



The Story of Cancer in the Commonwealth:

2021 Kentucky Cancer Needs Assessment



Speaker Disclosures

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No financial relationships or conflicts to disclose.

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KY CNA Objectives

1. Compare the burden of cancer in Kentucky versus the U.S. and identify health disparities.
2. Examine how social determinants of health influence the burden of cancer and cancer disparities in Kentucky.
3. Identify data gaps and action opportunities for cancer risk reduction, screening, and survivorship.
4. Provide actionable information to guide Kentucky's new statewide Cancer Action Plan and the strategic plans of stakeholder organizations across Kentucky.

KY Cancer Needs Assessment (CNA)

Cancer Needs Assessment:

Analyze Existing Data

- Cancer incidence and mortality
- Screening and risk behaviors
- SDOH and health disparities

Gather Stakeholder Input

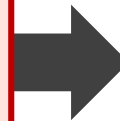
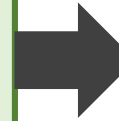
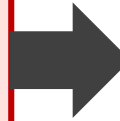
- CNA Steering Committee, KCC members, DCC members
- Focus groups: Community members

Review Resources and Assets

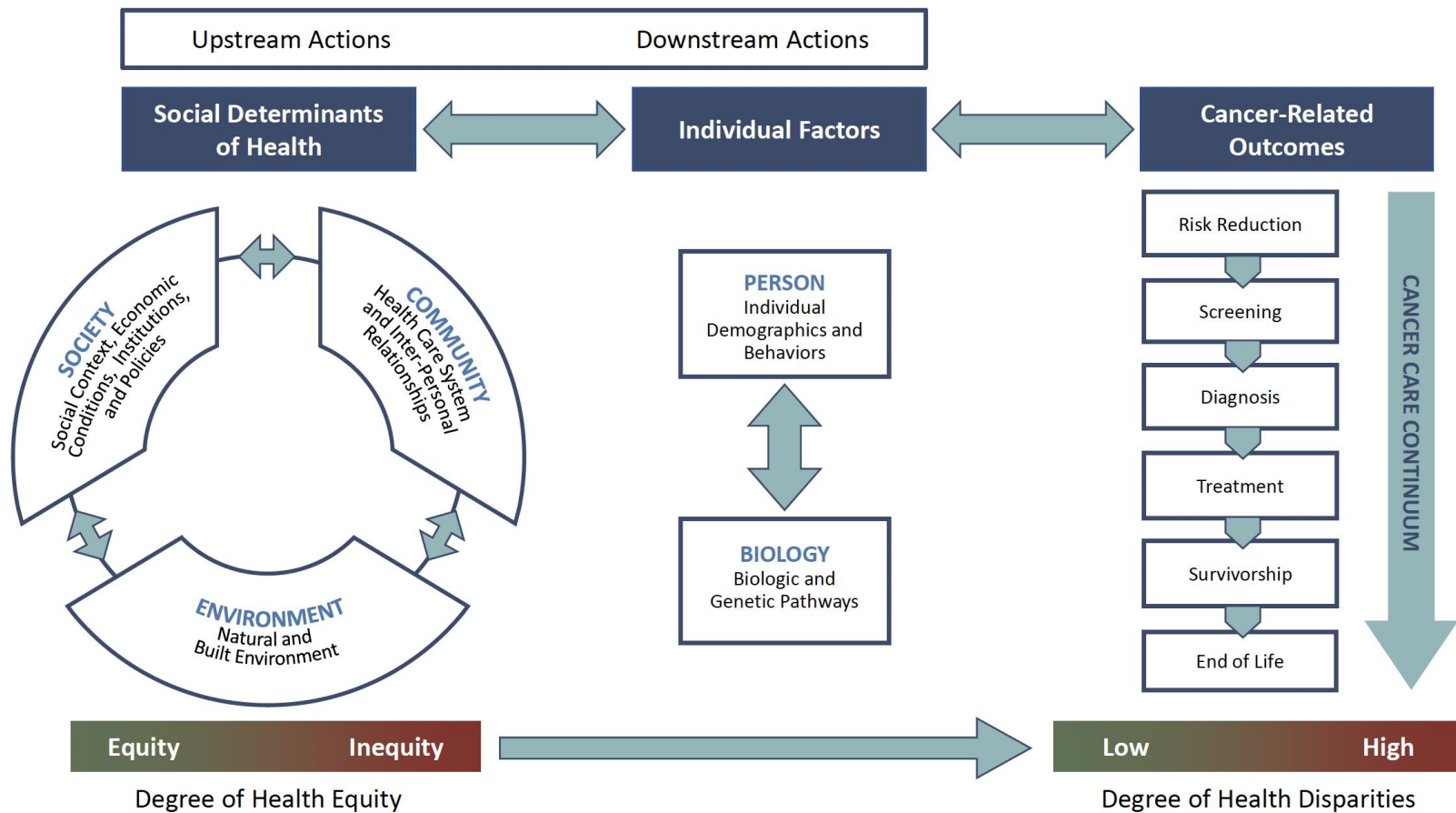
**New KY Cancer
Action Plan
for 2022-2027**

**State Health
Improvement
Plan (KDPH)**

**Inform
strategic plans
for many
organizations
and programs**



Conceptual Framework



Multilevel Determinants of Cancer-Related Outcomes Across the Cancer Care Continuum

Your Input during Today's Presentation

Throughout the presentation, please think about:

1. **SURPRISES** and new insights from the data
2. **GAPS** in data for future attention
3. **ACTION** opportunities suggested by the data

Make notes to share out loud during discussion, or share your ideas in the chat box in this format to label the type of idea:

SURPRISE: Type your idea

GAPS: Type your idea

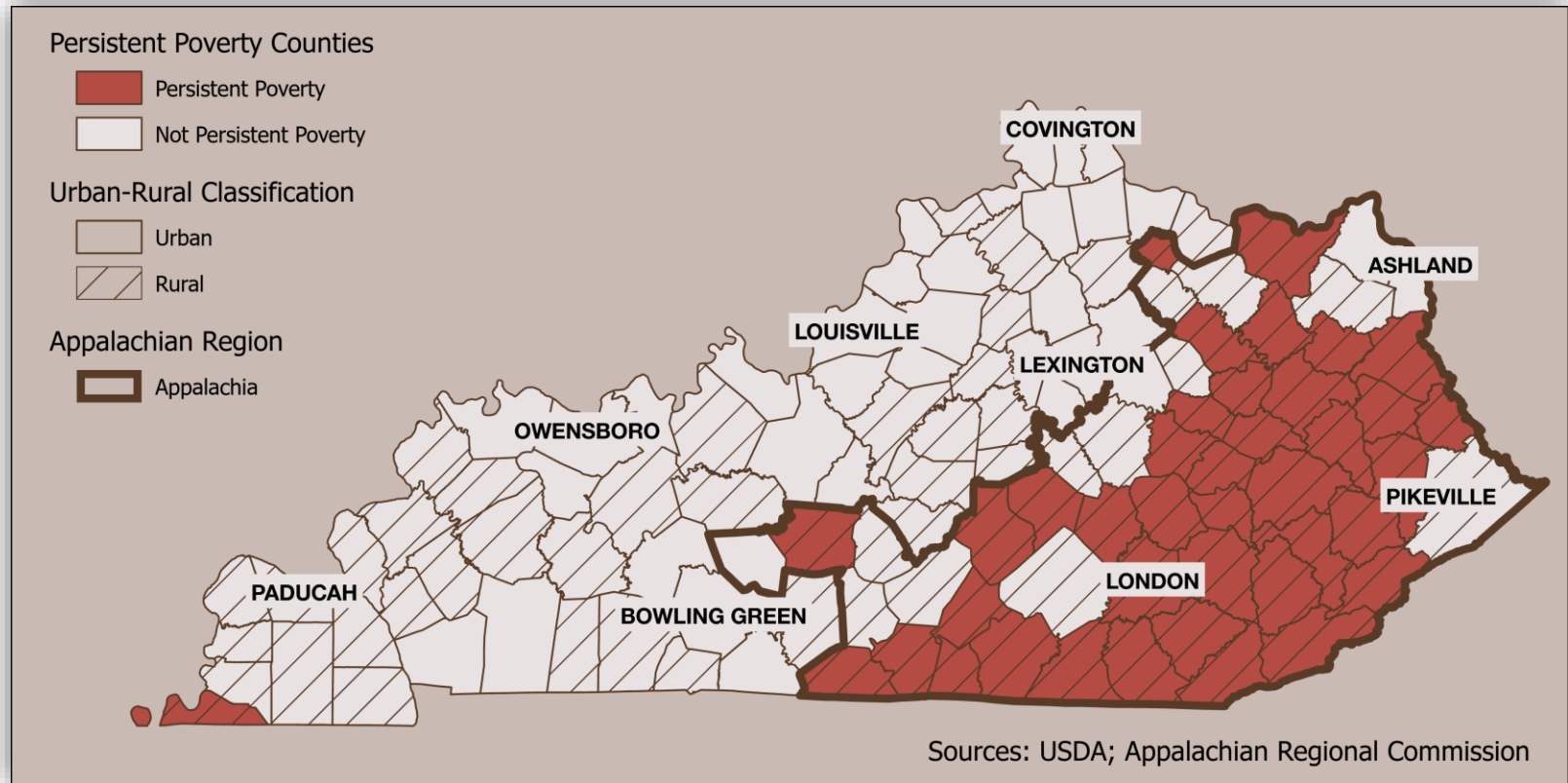
ACTION: Type your idea



Social Determinants of Health in Kentucky



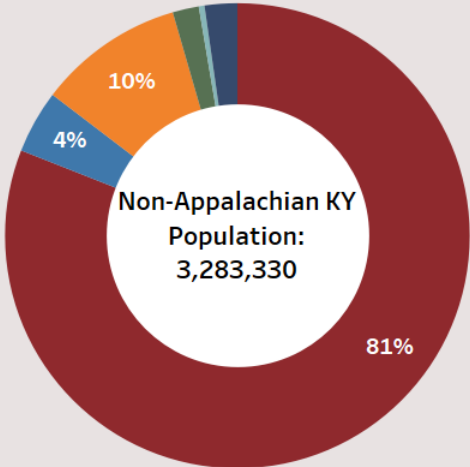
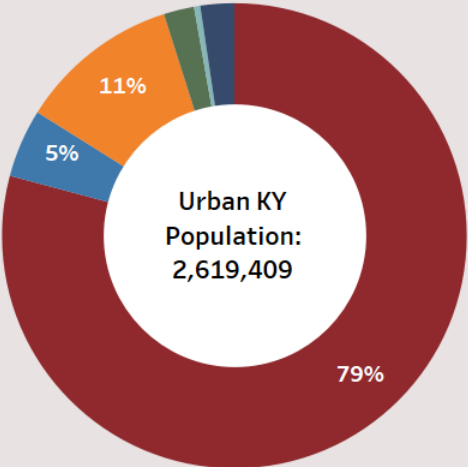
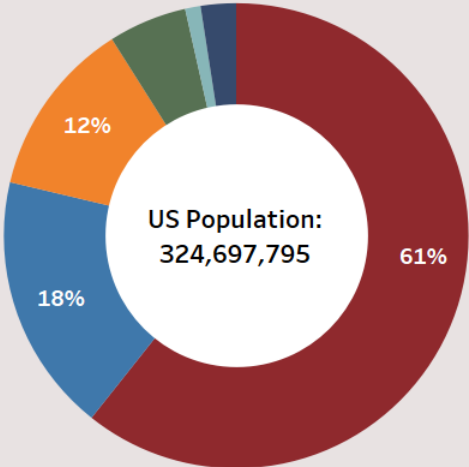
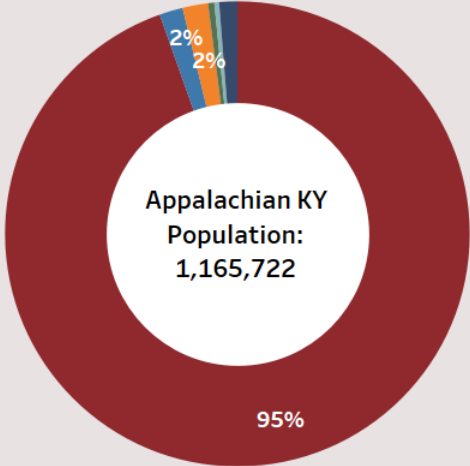
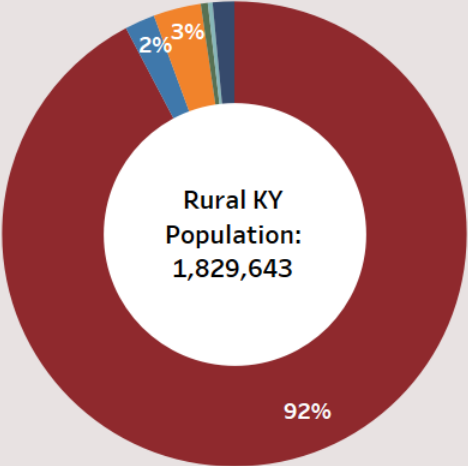
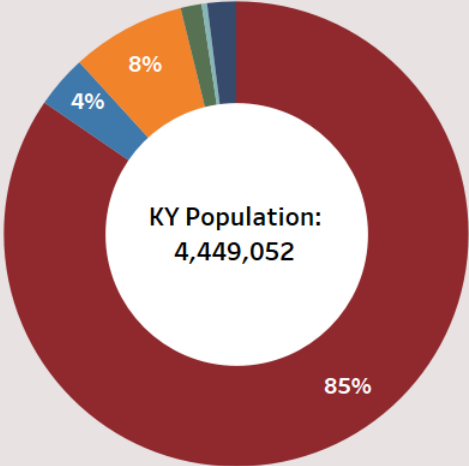
Geography and Persistent Poverty



Persistent Poverty: Counties in which 20 percent or more of their populations were living in poverty based on the 1980, 1990, and 2000 decennial censuses and 2007-11 estimates

