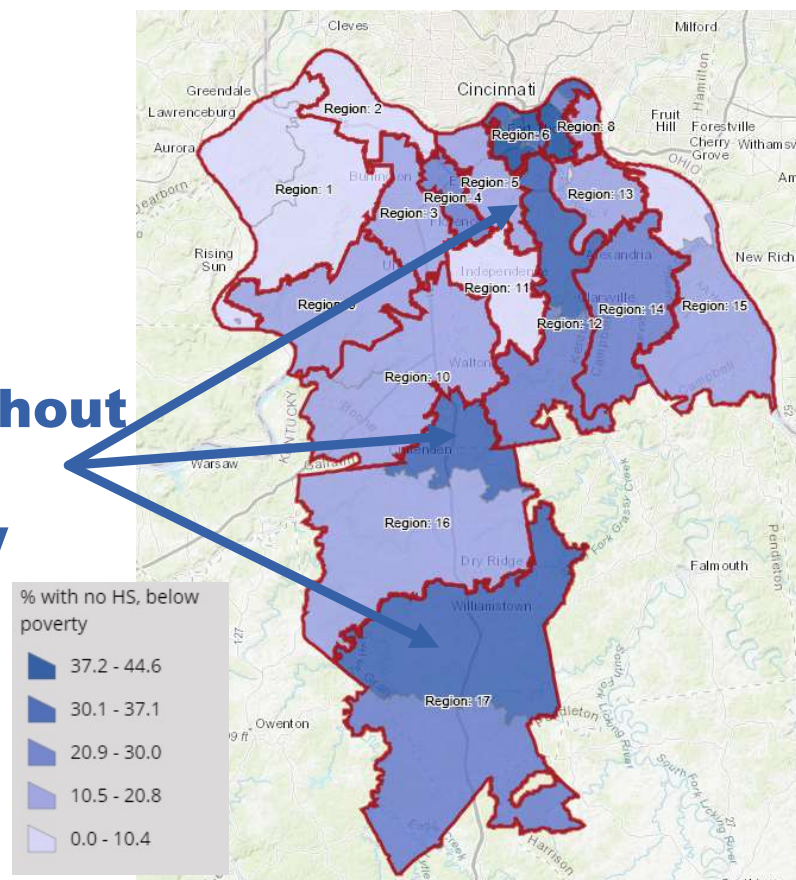
COMBINING EDUCATION AND POVERTY

Education w/ Poverty

Layering educational attainment for people in poverty.
On average, for our population below the poverty level:



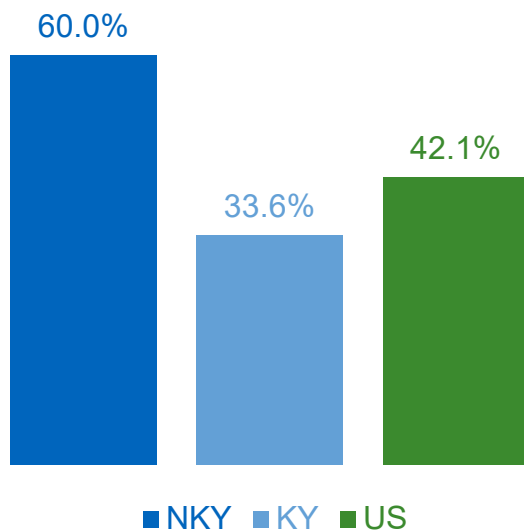
Areas with high percentages without a high school diploma & below poverty



FOOD SECURITY

% OF NKY POPULATION LIVING IN A FOOD DESERT TRACT

USDA Food Access Research Atlas defines food deserts as neighborhoods that lack healthy food sources due to income level, distance to supermarkets, or vehicle access.



- NKYians **1.8** times more likely to be living in a food desert tract than other Kentuckians
- NKYians **1.3** times more likely to be living in a food desert tract than the rest of the United States population

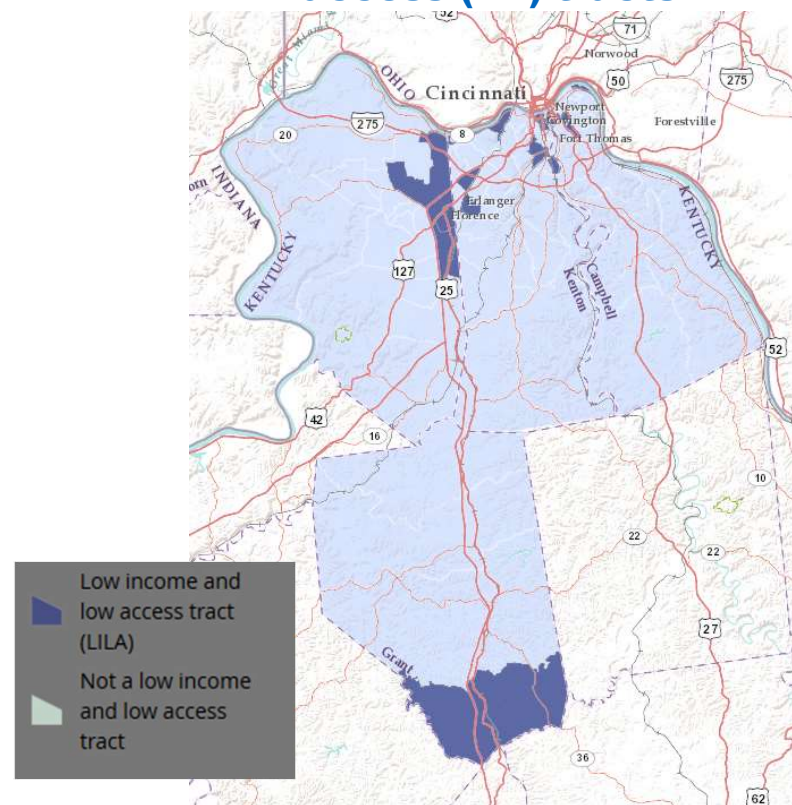
FOOD DESERT TRACTS IN NKY

Food deserts further defined by USDA:

- Low-income tracts (LI, tracts with a poverty rate of 20% or higher, or tracts with a median family income less than 80% of median family income for the state or metropolitan area.)
- Low vehicle access tracts (LA, tracts in which at least 500 people or 33% of the population lives farther than 1/2 mile (urban) or 10 miles (rural) from the nearest supermarket.)
- Low-income census tracts where a significant number or share of residents is more than 1/2 mile (urban) or 10 miles (rural) from the nearest supermarket.

Note: some census tracts that contain supermarkets or large grocery stores may meet the criteria of a food desert if a substantial number or share of people within that census tract is more than 0.5 miles (urban areas) or 10 miles (rural areas) from the nearest supermarket.

NKY low income (LI) and low access (LA) tracts:



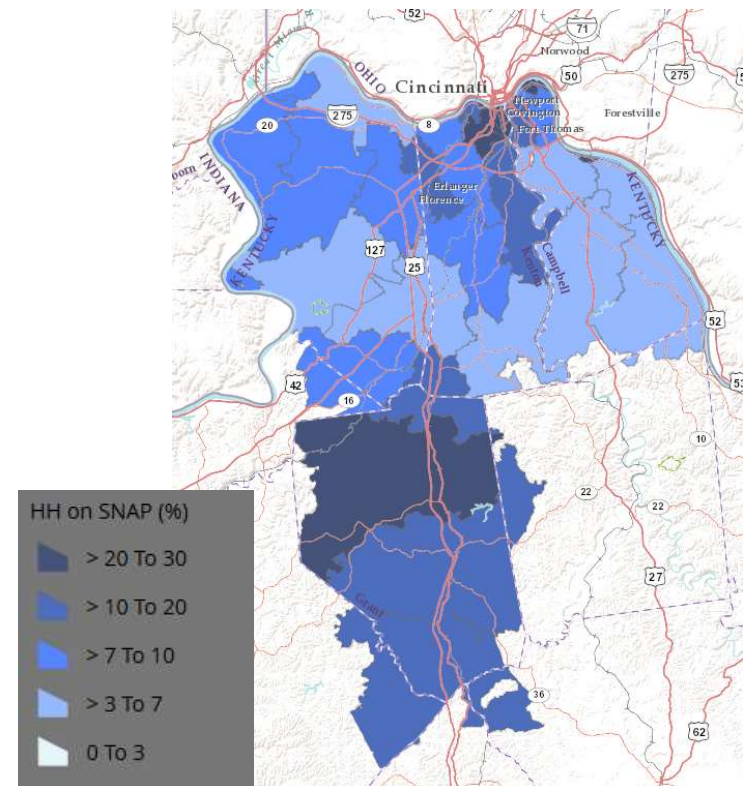
SUPPLEMENTAL NUTRITION ASSISTANCE PROGRAM (SNAP)

SNAP offers nutritional assistance to eligible, lower-income individuals and families providing regular access to food (food security). Food security is important to physical and mental health by reducing the risk of chronic diseases and stress.