Demographic Characteristics

Kentucky Demographic Profile



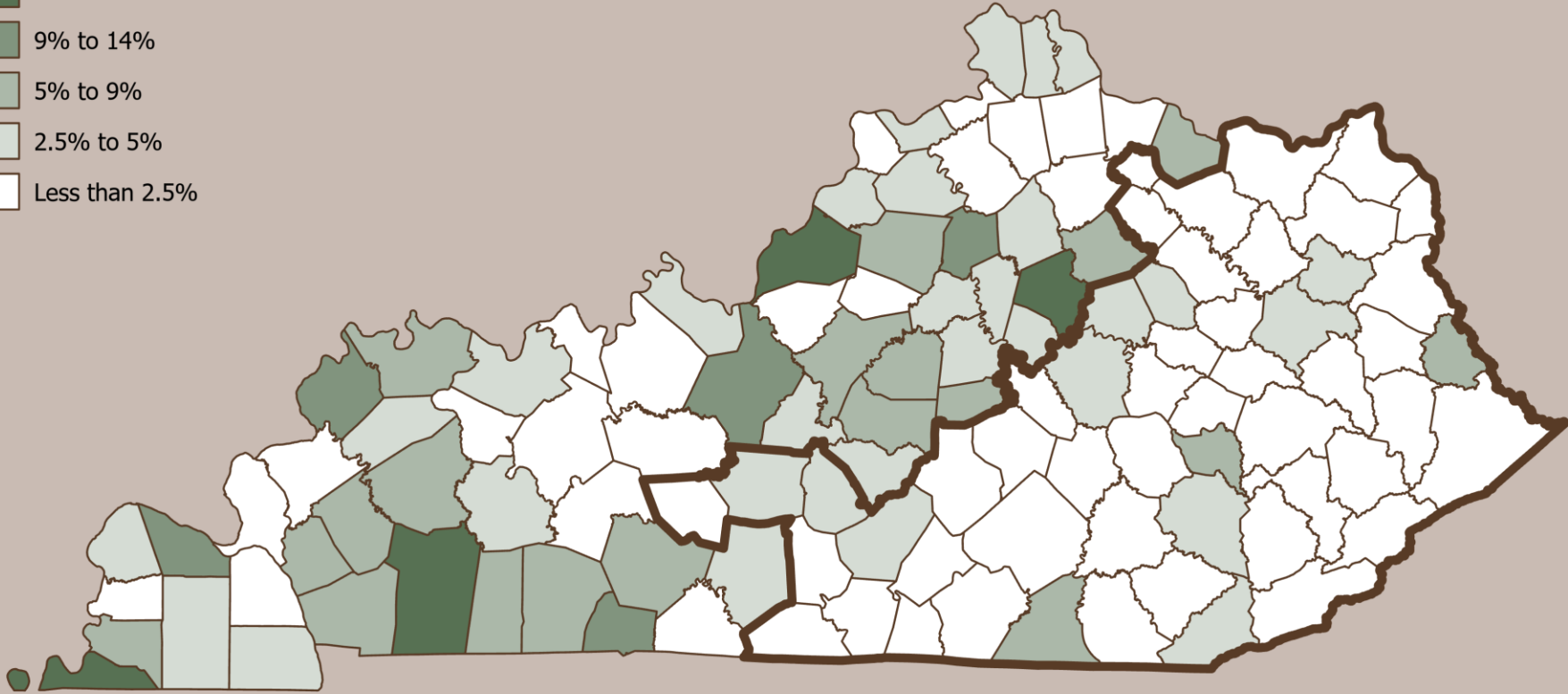
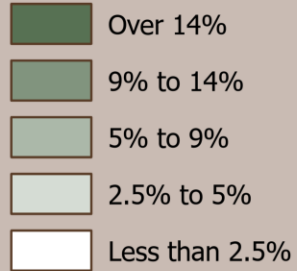
Other Populations		
	US	KY
Female	51%	51%
Under 18	23%	23%
Age 65+	16%	16%
Foreign Born	14%	4%

Race/Ethnicity	
White NH	
Hispanic	
Black NH	
Asian NH	
Other NH	
2+ Races NH	

Source:
American Community
Survey, 2015-19

Black Population Distribution in KY

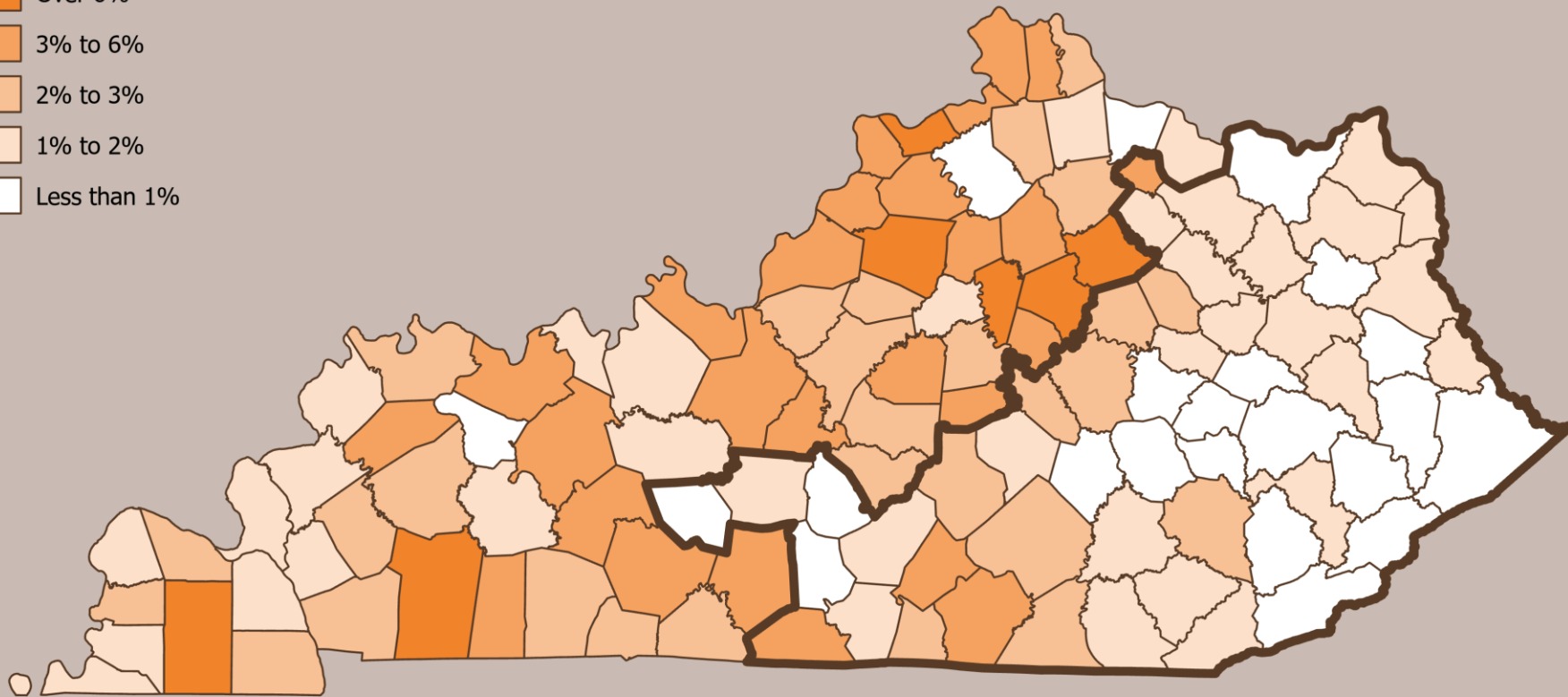
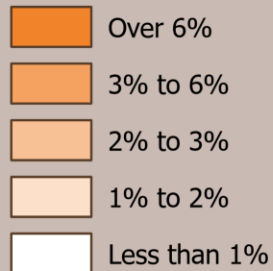
Black Population as % of Total Population



Source: ACS 5-year Summary, 2015-2019

Hispanic Population Distribution in KY

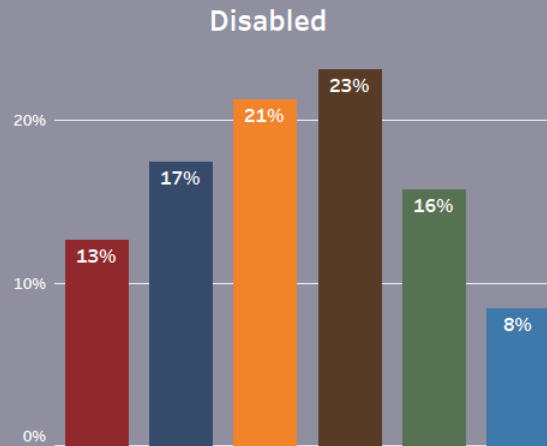
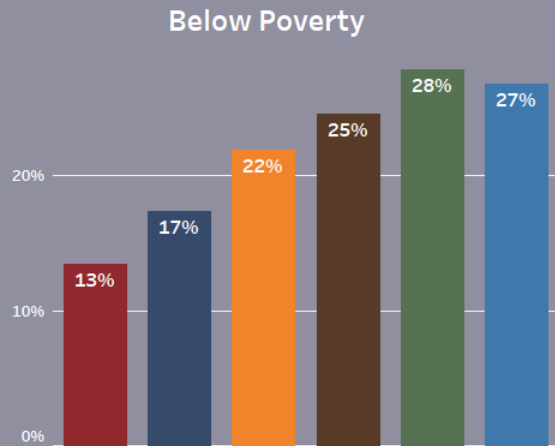
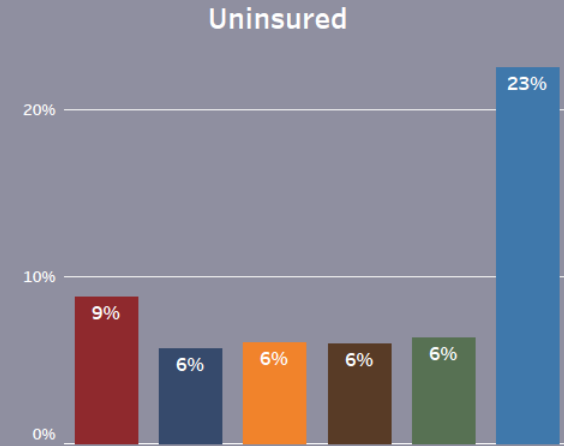
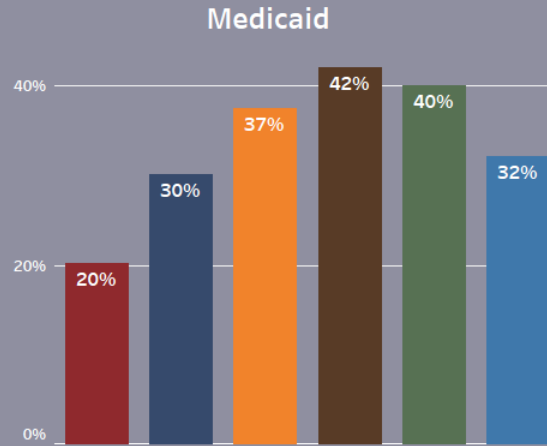
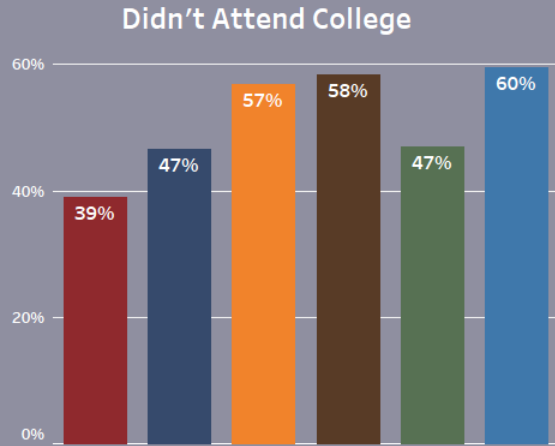
Hispanic Population as % of Total Population



Source: ACS 5-year Summary, 2015-2019

Social Determinants of Health

Selected Social Determinants of Health Indicators



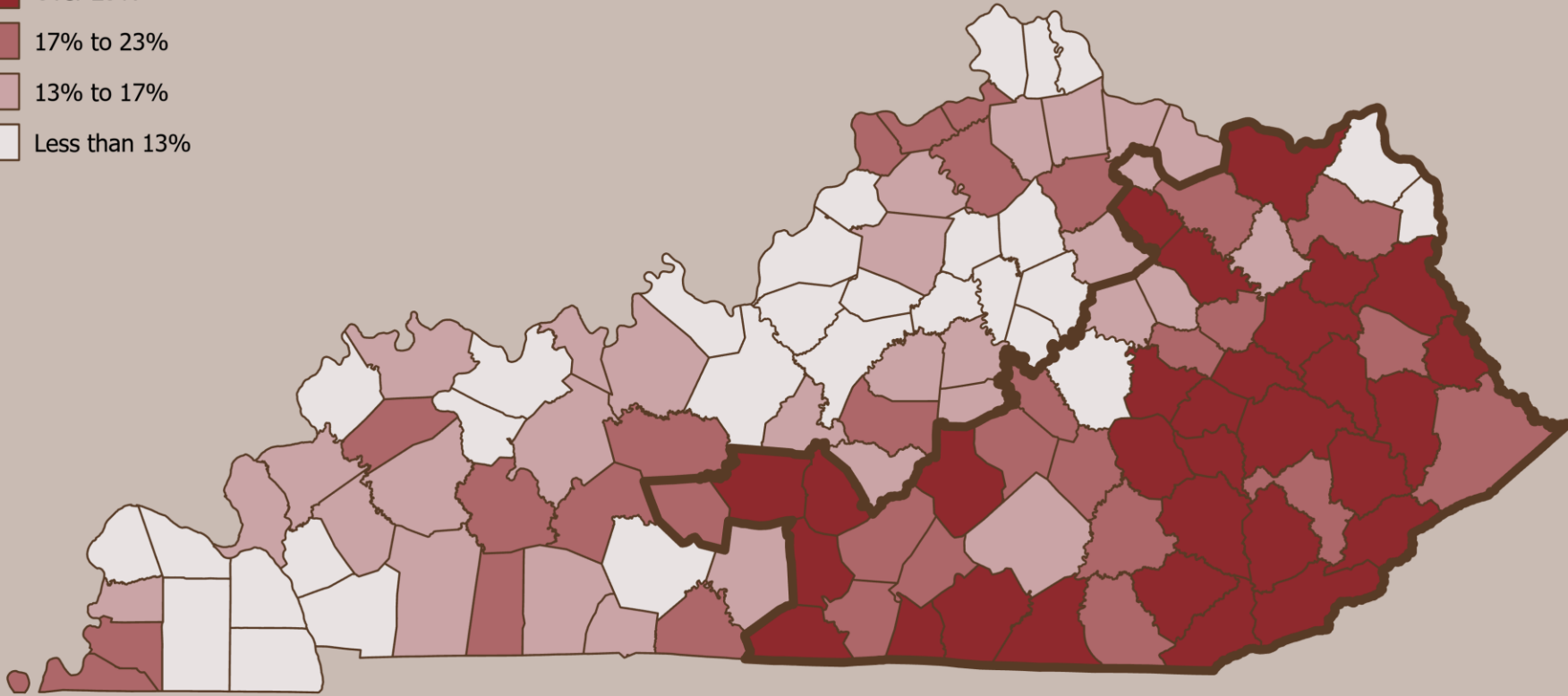
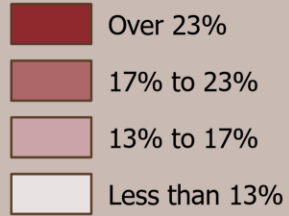
Population

- United States
- Kentucky
- Rural KY
- Appl KY
- Black KY
- Hispanic KY

Sources:
American Community Survey, 2015-19;
except for Medicaid data for Kentucky, Rural KY and
Appl KY (KY Dept for Medicaid Services, 2019) and
Black and Hispanic KY (Kaiser Family Foundation, 2019)

Social Determinants of Health: Education

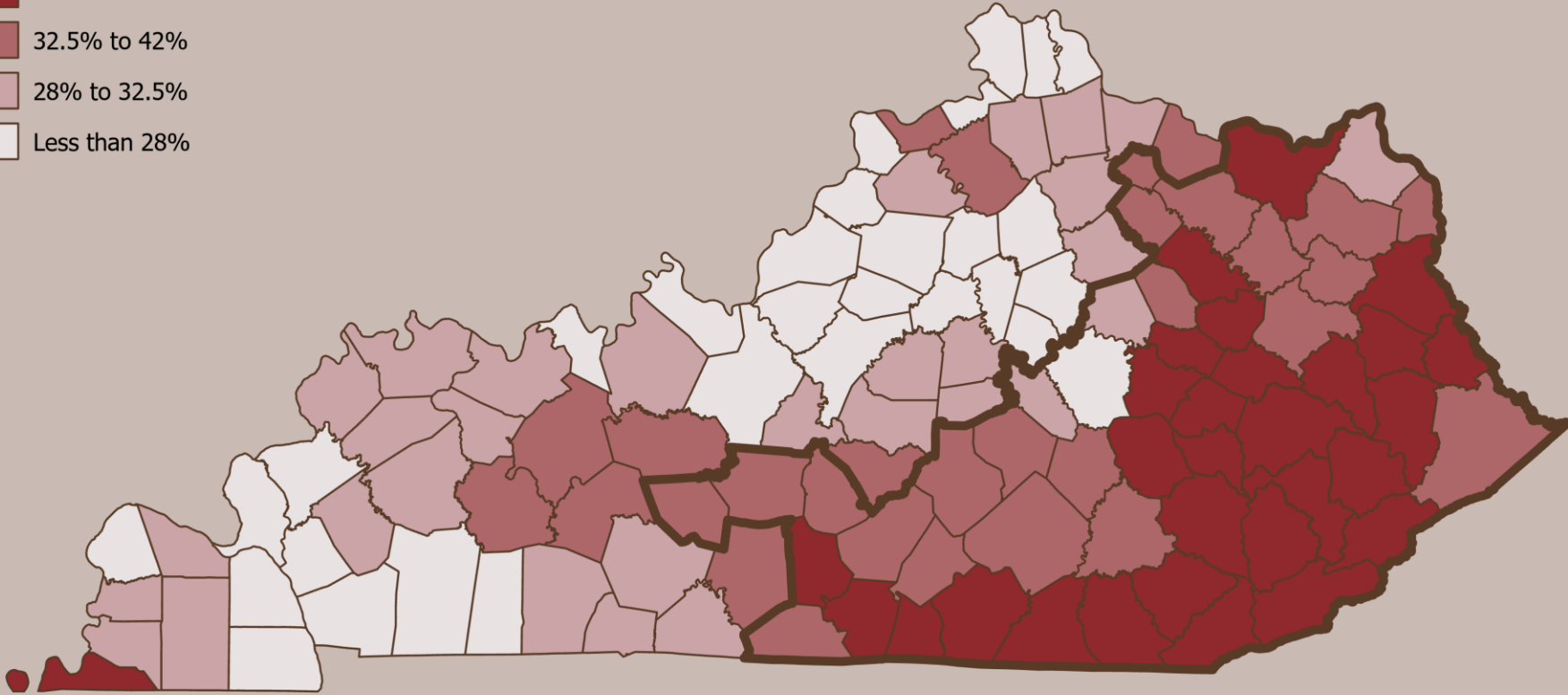
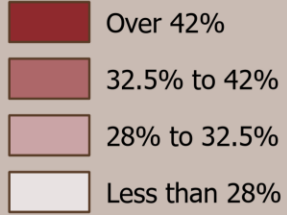
% Did Not Graduate High School (25 or older)



Source: ACS 5-year Summary, 2015-2019

Social Determinants of Health: Medicaid

Population % Enrolled in Medicaid (2019 average)



Source: KY Dept. for Medicaid Services

Focus Groups: Health Insurance

- "Now that the **ACA has taken effect**... those used to be through Medicaid or a sliding scale place, and now **most people have insurance can go kind of anywhere.**"
- "Right, so well, I think, **even people that have insurance the deductibles are so high on a lot of them** that there are people that will not do. I mean there's a few things on this list that are now **because of the ACA you can get screened once a year**, and you **don't have to pay** for it."

Food Access in Kentucky

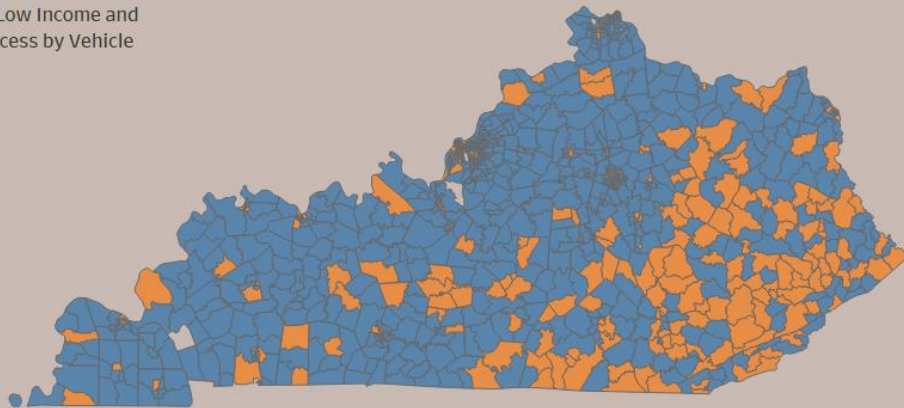
Food Access and Health in Kentucky

Food Deserts (USDA, 2019)

Tracts with Low Income and
Low Food Access by Vehicle

Yes

No



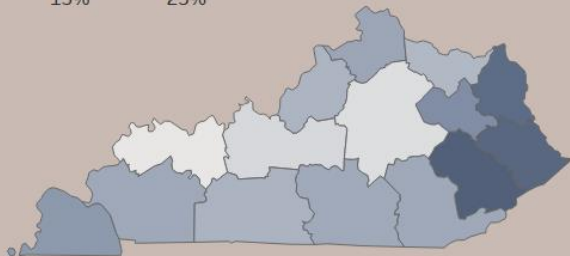
Low income tract: 20% of households below the poverty line, or the median family income is less than 80% of the state median family income.

Low food access by vehicle tract: at least 100 households with no vehicle and > 0.5 miles from the nearest supermarket, or 500 residents (or 33% of residents, whichever is smaller) living > 20 miles from the nearest supermarket.

Highlighted tracts satisfy both conditions above.

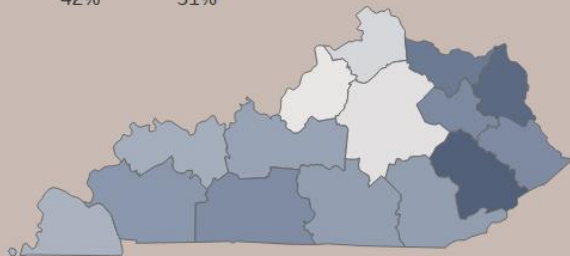
No Vegetable Intake (KyBRFS, 2017 & 2019)

15% 25%



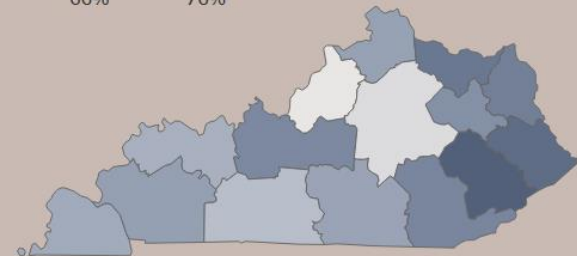
No Fruit Intake (KyBRFS, 2017 & 2019)

42% 51%



Unhealthy Weight (KyBRFS, 2016-19)

66% 76%



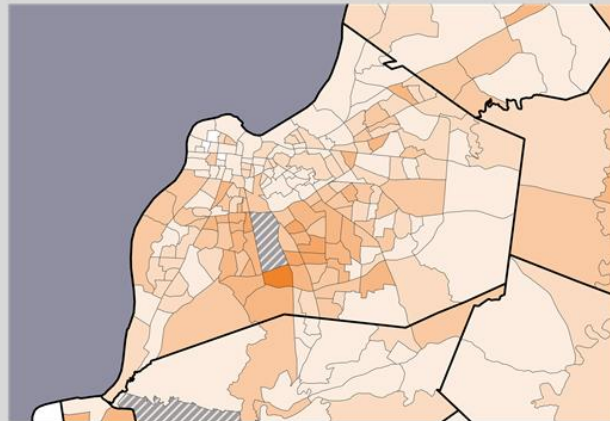
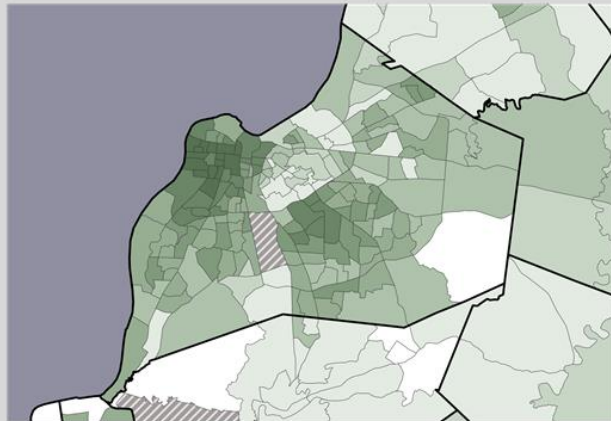
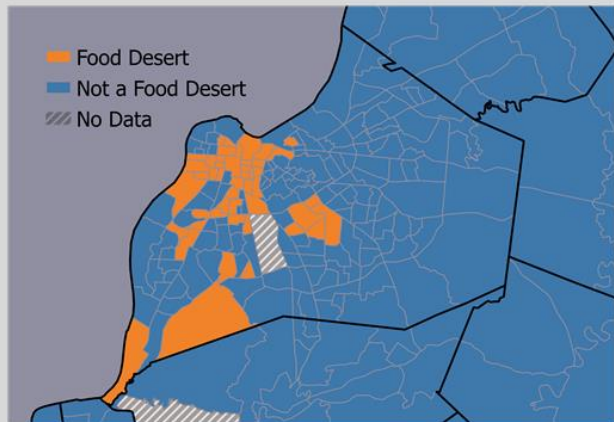
Food Access in Louisville and Lexington

Food Deserts and Minority Populations (USDA, 2019; ACS, 2015-19)

Jefferson County

46.5% of KY Black Population

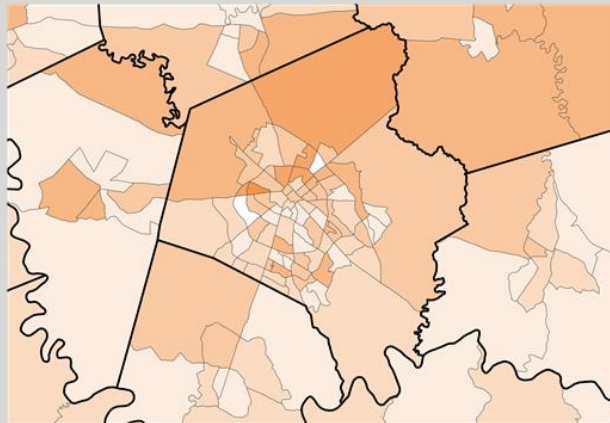
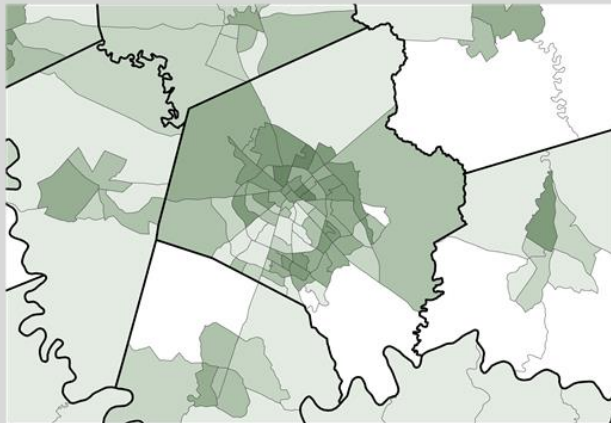
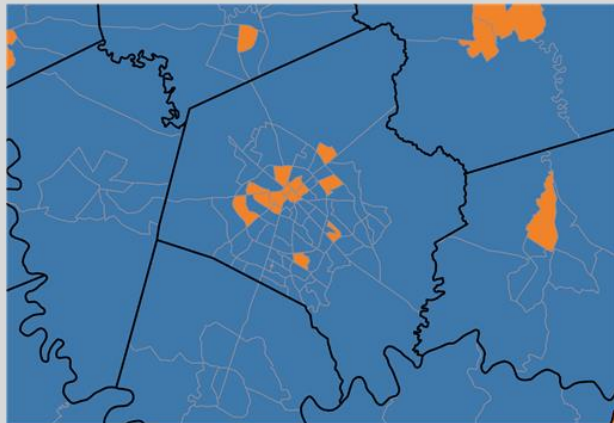
25.6% of KY Hispanic Population