Key findings for NKY:

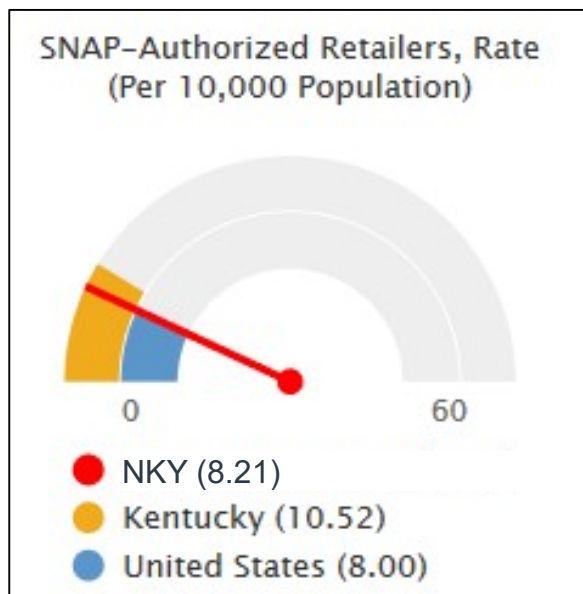
- **17,380 (12%) households receive SNAP benefits**
- **52% of households in poverty receive SNAP benefits**

NKY households on SNAP (%):



SNAP-AUTHORIZED FOOD STORES

NKY Comparison



- This indicator reports the number of SNAP-authorized food stores as a rate per 10,000 population.
- SNAP-authorized stores include grocery stores as well as supercenters, specialty food stores, and convenience stores that are authorized to accept SNAP (Supplemental Nutrition Assistance Program) benefits.
- NKY contains 323 SNAP-Authorized Retailers.

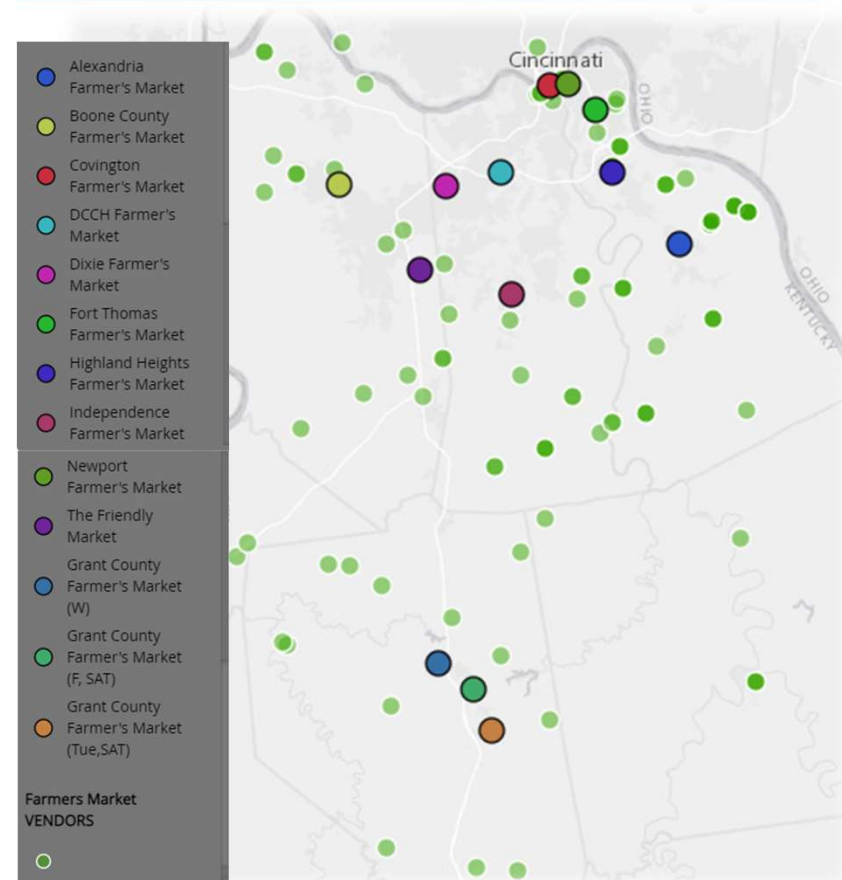
FARMERS MARKETS

Farmers markets are a perfect way to get fresh fruits and vegetables at their peak in flavor and nutrition.

In addition to increasing access to fresh produce and supporting healthy communities, farmers markets stimulate local economy and preserve farmland and rural livelihoods.

Key findings for NKY:

- **13 active farmers markets**
- **11 of 13 farmers markets accept WIC**
- **These 13 markets are being supported by 122 vendors**
- **Together, markets and vendors create a complex farm to consumer network**



TRANSPORTATION

CAR OWNERSHIP IS VERY EXPENSIVE

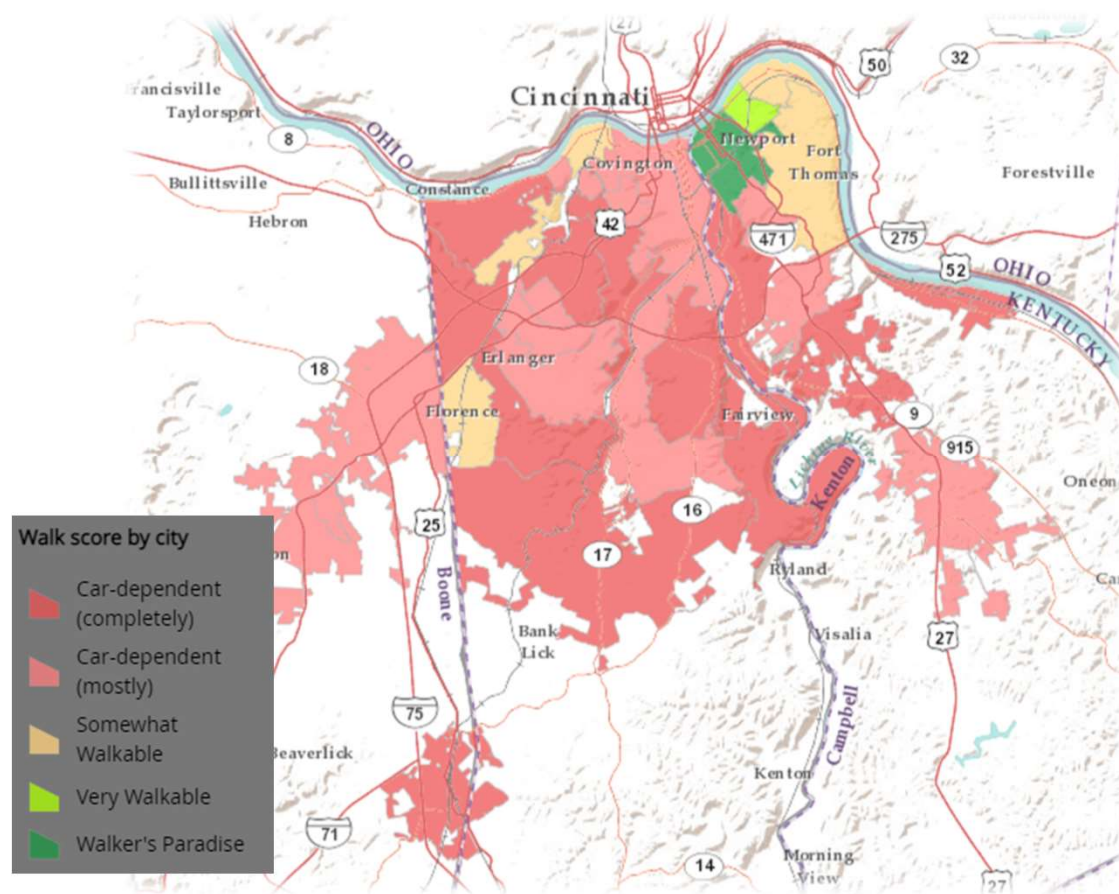
Every segment of American society—individuals, families, communities, and businesses—benefits from public transportation.