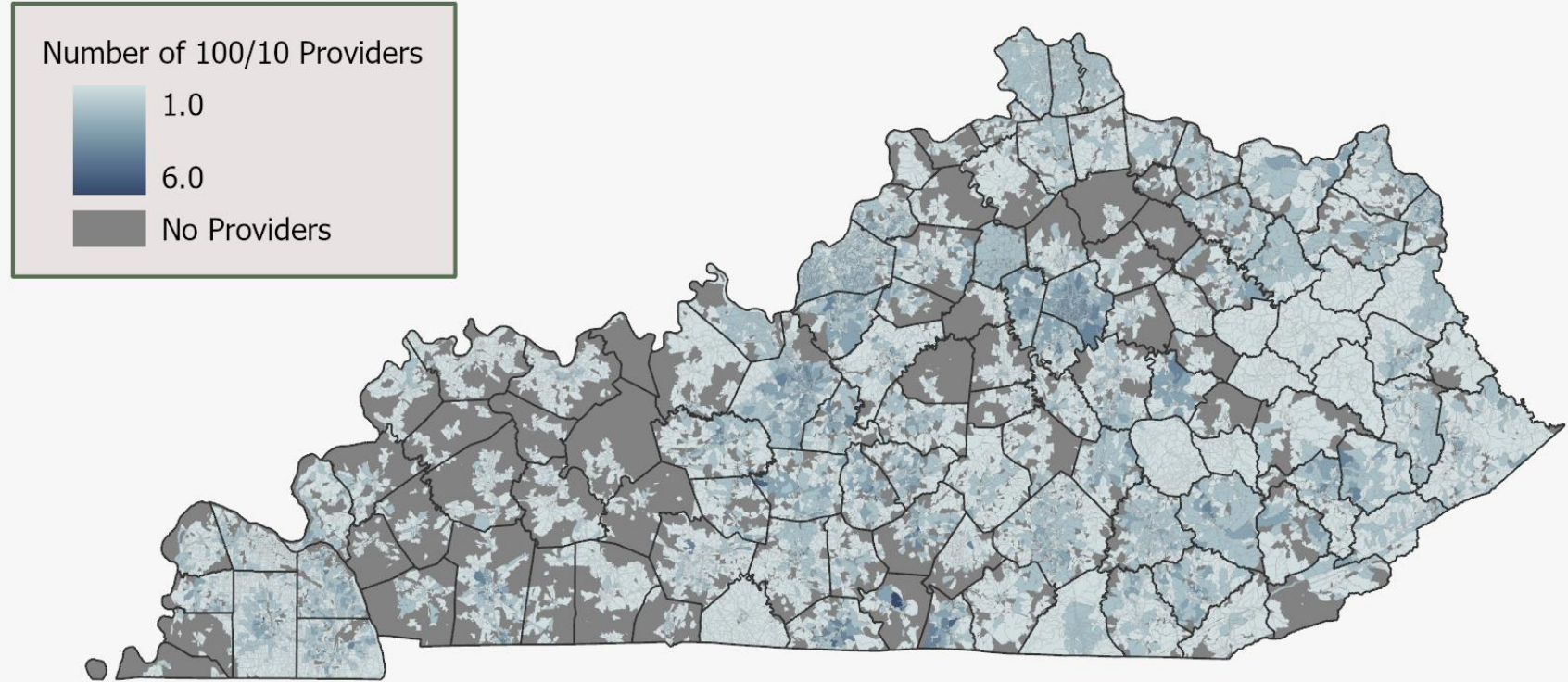
Fayette County

13.1% of KY Black Population

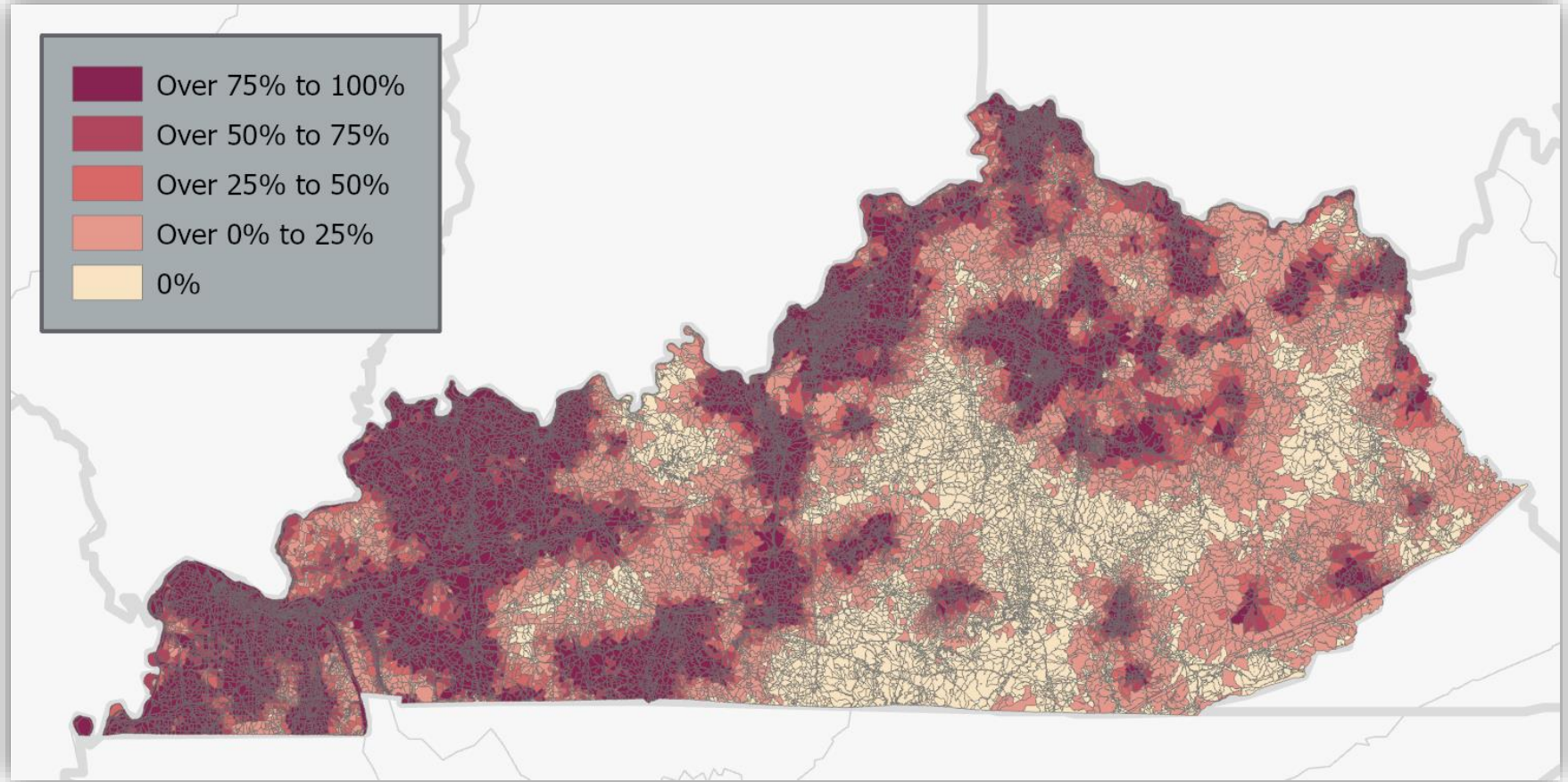
14.1% of KY Hispanic Population









Map of High-Speed Internet Coverage (min. 100/10)









Map of 5G Coverage by Census Block



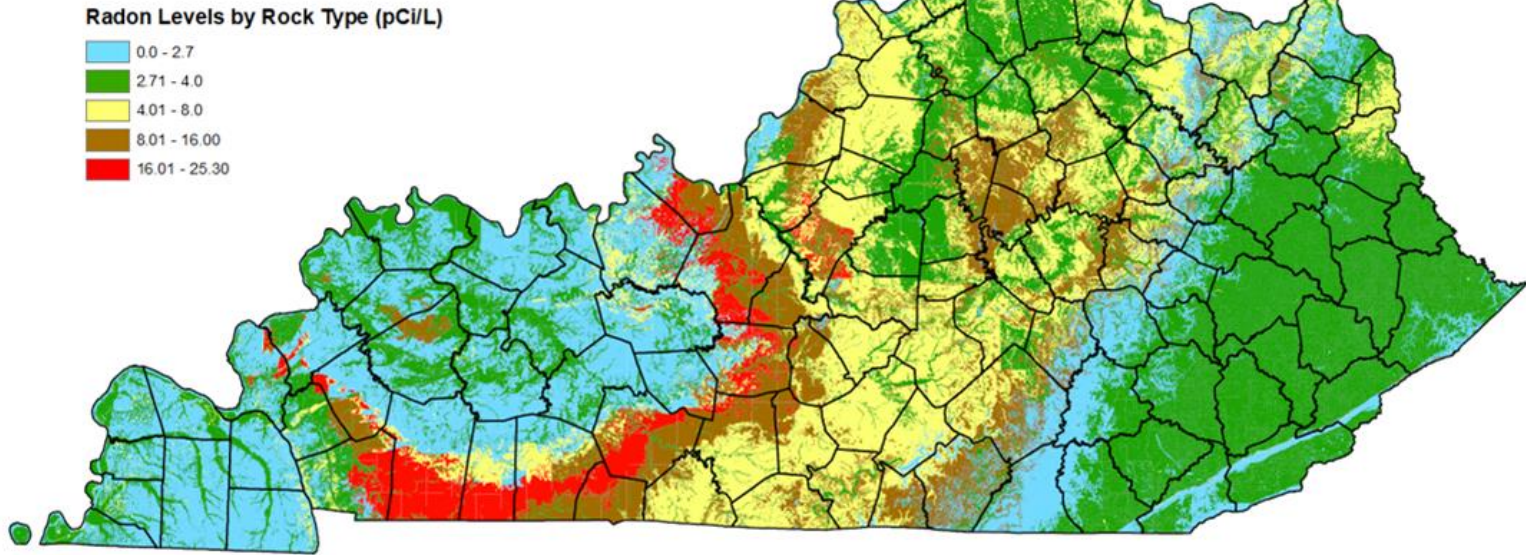
Cancer-related Environmental Contaminants

Contaminant	Cancers associated with exposure
 Arsenic	<ul style="list-style-type: none"> Bladder cancer Skin cancer Lung cancer Liver cancer Kidney cancer Digestive tract cancer
 Asbestos	<ul style="list-style-type: none"> Mesothelioma Lung cancer Cancer of the Larynx Ovary cancer
 Benzene	<ul style="list-style-type: none"> Leukemia and other blood disorders
 Dioxins	<ul style="list-style-type: none"> Non-Hodgkin lymphoma
 Formaldehyde	<ul style="list-style-type: none"> Myeloid leukemia Cancer of the paranasal sinuses, nasal cavity, and nasopharynx
 Herbicides	<ul style="list-style-type: none"> Non-Hodgkin lymphoma Soft-tissue sarcomas

Contaminant	Cancers associated with exposure
 Lead	<ul style="list-style-type: none"> Lung cancer Stomach cancer Urinary-bladder cancer
 Pesticides	<ul style="list-style-type: none"> Brain cancer Prostate cancer Kidney cancer Leukemia Non-Hodgkin lymphoma
 PFAS	<ul style="list-style-type: none"> Kidney cancer Testicular cancer
 Radon	<ul style="list-style-type: none"> Lung cancer
 Tobacco Smoke	<ul style="list-style-type: none"> Lung cancer Breast cancer Leukemia Lymphoma Brain tumors Nasal sinus cavity cancer Nasopharyngeal cancer Bladder cancer
 Diesel Exhaust	<ul style="list-style-type: none"> Lung cancer

Map of Geological Radon Potential in Kentucky

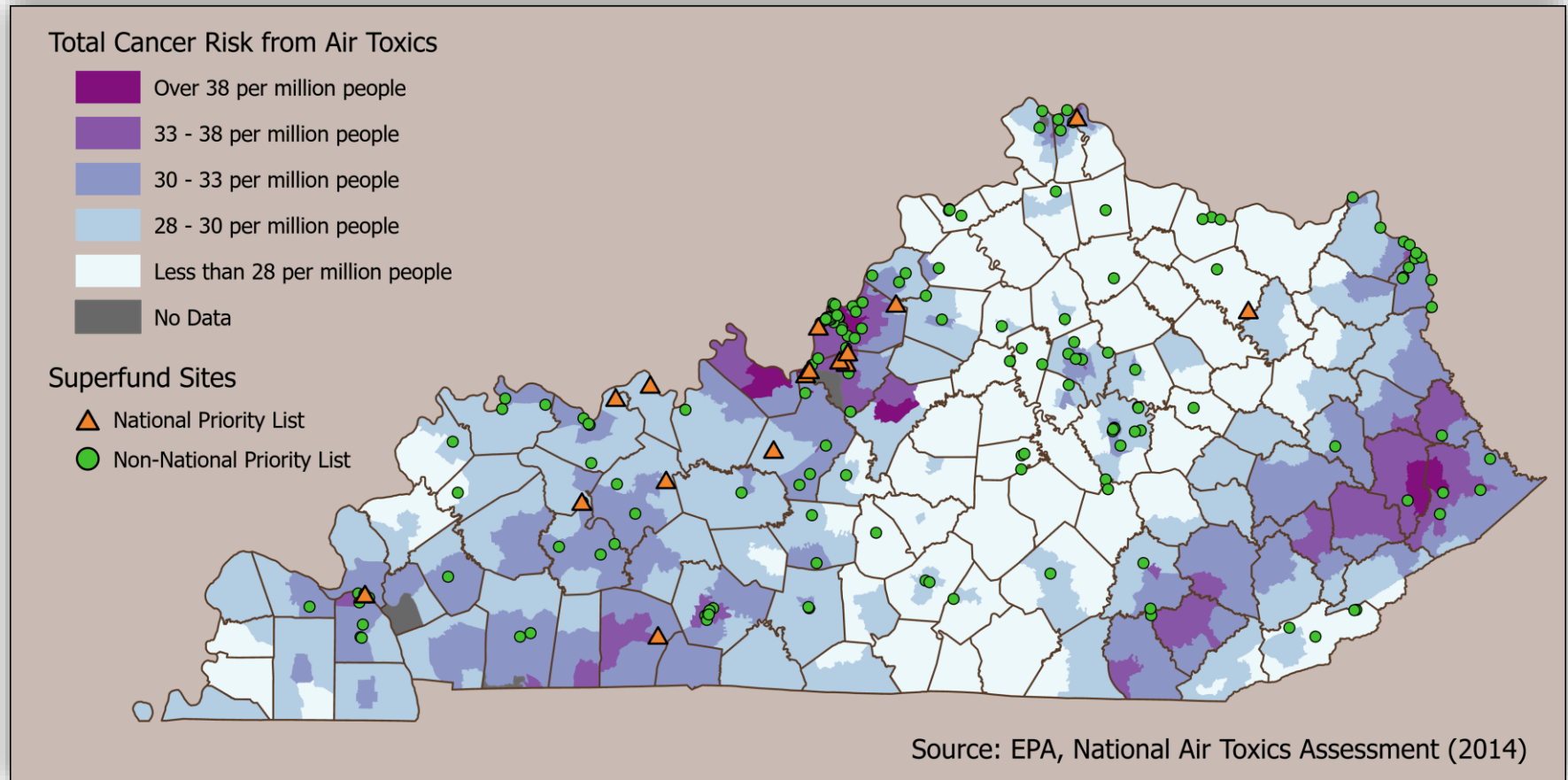
Radon Potential



Radon potential is based on geologic formations. For detailed county information visit: <http://www.uky.edu/breathe/radon/radon-data-county>.
EPA suggested radon action level is 4.0 pCi/L or greater; World Health Organization suggested radon action level is 2.7 pCi/L.

Map of Air Toxics and Superfund Sites in Kentucky

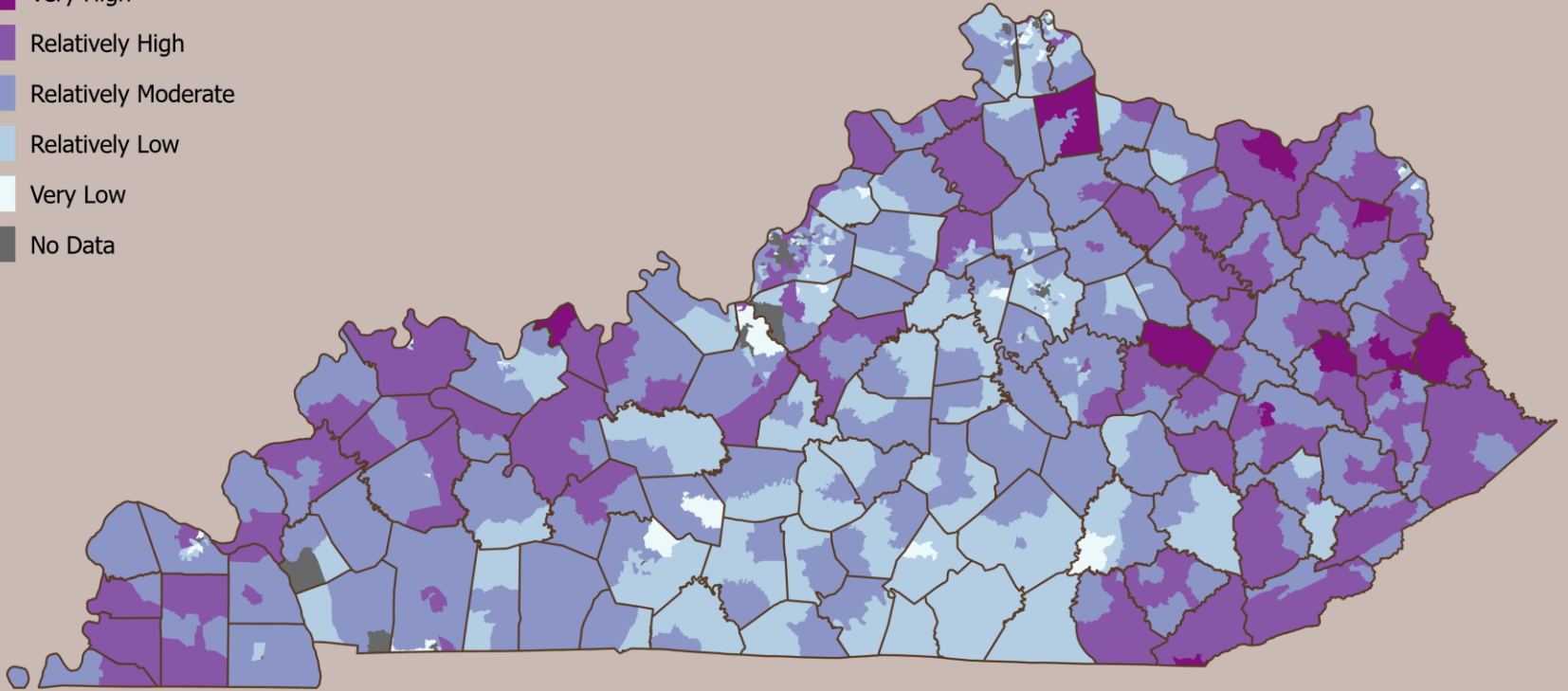
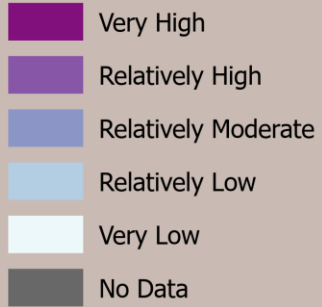
Contaminants commonly found at Superfund sites: Asbestos, Dioxin, Lead, Radiation



“Superfund Sites” are contaminated due to hazardous waste being dumped, left out in the open, or otherwise improperly managed. Sites include manufacturing facilities, processing plants, landfills and mining sites.

Map of Flood Risk in Kentucky

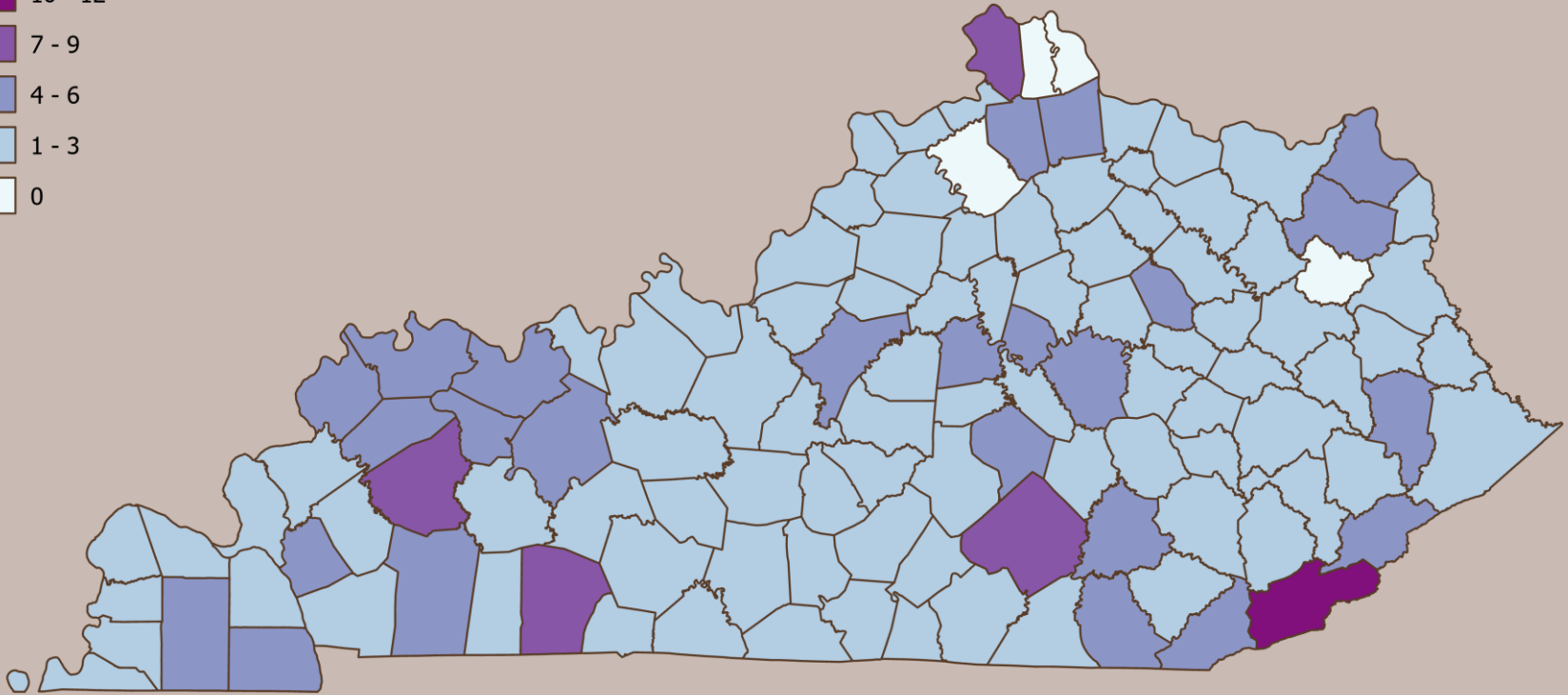
Flood Risk



Source: FEMA

Map of Safe Drinking Water Violations in Kentucky

Health-Based PWS Violations in 2020



PWS = public water system

Source: Environmental Protection Agency

Focus Groups: Environmental Exposures

- "I know there's a lot of **controversy** and stuff like that, on the environment, and you know us living in Eastern Kentucky where **there's mining and logging** and things like that... **take the politics out** of it, and you know just **give us information and let us then decide.**"
- "One thing that concerns me is the **pollution from all the industries in the West [KY]**, and I know so many people who grew up with me who have developed cancer over the years. I know that since there's **not as much chemical manufacturing going on anymore**, that it must be reduced some, but **it does seriously concern me what's in the air.**"

Focus Groups: Environmental Exposures

- "We could definitely have a **bigger presence** of that [awareness of environmental pollutants] in my specific area, especially with **how much agriculture** we do have in the area, and **the runoff from that can cause a lot more issues than I think most of our residents are aware of.**"

More data on attitudes about environmental exposures in Eastern KY:

UK-CARES Community Environmental Health Assessment

<https://ukcares.med.uky.edu/ceha>

Discussion: Social Determinants of Health

Share your thoughts and ideas about:

1. **SURPRISES** and new insights from the data
2. **GAPS** in data for future attention
3. **ACTION** opportunities suggested by the data

Make notes to share out loud during discussion, or share your ideas in the chat box in this format to label the type of idea:

SURPRISE: Type your idea

GAPS: Type your idea

ACTION: Type your idea



Overall Burden of Cancer in Kentucky versus U.S.