Public Transportation Saves Money:

- **The average household spends 16 cents of every dollar on transportation, and 93% of this goes to buying, maintaining, and operating cars, the largest expenditure after housing**
- **A household can save nearly \$10,000 by taking public transportation and living with one less car**

WALKING SCORE

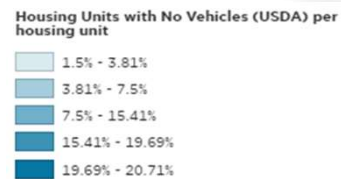
NKY is primarily a car-dependent region with pockets of walkable areas, associated with more densely populated communities. Walk score index classifies areas in terms of needing a car to run everyday errands.



MOBILITY

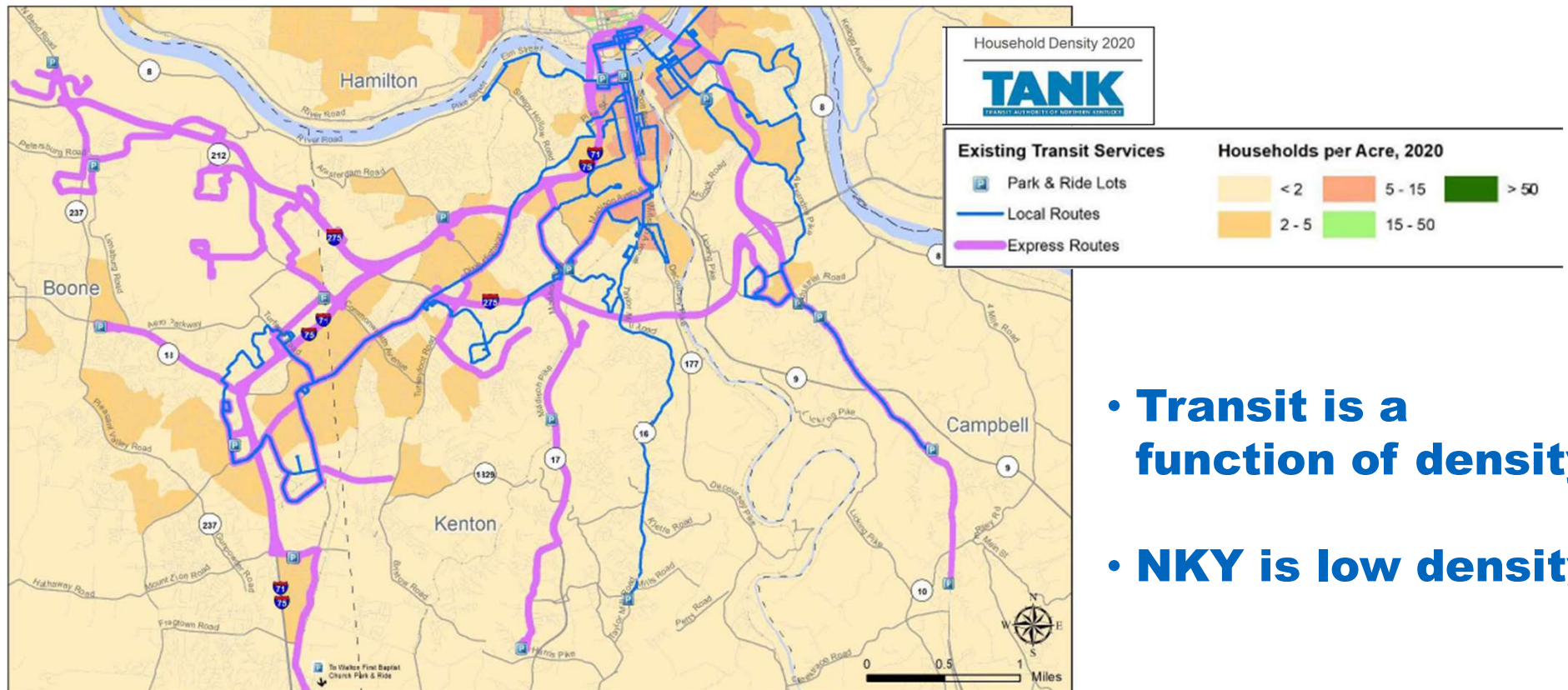
Very few places in NKY to functionally live without a car

Areas of low vehicle ownership correlate with areas of unemployment. These vulnerable populations are dependent on public transportation to get to employment. This can limit job opportunities, due to lack of service, travel time or other factors.