Top 10 Cancer Rate Comparisons

(KCR and SEER, 2014-18)

	US	KY	Rural KY	Appl KY	Black KY	
Age-Adj Incidence Rate (per 100k)	All Sites	438.3	513.8†	523.9†	534.3†	481.8‡
	Female Breast	127.4	127.3	118.5‡	117.9‡	128.0
	Prostate (males only)	108.3	103.6‡	95.3‡	90.9‡	157.3†
	Lung and Bronchus	49.3	88.1†	97.8†	104.3†	82.3‡
	Colon and Rectum	37.5	47.7†	51.7†	54.3†	49.2†
	Melanoma of the Skin	23.6	27.9†	28.1†	26.2‡	1.4‡
	Corpus Uteri (females only)	26.3	27.0	29.1†	32.2†	24.9
	Urinary Bladder	18.6	22.2†	22.8†	22.6†	11.0‡
	Kidney and Renal Pelvis	16.1	20.9†	21.2†	21.5†	23.1†
	Non-Hodgkin Lymphoma	19.1	19.6	19.5	19.7	14.7‡
	Leukemia	13.8	15.8†	16.1†	15.9†	13.1

	US	KY	Rural KY	Appl KY	Black KY	
Age-Adj Mortality Rate (per 100k)	All Sites	147.5	189.3 †	205.8 †	213.5 †	186.7 †
	Lung and Bronchus	32.9	59.9 †	69.0 †	73.2 †	52.6 ‡
	Female Breast	19.9	20.8	21.3 †	22.8 †	25.6 †
	Prostate (males only)	19.6	19.1	19.4	19.0	34.0 †
	Colon and Rectum	13.1	16.4 †	18.4 †	19.1 †	19.5 †
	Pancreas	10.8	11.5 †	11.1	11.1	13.1 †
	Leukemia	6.0	6.9 †	7.2 †	7.2 †	5.4
	Liver and IBD	7.1	6.8	6.7	6.8	8.5 †
	Ovary (females only)	6.8	6.3	6.3	6.6	4.7 ‡
	Non-Hodgkin Lymphoma	5.3	6.0 †	6.1 †	5.8	4.0 ‡
	Urinary Bladder	4.1	4.9 †	5.0 †	4.7 †	3.3

Group Comparisons:

(1) Kentucky/Rest of SEER, all sex & race; (2) Rural KY/Urban KY, all sex & race; (3) Appalachian KY/Non-Appalachian KY, all sex & race; (4) Black KY/White KY, all sex

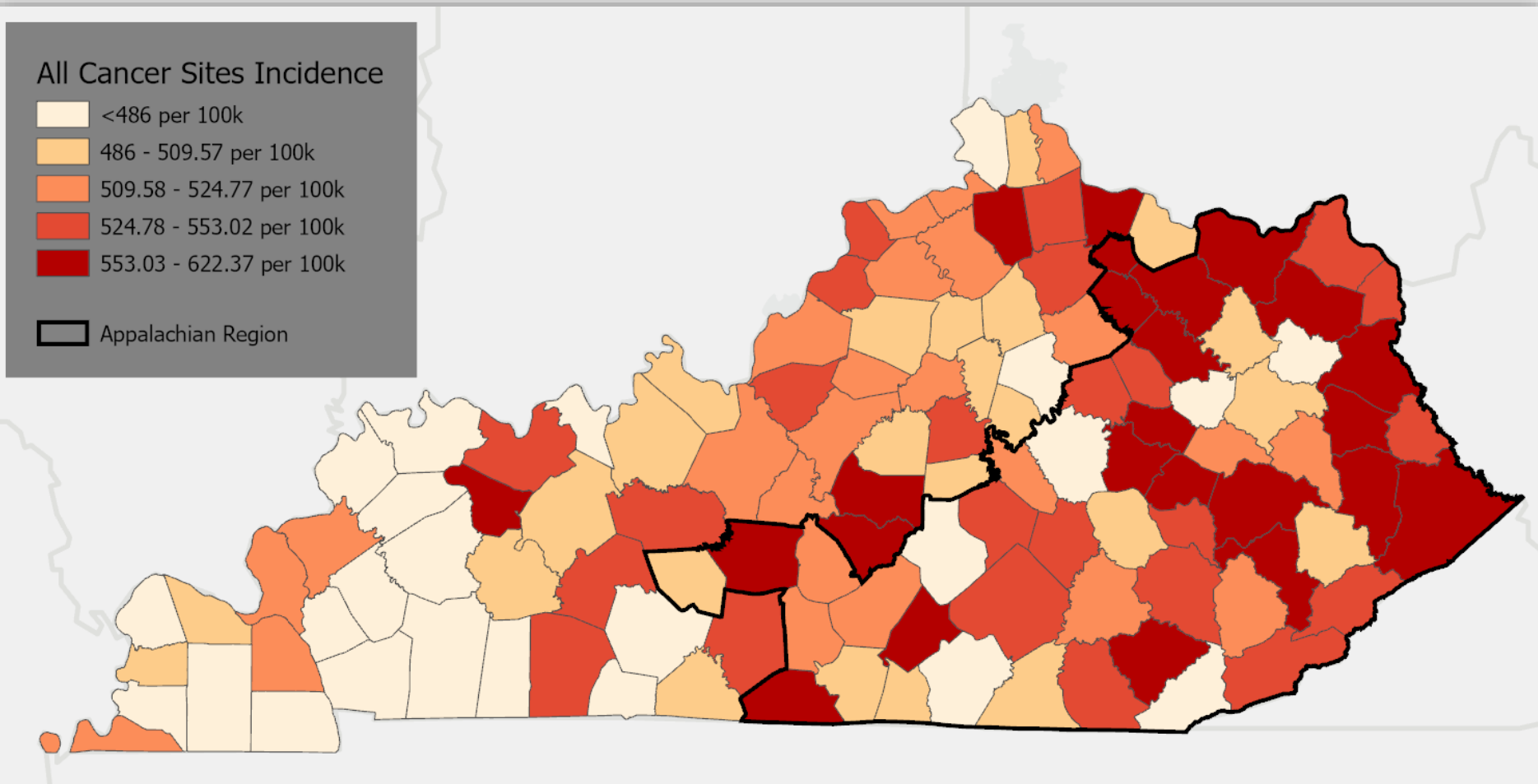
Significance vs comparison group:

■ Significantly higher rate than comparison ■ Significantly lower rate than comparison ■ Similar rate to comparison

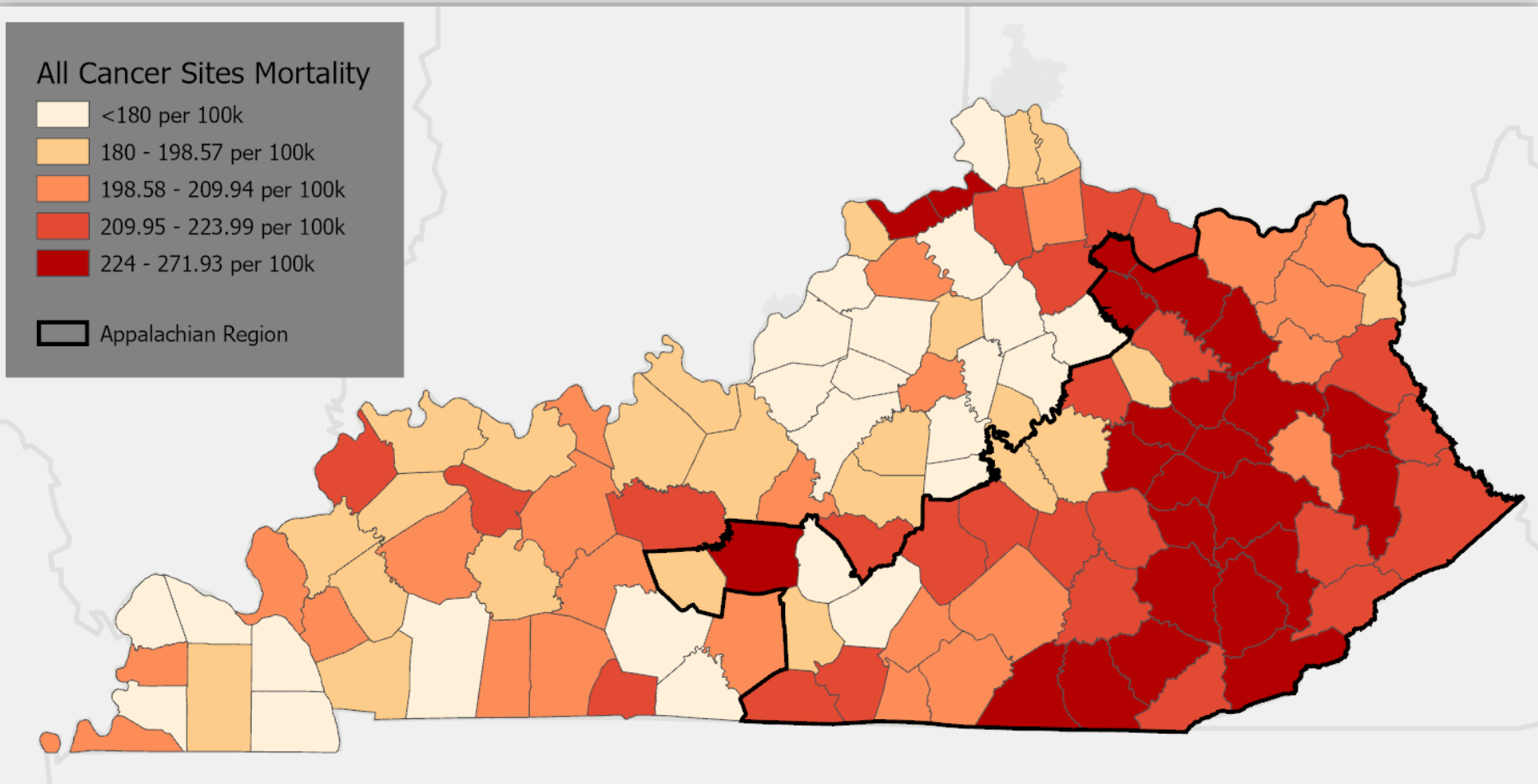
Significance vs all sex, all race US rates:

† = Significantly higher than US ‡ = Significantly lower than US

All Site Cancer Incidence, 2014-2018



All Site Cancer Mortality, 2014-2018



Discussion: Overall Cancer Burden & Disparities

Share your thoughts and ideas about:

1. **SURPRISES** and new insights from the data
2. **GAPS** in data for future attention
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GAPS: Type your idea

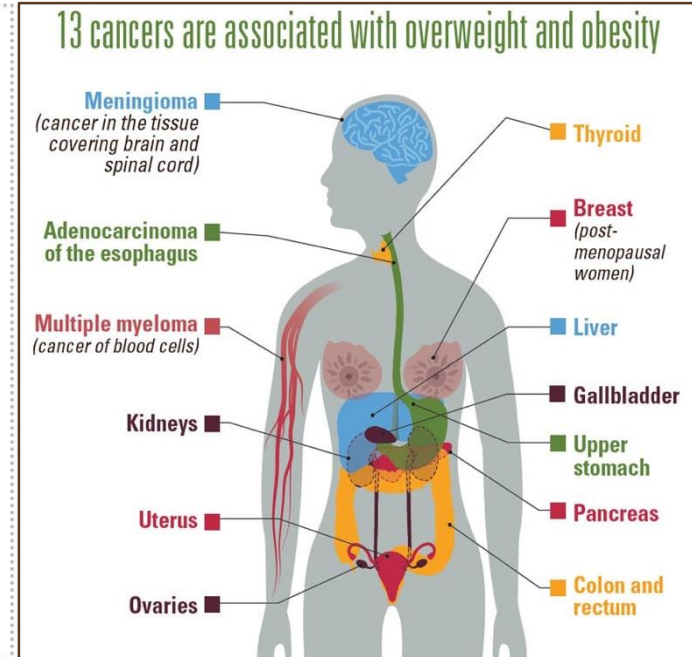
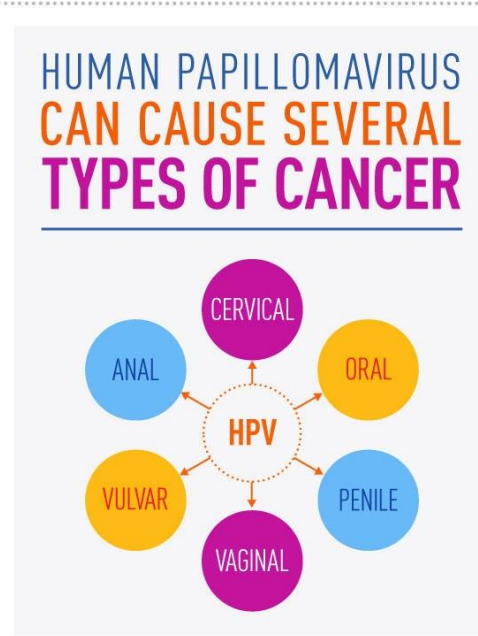
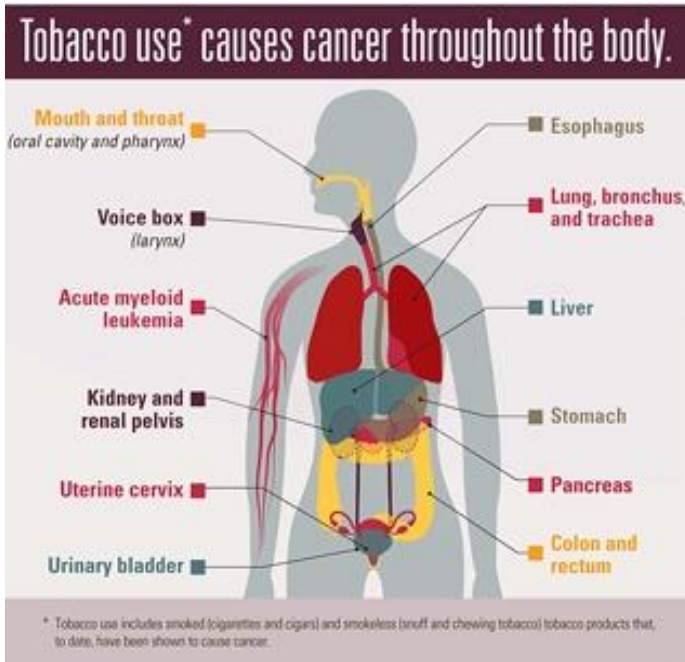
ACTION: Type your idea



Cancers Linked to Evidence-Based Risk Reduction Behaviors



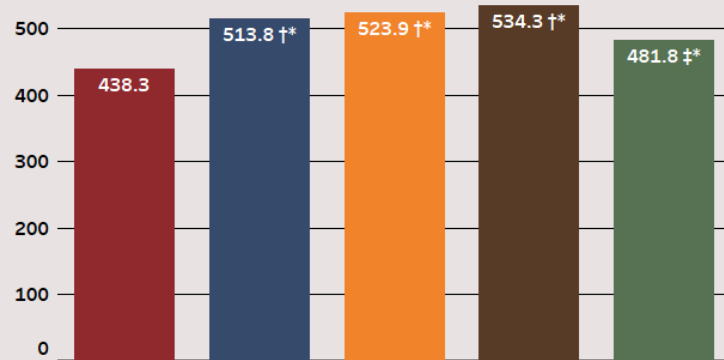
Tobacco, HPV and Obesity Related Cancers



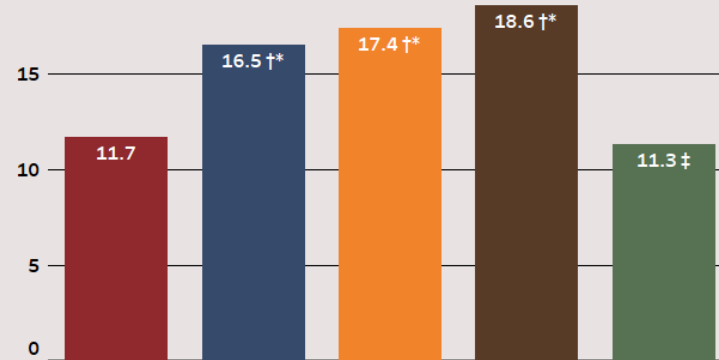
Risk Factor Related Cancer Incidence

All Site and Risk Factor Related Cancer Incidence in Kentucky

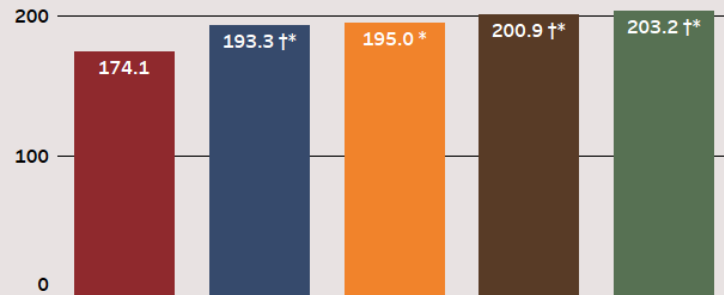
All Cancer Sites



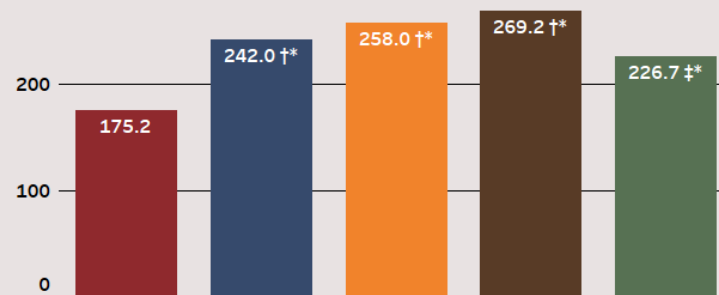
HPV-Related Cancers



Obesity-Related Cancers



Tobacco-Related Cancers



Definitions (from CDC):

HPV-Related Cancers include nearly all cervical cancers and some cancers of the vagina, vulva, penis, anus, and oropharynx.