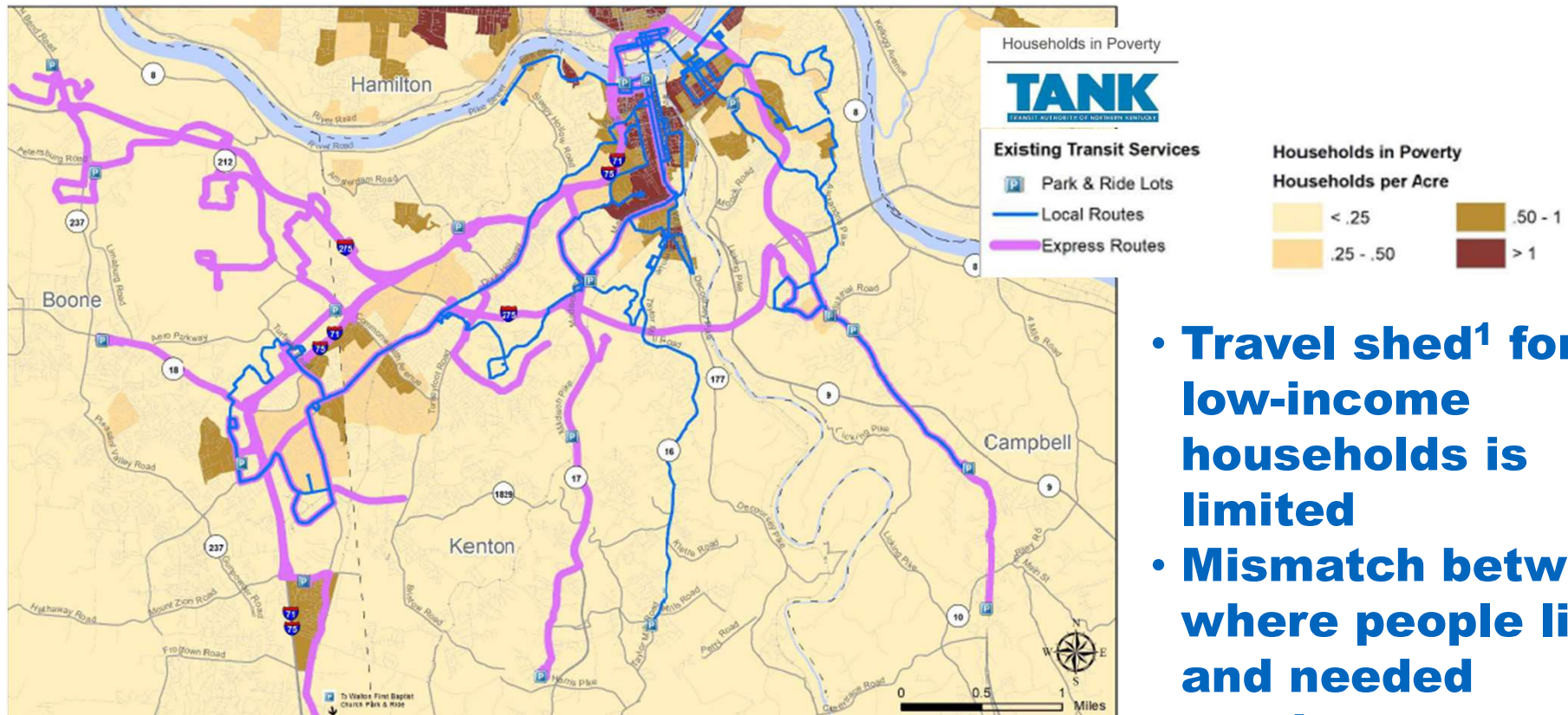
Sources: USDA ERS 2019

POPULATION DENSITY & TRANSIT



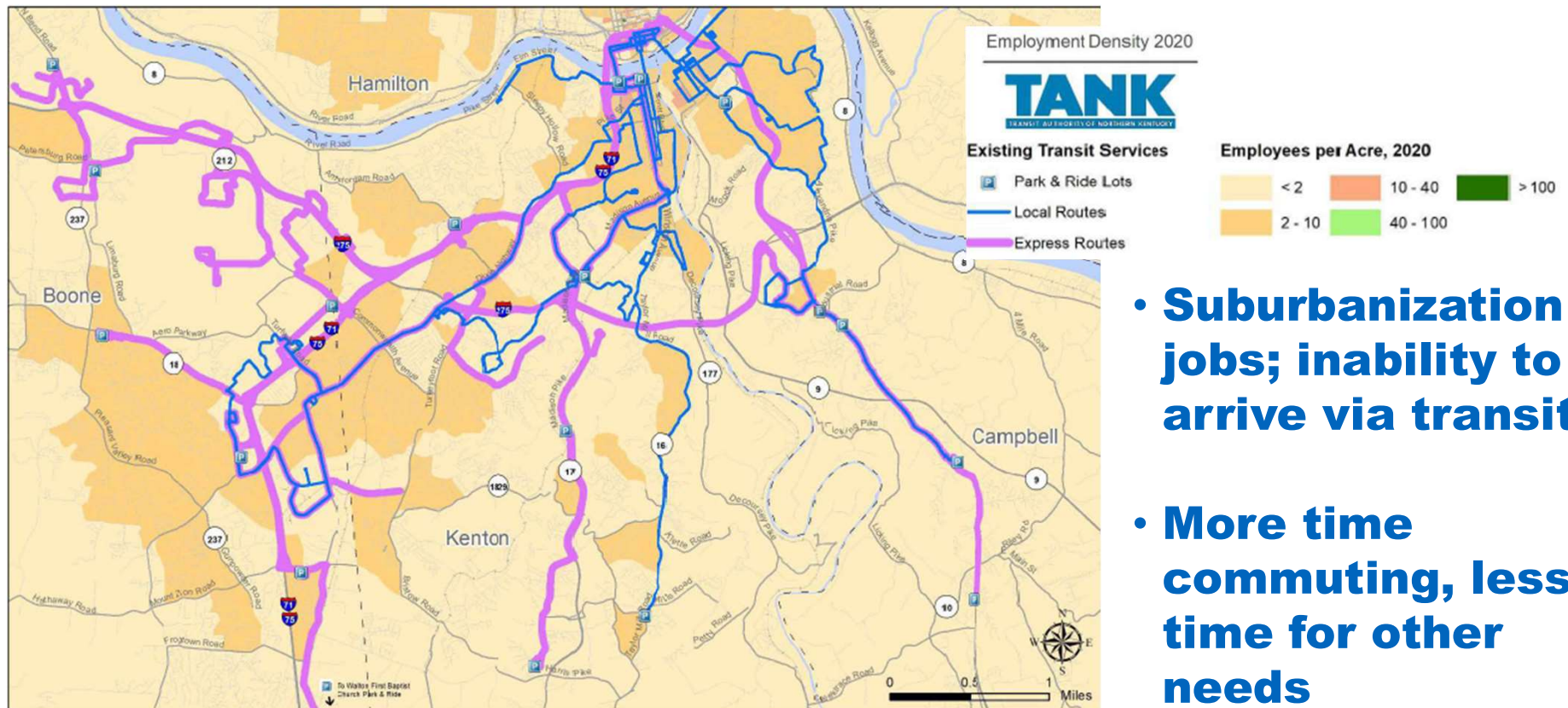
- **Transit is a function of density**
- **NKY is low density**

LOW INCOME & TRANSIT



- **Travel shed¹ for low-income households is limited**
- **Mismatch between where people live and needed services**

EMPLOYMENT & TRANSIT



- **Suburbanization of jobs; inability to arrive via transit**
- **More time commuting, less time for other needs**

ACCESS TO FREQUENT TRANSIT

Socioeconomic Impacts within 1/4-mile of Service

Comparison	Area (square miles)	Population	Employment	Transportation Disadvantaged
Existing Network	68	144,518	183,564	40,403
Proposed Network	44	102,987	162,920	29,945
Change	-35.5%	-28.7%	-11.2%	-29.5%

Comparison	Area (square miles)	Population	Employment	Transportation Disadvantaged
Existing Network (15-minute frequency or better)	2	9,617	65,939	2,216
Proposed Network (15-minute or better frequency)	3	15,841	72,567	4,128
Change	50.0%	64.7%	10.1%	94.2%

Comparison	Area (square miles)	Population	Employment	Transportation Disadvantaged
Existing Network (30-minute frequency or better)	6	19,908	66,740	5,744
Proposed Network (30-minute or better frequency)	19	50,838	105,816	14,807
Change	216.7%	155.4%	58.5%	157.8%

- **How long do I have to wait for a bus?**
- **Do I need to take an entire day off work for one doc appt?**
- **Good transit = frequent transit**

AFFORDABLE HOUSING/HOMELESSNESS

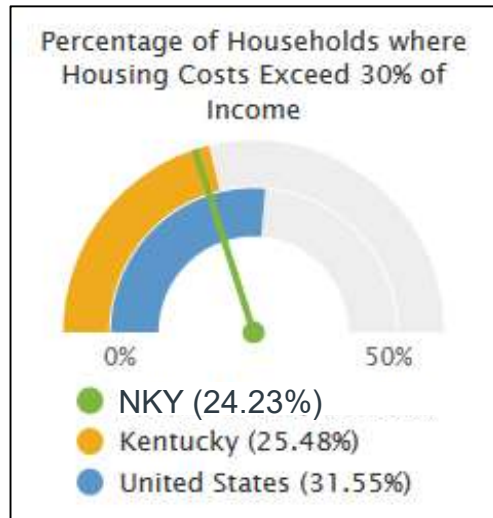
NKY HOUSING COSTS



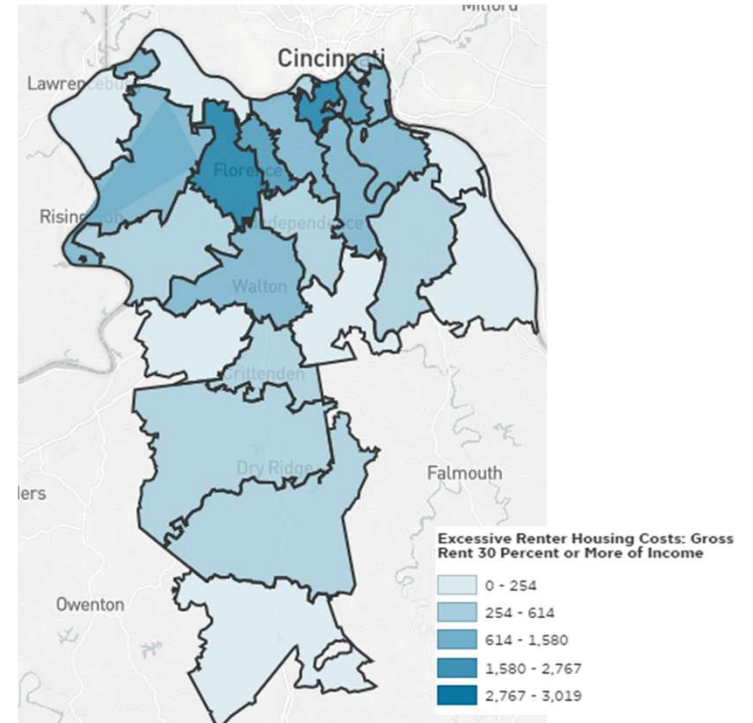
36,646
Households

Total Cost Burdened Households
NKY Health Zips

NKY Comparison



Cost Burden: percentage of the households where housing costs exceed 30% of total household income.