Obesity-Related Cancers include adenocarcinoma of the esophagus; cancers of the breast [in postmenopausal women], colon and rectum, endometrium, gallbladder, gastric cardia, kidney, liver, ovary, pancreas, and thyroid; meningioma; and multiple myeloma.

Tobacco-Related Cancers include acute myeloid leukemia (AML) and cancers of the oral cavity and pharynx; esophagus; stomach; colon and rectum; liver; pancreas; larynx; lung, bronchus, and trachea; kidney and renal pelvis; urinary bladder; and cervix.

Population
 ■ US
 ■ Kentucky
 ■ Rural KY
 ■ Appalachian KY
 ■ Black KY

Group Comparisons:

(1) Kentucky/Rest of SEER, all sex & race; (2) Rural KY/Urban KY, all sex & race; (3) Appalachian KY/Non-Appalachian KY, all sex & race; (4) Black KY/White KY, all sex

Significance vs all sex, all race US rates:

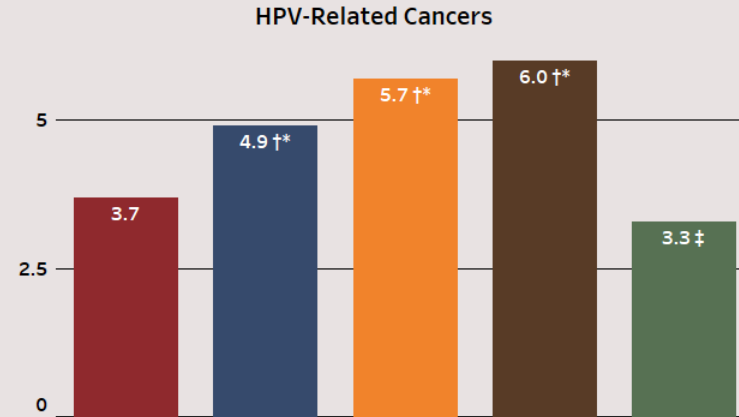
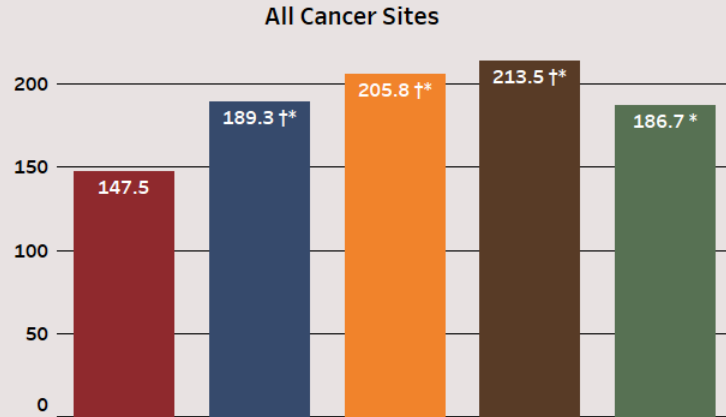
† = Significantly higher than comparison group ‡ = Significantly lower than comparison group * = Significantly higher than all sex/all race US

Sources:

KCR and SEER, 2014-18

Risk Factor Related Cancer Mortality

All Site and Risk Factor Related Cancer Mortality in Kentucky

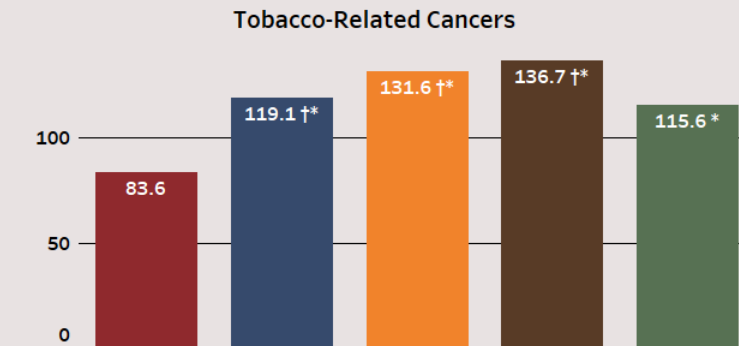
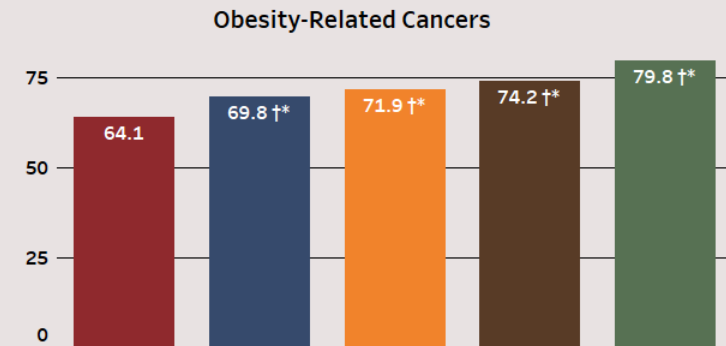


Definitions (from CDC):

HPV-Related Cancers include nearly all cervical cancers and some cancers of the vagina, vulva, penis, anus, and oropharynx.

Obesity-Related Cancers include adenocarcinoma of the esophagus; cancers of the breast [in postmenopausal women], colon and rectum, endometrium, gallbladder, gastric cardia, kidney, liver, ovary, pancreas, and thyroid; meningioma; and multiple myeloma.

Tobacco-Related Cancers include acute myeloid leukemia (AML) and cancers of the oral cavity and pharynx; esophagus; stomach; colon and rectum; liver; pancreas; larynx; lung, bronchus, and trachea; kidney and renal pelvis; urinary bladder; and cervix.



Population

- US
- Kentucky
- Rural KY
- Appalachian KY
- Black KY

Group Comparisons:

(1) Kentucky/Rest of SEER, all sex & race; (2) Rural KY/Urban KY, all sex & race; (3) Appalachian KY/Non-Appalachian KY, all sex & race; (4) Black KY/White KY, all sex

Significance vs all sex, all race US rates:

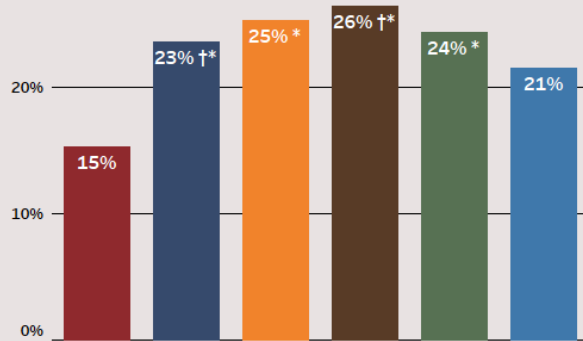
† = Significantly higher than comparison group ‡ = Significantly lower than comparison group * = Significantly higher than all sex/all race US

Sources:
KCR and SEER, 2014-18

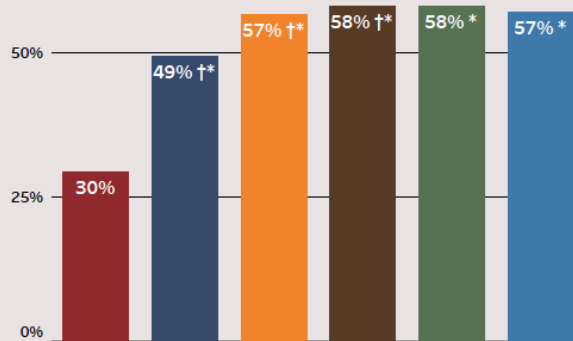
Behavioral Risk Factors

Disparities in Cancer Risk Factors (BRFSS/KyBRFS, 2018-19)

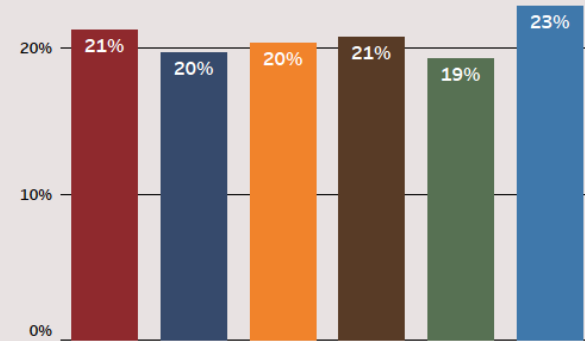
Currently Smoke



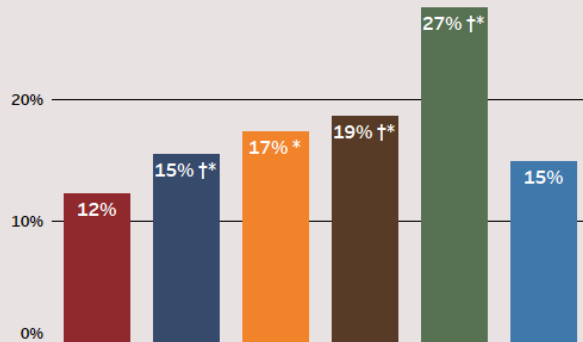
Physically Inactive



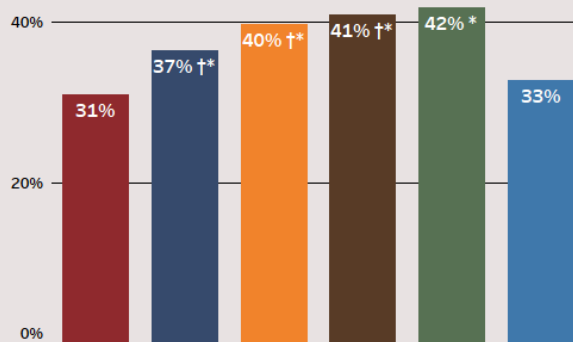
Averages < 1 Vegetable Consumed per Day



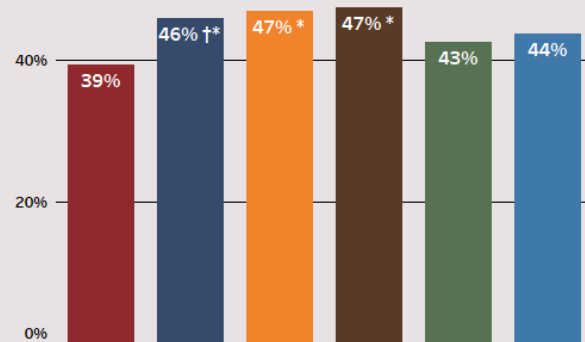
Sleep < 6 Hours per Night



Obese (BMI > 30)



Averages < 1 Fruit Consumed per Day



Population
■ US
■ KY
■ Rural KY
■ Appl KY
■ Black KY
■ Hispanic KY

Group Comparisons:

(1) Kentucky/Rest of US, all sex & race; (2) Rural KY/Urban KY, all sex & race; (3) Appalachian KY/Non-Appalachian KY, all sex & race; (4) Black KY/White KY, all sex; (5) Hispanic KY/Non-Hispanic KY, all sex

Significance:

† = Significantly higher than comparison group ‡ = Significantly lower than comparison group * = Significantly higher than all sex/all race US

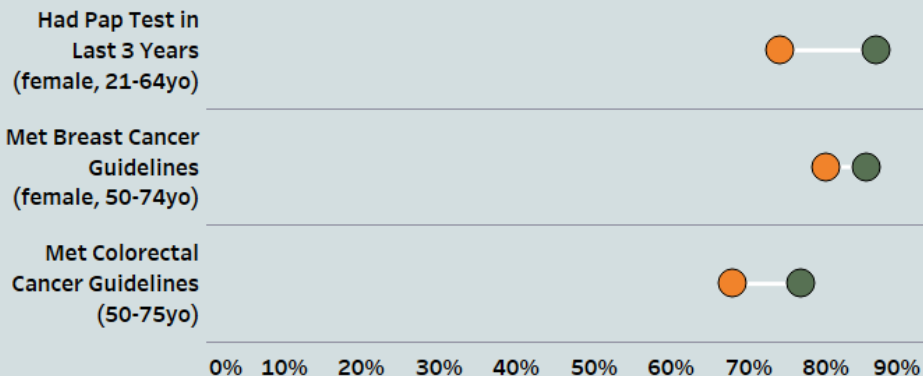
Screening and Risk Factors by Education

Differences in Cancer Risk Factors by Educational Attainment (KyBRFS 2016-19)