Sources: U.S. Census ACS 5-year 2015-2019; SparkMap Standard Report – Boone, Campbell, Grant & Kenton Counties. (2020). University of Missouri CARES; US Census Bureau, American Community Survey. 2014-18; mySidewalk.com; Understanding Livability in your City

HOUSING WAGES

KENTUCKY

#48*

In **Kentucky**, the Fair Market Rent (FMR) for a two-bedroom apartment is **\$780**. In order to afford this level of rent and utilities — without paying more than 30% of income on housing — a household must earn **\$2,599** monthly or **\$31,183** annually. Assuming a 40-hour work week, 52 weeks per year, this level of income translates into an hourly Housing Wage of:

\$14.99
PER HOUR
STATE HOUSING
WAGE

\$23.96
PER HOUR
**National Housing
Wage**

- The economic downturn spurred by the virus further increases the risk of housing instability for millions of low-wage renters at a time when stable housing is vital
- Low-wage workers have struggled to afford their housing for decades, regardless of the state of the economy

NORTHERN KENTUCKY¹

11% higher than
overall state of KY

In **Northern Kentucky**, the Fair Market Rent (FMR) for a two-bedroom apartment is **\$865**. In order to afford this level of rent and utilities — without paying more than 30% of income on housing — a household must earn **\$2,883** monthly or **\$34,600** annually. Assuming a 40-hour work week, 52 weeks per year, this level of income translates into an hourly Housing Wage of:

\$16.63
PER HOUR
NKY¹ HOUSING
WAGE

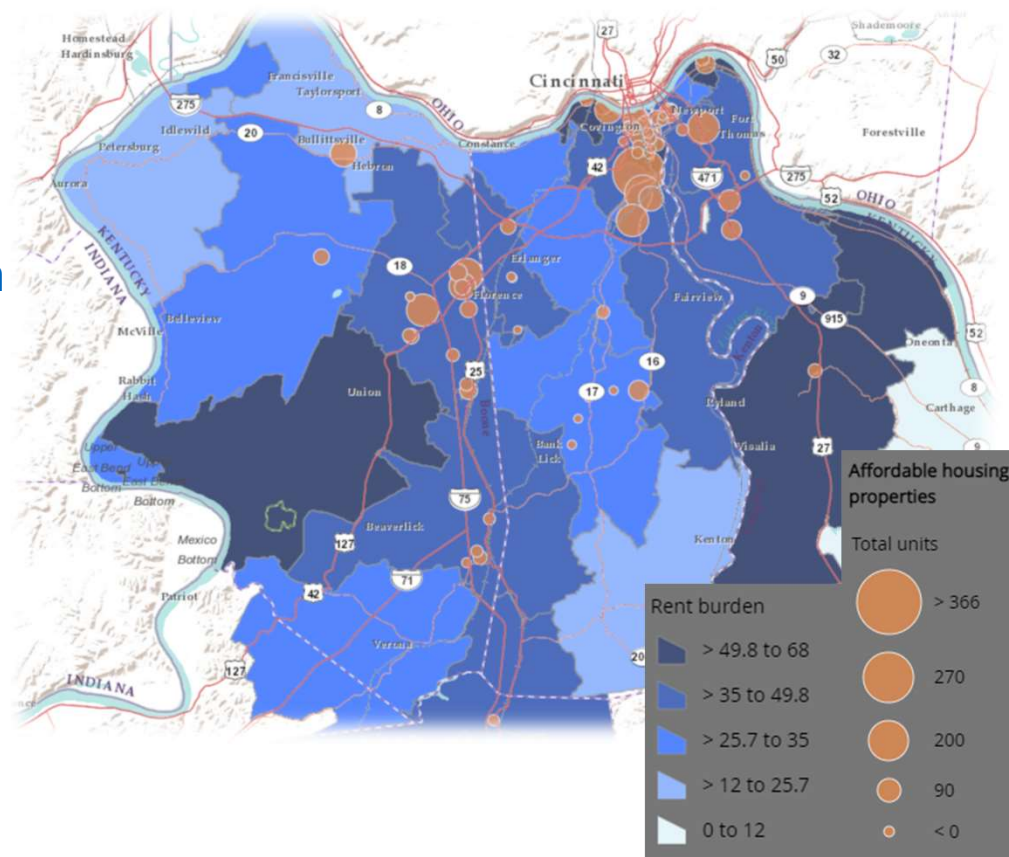
Source: Out of Reach 2020 | National Low Income Housing Coalition

* Ranked from Highest to Lowest 2-Bedroom Housing Wage. Includes District of Columbia and Puerto Rico.

(1) Excludes Grant County; Grant County's hourly wage necessary to afford 2 BR FMR is lower at \$14.92

NKY RENT BURDEN

- **43% of households who rent in NKY experience rent burden**
- **Currently there are total of 73 affordable housing properties in NKY, with a total of 4,833 units**
- **Although affordable housing properties are in areas with higher percent of poverty, the total number of units suggests that there are not enough units to serve the population in need**



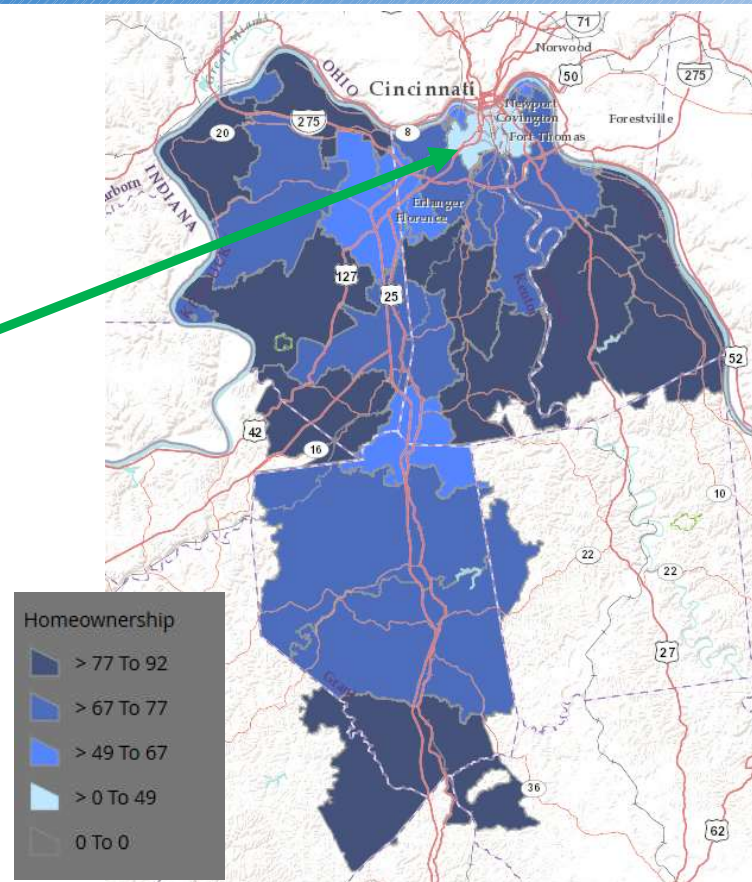
NKY HOMEOWNERSHIP

Homeownership refers to households that are occupied by their owners. Homeownership helps prevent displacement of individuals from their communities and promotes social support systems

In NKY, 69% of housing is owner occupied

Areas with significantly low % of homeownership:

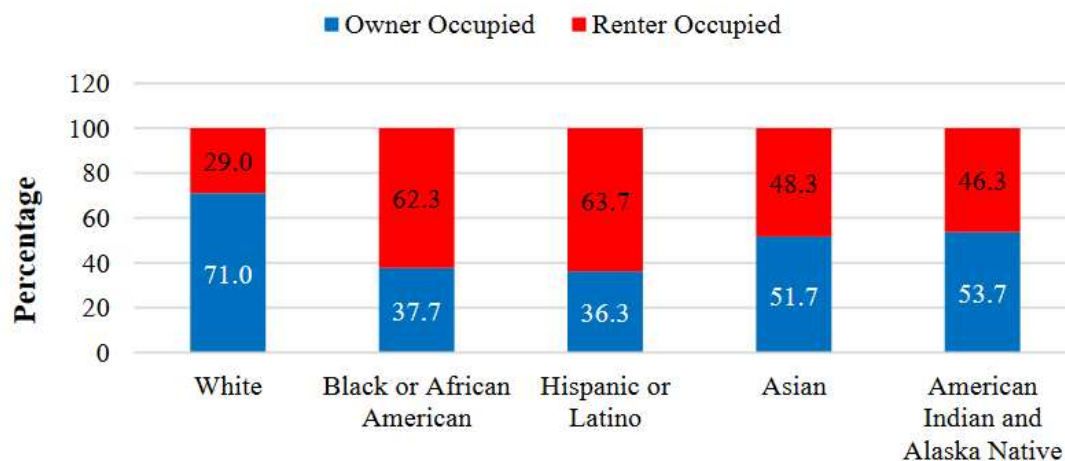
- Zip code 41071 (Newport).....**49%**
- Zip code 41011 (Covington).....**43%**
- Zip code 41014 (Covington).....**42%**



KENTUCKY HOMEOWNERSHIP BY RACE & ETHNICITY

Research shows that homeownership, when compared to renting, has a positive impact on life satisfaction as well as the cognitive and behavioral outcomes of children.

Homeownership & Renter-Occupied Homes in Kentucky, by Race and Ethnicity, 2011-2015



Over 60% of Black and Hispanic residents in Kentucky rent their homes

Sources: Kentucky Minority Health Status Report 2017; Kentucky Behavioral Risk Factor Surveillance System, 2011-2016.
Rohe, William M., and Michael A. Stegman. "The effects of homeownership: On the self-esteem, perceived control and life satisfaction of low-income people." *Journal of the American Planning Association* 60.2 (1994): 173-184.
Haurin, Donald R., Toby L. Parcel, and Ruth J. Haurin. "The impact of home ownership on child outcomes." Available at SSRN 218969 (2000).

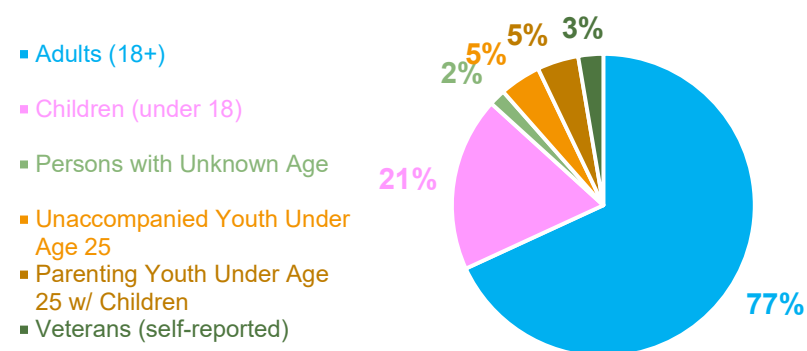
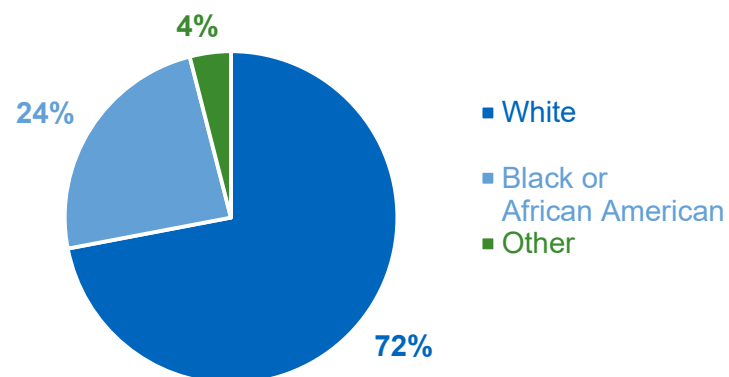
NKY HOMELESSNESS BY AGE AND RACE



1,530 individuals

Experienced unsheltered homelessness in Northern Kentucky between July 2018 and June 2019

829 households



HOMELESSNESS: NKY VS. KENTUCKY

Demographics and total number of identified individuals

Characteristics	Northern Kentucky		Kentucky (total)	
	Count (#)	Percent (%)	Count (#)	Percent (%)
<u>Sex</u>				
Female	211	32.2%	1,490	35.8%
Male	445	67.8%	2,672	64.2%
<u>Race</u>				
Black	60	9.1%	596	14.3%
White	585	89.2%	3,526	84.7%
Neither Black nor White ^{1,2}	11	1.7%	40	1.0%
<u>Age</u>				
0 – 17 years	-	-	71	1.7%
18 – 35 years [*]	236 [*]	36.0% [*]	1,356	32.6%
36 – 44 years	155	23.6%	942	22.6%
45 – 64 years	234	35.7%	1,594	38.3%
65+ years	31	4.7%	199	4.8%
<u>Primary Health Insurance</u>				
Medicaid ^{1,3}	457	69.7%	2,805	67.4%
Medicare ^{1,4}	119	18.1%	780	18.7%
Commercial	30	4.6%	325	7.8%
Other ^{1,5}	49	7.6%	252	6.1%
Total	656	100%	4,162	100%

^{*}In the Northern Kentucky sample, the 0-17 group is suppressed. Therefore, for Northern Kentucky, please interpret this category as "0-35 years old".

^{1,1}Individuals identified by OHDA to meet criteria as experiencing homelessness during their episode of hospital care.

^{1,2}Includes individual identified as "American Indian or Alaska Native"; "Asian"; "Native Hawaiian or Pacific Islander"; and "Other".

^{1,3}Includes the sum of fee for service Medicaid plans and managed care organization Medicaid plans.

^{1,4}Includes Medicare Advantage plans.

^{1,5}Includes designations of "Other"; "Self-Pay"; "Charity"; and "Pending".

Note: The number of individuals identified as "Ethnicity = Hispanic" was sufficiently small that it could not be independently identified in this table. Therefore, racial demographics presented in this table include the sum of Hispanic and non-Hispanic individuals.

HOMELESSNESS: NKY VS. KENTUCKY

Most common diagnoses among patients experiencing homelessness

Rank (KY)	MS-DRG ^{2,1}	Diagnosis (Abbreviated)	Count of Discharges (KY)	Count of Discharges (NKY)	Rank (NKY)
1.	885	Psychoses	3,552	433	#2
2.	897	Alcohol/Drug Abuse or Dependence	2,130	495	#1
3.	871	Septicemia (<i>without mechanical ventilation > 96 hours, with major comorbidities / complications</i>)	346	26	#5
4.	881	Depressive Neuroses	292	12	#12 (tie)
5.	894	Alcohol/Drug Abuse or Dependence (<i>left against medical advice</i>)	237	32	#3
6.	638	Diabetes (<i>with comorbidities / complications</i>)	201	25	#6
7.	291	Heart Failure & Shock (<i>with comorbidities / complications</i>)	156	12	#12 (tie)
8.	603	Cellulitis	154	27	#4
9.	918	Poisoning & Toxic Effects of Drugs	149	25	#7
10.	872	Septicemia (<i>without mechanical ventilation > 96 hours, without major comorbidities / complications</i>)	144	9	#27

^{2,1}Medicare-Severity Diagnostic Related Group

PATIENTS EXPERIENCING HOMELESSNESS

Facilities treating greatest volume of Northern Kentuckians experiencing homelessness

Rank	Facility	Individuals	Hospitalizations
1.	Northern Kentucky Behavioral, LLC dba SUN Behavioral Health	422	795
2.	St. Elizabeth - Edgewood	194	284
3.	St. Elizabeth – Florence	95	143
4.	St. Elizabeth – Fort Thomas	82	133
5.	Our Lady of Peace	19	44

Note: Based on the number of individuals who were: (1) identified by the homelessness indicator, and; (2) identified as experiencing at least one admission to SUN Behavioral Health, it can be estimated that approximately 64% of all patients experiencing homelessness were a patient of SUN Behavioral Health at least once in 2019.

KEY FINDINGS: IMPACT OF NKY'S SOCIAL DETERMINANTS OF HEALTH

Median Household Income	<ul style="list-style-type: none"> On average, income of Black Kentuckians is 1.5 times less than that of White Kentuckians On average, income of Hispanic or Latino Kentuckians is 1.2 times less than White Kentuckians NKY areas significantly below local median household income similar to 7 identified NKY regions with vulnerable populations 	High School Graduation	<ul style="list-style-type: none"> Hispanic Northern Kentuckians 3.9 times less likely to have a high school education Black Northern Kentuckians 1.4 times less likely to have a high school education Native American Northern Kentuckians 2.2 times less likely to have a high school education
Child Poverty	<ul style="list-style-type: none"> 3.3 times worse for Hispanic Northern Kentuckians 3.6 times worse for Black Northern Kentuckians 2.2 times worse for mixed race Northern Kentuckians 	Food Deserts	<ul style="list-style-type: none"> Northern Kentuckians are 1.8 times more likely to be living in a food desert tract than other Kentuckians Northern Kentuckians are 1.3 times more likely to be living in a food desert tract than the rest of United States population 17,380 (12%) households receive SNAP benefits 52% of households in poverty receive SNAP benefits
Adult Poverty	<ul style="list-style-type: none"> 3.1 times worse for Hispanic Northern Kentuckians 3.2 times worse for Black Northern Kentuckians 2.2 times worse for mixed race Northern Kentuckians 44% of NKYians below 100% FPL live in Kenton County NKY areas with higher poverty similar to 7 identified NKY regions with vulnerable populations 	Housing	<ul style="list-style-type: none"> 24% of NKY households have housing costs that exceed 30% of total household income (i.e., cost burden) Over 60% of Black and Hispanic residents in Kentucky rent their homes 24% of NKYians experiencing unsheltered homelessness are Black

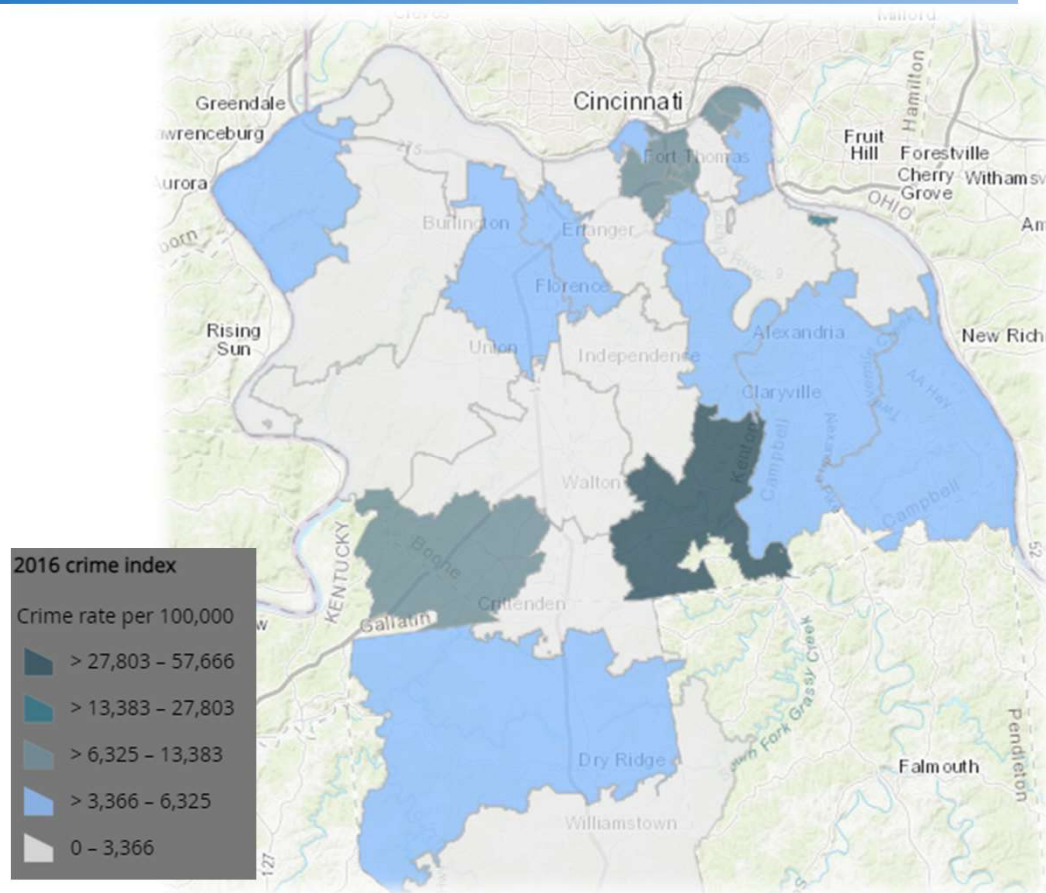
THE WHERE –

LIVING SPACES & PLACES

SAFE NEIGHBORHOODS

Crime index is a rate of total crime reports per 100,000 population.

Kentucky's crime index for 2016 was 6,325 crimes per 100,000 population. In comparison, NKY Health District's crime index was 4,954 for the same year.

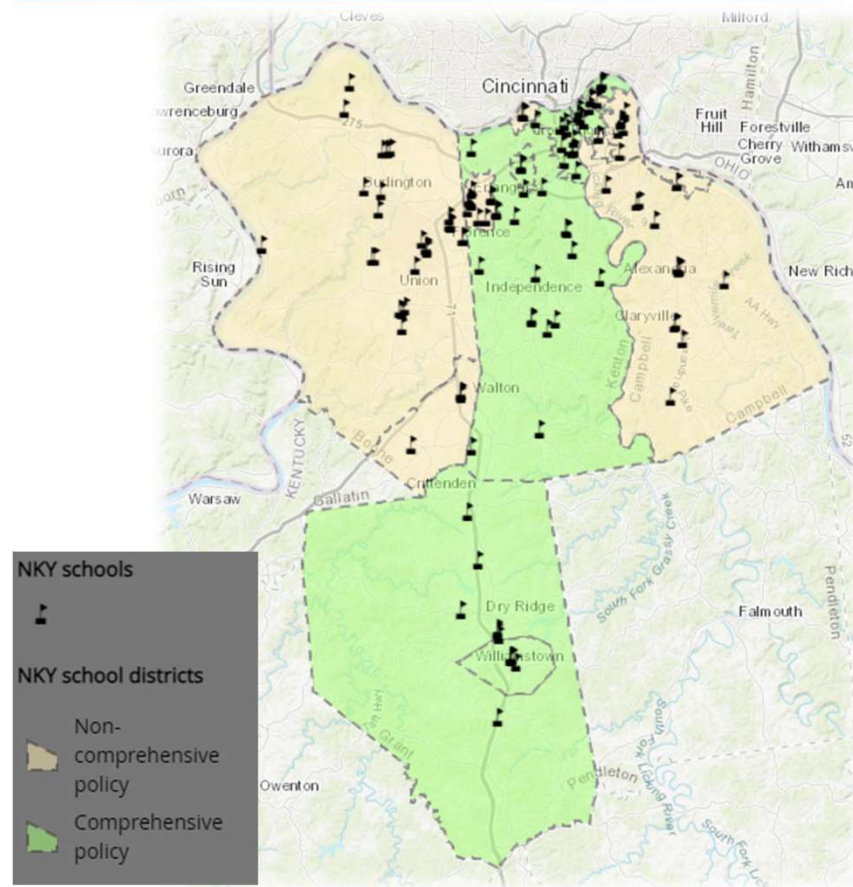


100% TOBACCO FREE SCHOOLS

16 public school districts, totaling 123 public schools

- **44% of school districts (or 43% of schools) are 100% tobacco free**
- **Remaining school districts all have a tobacco use policy, but not comprehensive enough to achieve 100% tobacco free status**

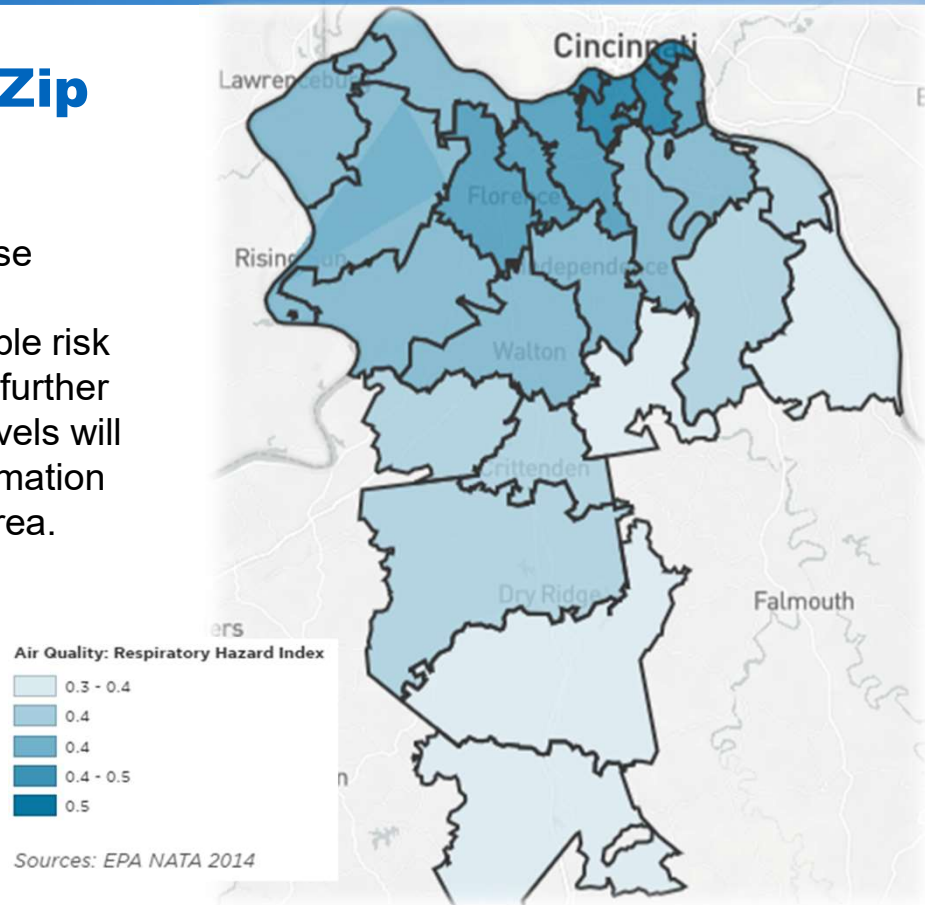
To be considered a 100% Tobacco Free School district, the policy must prohibit tobacco use, including vapor products and alternative nicotine products, by staff, students and visitors twenty-four hours a day, seven days a week, inside Board-owned buildings or vehicles, on school-owned property, and during school-sponsored student trips and activities.



AIR QUALITY

Respiratory Hazard Index by Zip Codes

Shows the risks for air toxins associated with adverse health effects in an area. Respiratory Hazard Index numbers at or below 1 represent a normal, acceptable risk over a lifetime, while an Index of 1 or above means further monitoring is needed to determine if the pollutant levels will cause non-cancer adverse health effects. This information is useful for assessing the overall air quality of an area.



KEY TAKEAWAYS FROM NKY EQUITY LANDSCAPE

Vulnerable populations identified based on demographics, SDOH, and health outcomes:

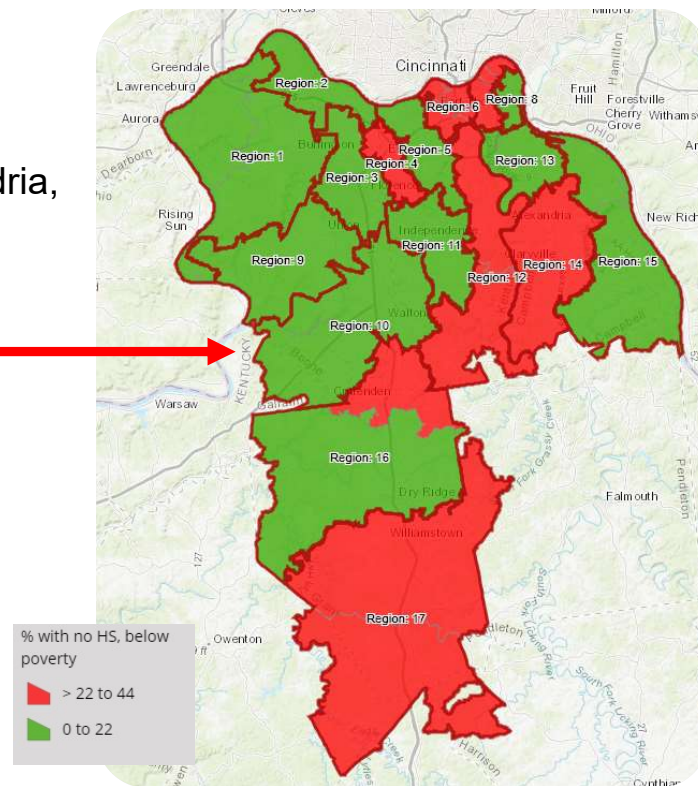
- Urban: Covington, Ludlow, Newport, Bellevue, Dayton, Alexandria, Erlanger, Elsmere, Taylor Mill, Morning View
- Rural: Crittenden, Williamstown, Corinth
- Follows a “T-bone” pattern

SDOH Inequities:

- Insurance coverage, home ownership and homelessness, food insecurity, transportation, education levels

Health Inequities:

- Infant mortality, cancer care (smoking), mental health



“See” you on Tuesday, September 7th to collectively address these top priorities for our region:

- 1. Affordable Housing/Homelessness**
- 2. Food Security**
- 3. Transportation**



[Click here](#) to pre-register for this meeting!

SPEAKERS

Keynote: John D. Halamka, M.D., M.S., President, Mayo Clinic Platform

Moderators:

- **Affordable Housing/Homelessness:** Joe Klare, Vice President, Real Estate Finance and Investments, Catalytic Fund
- **Food Security:** Jenifer Moore, Corporate Affairs Manager, Kroger Cincinnati/Dayton Division
- **Transportation:** Lisa Cooper, Executive Director, Northern Ky Area Development District (NKADD)

Panel Members:

Affordable

Housing/Homelessness:

- David Hastings, Executive Director, Housing Opportunities of NKY (HONK)
- Danielle Amrine, Chief Executive Officer, Welcome House
- Kim Webb, Executive Director, Emergency Shelter of NKY

Food Security:

- Maria Meyer, Director, Parish Kitchen
- Michaela Oldfield, Executive Director, Greater Cincinnati Regional Food Policy Council
- Roger Babik, President, Master Provisions

Transportation:

- Andrew Aiello, General Manager, Transit Authority of Northern Ky (TANK)
- Greg Rose, Operations Manager, American Medical Response (AMR)
- Wendie Morgan-Parrott, Director System Care Coordination, St. Elizabeth Healthcare

**SAVE
THE
DATE**

OneNKYTM

Summit Series

presented by OneNKY Alliance

October 27, 2021

3 p.m. – 7 p.m.
Northern Kentucky
University

Owning our voice through OneNKY

Join us as we present new initiatives
and identify transformative ways to
move our community forward.

Supporting Sessions will feature discussions around
proposed solutions to our largest challenges in:

GROWTH

August 31, 2021

Northern Kentucky Tri-ED in partnership with Catalytic Fund,
NKY Chamber and Southbank Partners

HEALTH

September 7, 2021

St. Elizabeth in partnership with HealthPoint and
NKY Health Department

EDUCATION

September 14, 2021

Northern Kentucky University and Education Partners

Location of the supporting sessions will be available upon registration.

DEI considerations guided by Horizon Fund and Greater Cincinnati Foundation

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