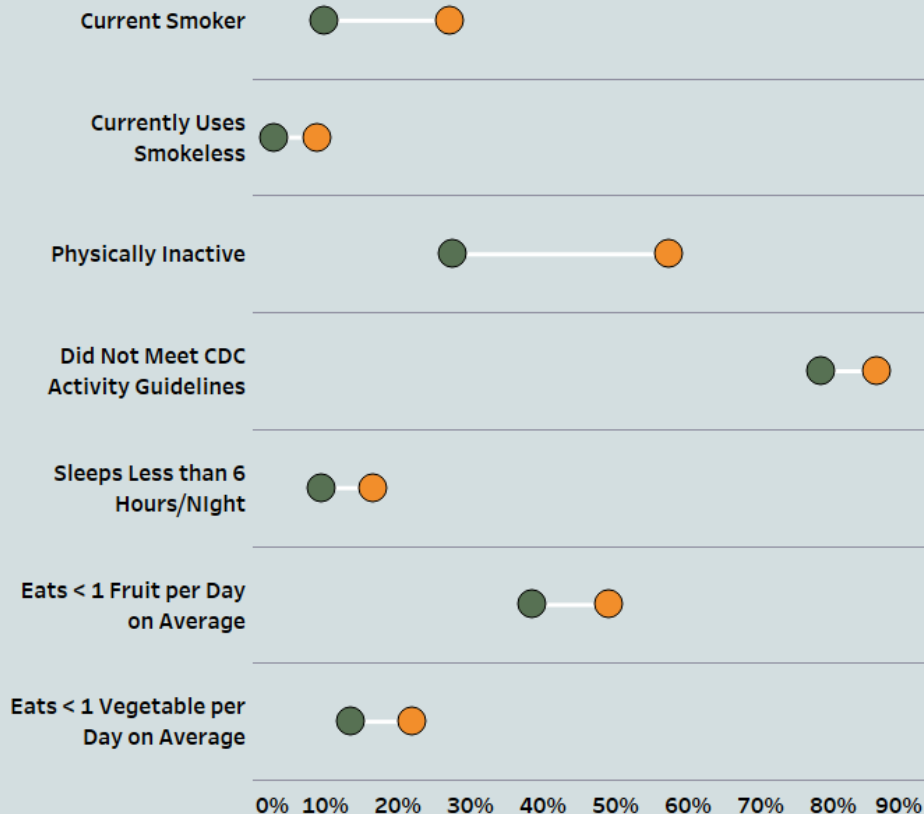
The following shows a number of areas in which individuals whose highest educational attainment is a high school diploma (and did not attend college) differ significantly from their counterparts with a degree from a college or technical school.

■ Graduated High School
■ Graduated College or Tech School

Up-to-Date with Cancer Screening Guidelines



Cancer Risk Factors



Focus Groups: Risk Reduction – Tobacco Use

- **"My husband still smokes heavily, and he knows all the risk and he still does it because he's addicted to it. I think that preventing it from happening [in the first place] is definitely a concern. I know in my area, my dad and mama did, their uncle did, their grandpa did. [When I] ask, they say, "well, I started smoking at seven when I got a cigarette from my grandpa," and it's just old family mentality circles."**

Focus Groups: Risk Reduction – Tobacco Use

- "I just **don't see as many people smoking as I used to**, so I feel like these education **programs and things that are out there are helping...** and, of course, **then you've got the vaping and stuff now**. When it first started, you know, it was like so it was supposed to be so much safer and everything, but now, people are learning it's not and it can be even more dangerous, so I think, **maybe a focus some on that part.**"
- "The Health Department does cessation tobacco cessation, and it's **sort of a catch 22** that Extension Offices teach farmers, **how to grow bigger and better tobacco** and grow lots of crops **and we're trying to teach people to be healthy.**"

Focus Groups: Risk Reduction – Diet

- "It's **expensive eating healthy**. I know my family we try to invite a lot of fresh fruits and vegetables, and my husband just commented to me the other day is like this is expensive."
- "I'm probably exposed in some way to **watch this [nutrition] stuff through my church**. We have a **food pantry**... and one of our members is a doctor with U of L and she brings in nurses and things like that to see people who come visit food pantry."

Focus Groups: Risk Reduction – Physical Activity

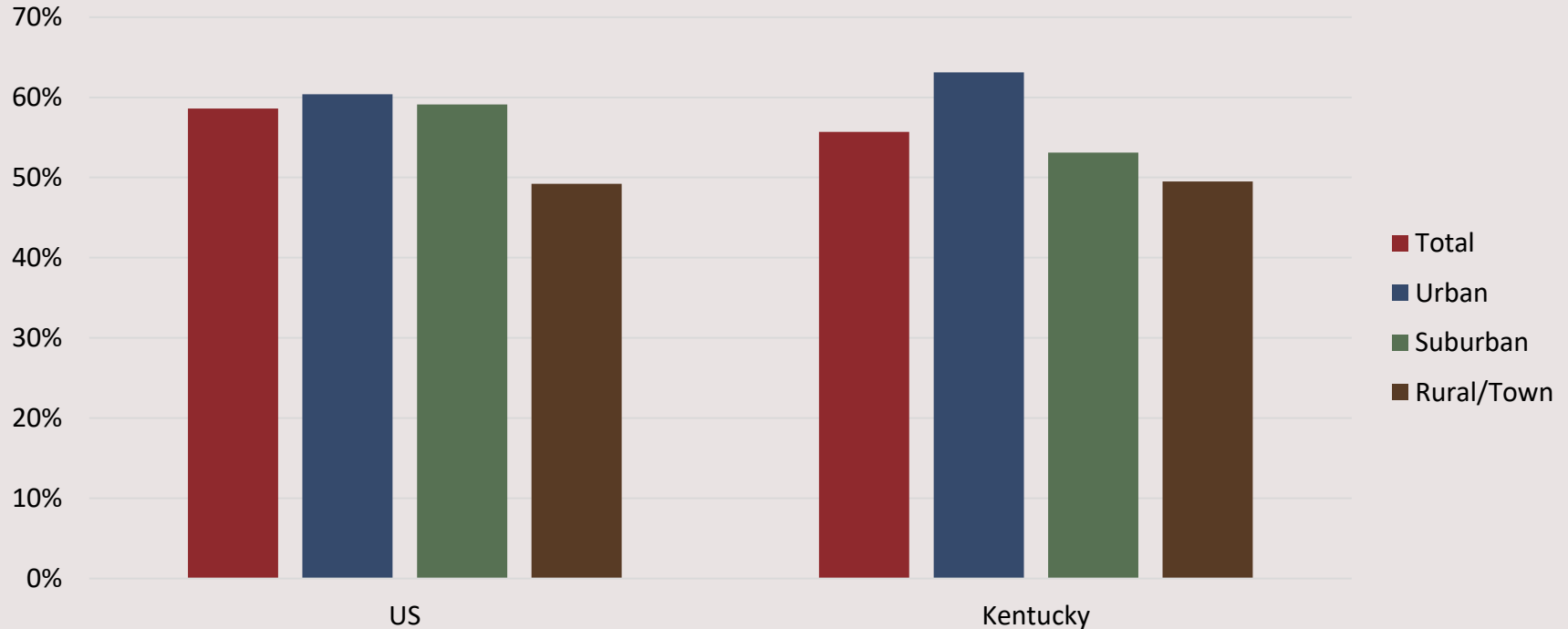
- "Not everybody can **afford the go to gym** or not every everybody has **access to transportation** to get to trails."
- "And **a lot of small towns** are getting into that [**walking paths**] and **building bike paths** and **making it a tourism thing**, but then it's good for your health and people get out."

Focus Groups: Risk Reduction – Physical Activity

- "There was like a group of ladies that came together, and they would **walk on their lunch...** then they **get on Facebook and talk about how far they walked** and how they failed so then sometimes that might motivate you that you want to go down there and walk. But I think that that program was pretty successful for a little while and then **everything just kind of fizzles out.**"

HPV Vaccination

Up-to-Date with HPV Vaccination (All Doses), Ages 13-17, 2020



Source: National Interview Survey-Teen

Urban=MSA (Metropolitan Statistical Area), Central City; Suburban=MSA, non-Central City; Rural/Town=Non-MSA

Data on racial/ethnic differences are not available for Kentucky.
Nationally, Black and Hispanic adolescents have higher HPV vaccination than Whites.

Focus Groups: Risk Reduction – HPV Vaccine

- "The **only time** I've ever seen anything about the HPV vaccine is **at the Health Department.**"
- "I wonder **how serious the throat cancer is because of HPV.** I wasn't really familiar with that, but **I just lost a friend** who had, I don't know if it had anything to do with HPV, but she died of throat cancer. She wasn't a smoker."

Focus Groups: Risk Reduction – HPV Vaccine

- "The **Latino community**, generally speaking, when parents bring their daughters to their appointments and the doctor starts talking about the HPV vaccination, the doctors also start **talking about if the teen's been sexually active and that doesn't click so well...** perhaps there is there is a deep cultural and religious background, but many moms are like 'I don't see the need for that vaccination, because my daughter is not sexually active.'"

Focus Groups: Risk Reduction – Sun Exposure

- "I've also **never had my family doctor say anything to me about sunscreen.** I mean I went to a dermatologist, and she did. That was the first time someone was like you should really be using moisturizer with sunscreen in it, so that's a little disappointing. I feel like **you don't hear anything until something is bad.**"
- "**Especially African Americans,** you think, '**Oh, we don't really need those,**' but we need to just as much as everybody else does, you know. We can go get the skin cancer as well, and **there's not enough information about that.**"

Focus Groups: Risk Reduction – Stress & Alcohol

- "When they get **stress**, they should be **able to think of another option**. They could go take a walk or, you know, go and do some other chores, maybe they can go talk to a friend, or go and sit somewhere and maybe do some type of exercises instead of resorting to having a smoke, you know, regardless if it's cigarettes or drugs or having a drink, so it's good to have **some form of coping skills** to help you with the stress."
- "I actually am **ignorant to the fact that drinking could have an effect**, you know, could cause cancer. I did not know that myself, and **there's a lot of people here that drink**. I mean if they didn't smoke, they do drink."

Focus Groups: Risk Reduction – Attitudes

- "To not eat well or not exercise, but **if they were raised in that environment**, I think those are those are **those types of habits are really hard to break** so education and ways to help implement new habits, I think, would be necessary."
- "It's about people **feeling attacked**, so I think it just really goes back to **messaging**, and I think in my years, people always want to know why, like what's your motivation for doing it, so I think **the better you can communicate** that."

Discussion: Risk Reduction

Share your thoughts and ideas about:

1. **SURPRISES** and new insights from the data
2. **GAPS** in data for future attention
3. **ACTION** opportunities suggested by the data

Make notes to share out loud during discussion, or share your ideas in the chat box in this format to label the type of idea:

SURPRISE: Type your idea

GAPS: Type your idea

ACTION: Type your idea



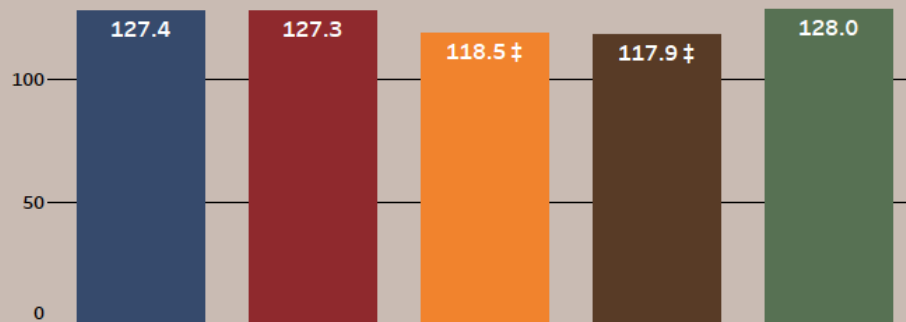
Cancers with Evidence- Based Screening Guidelines



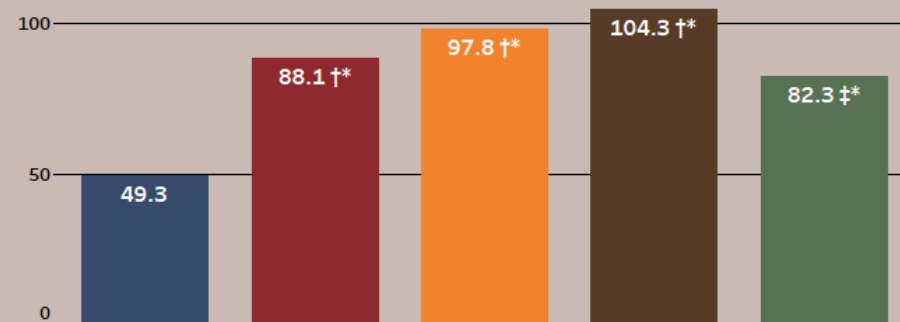
Screenable Cancer Incidence

Incidence of Screenable Cancers (KCR and SEER, 2014-18)

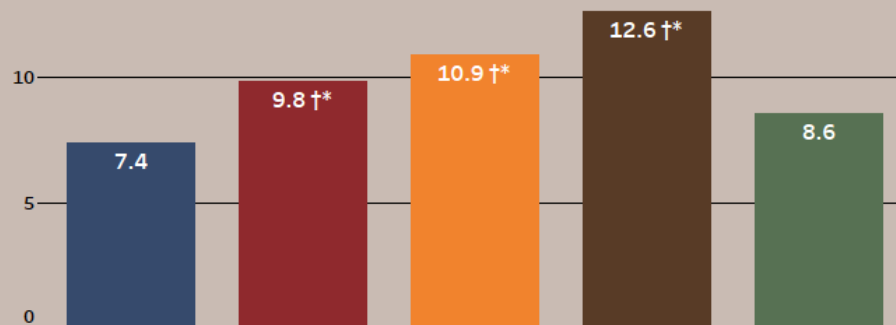
Female Breast



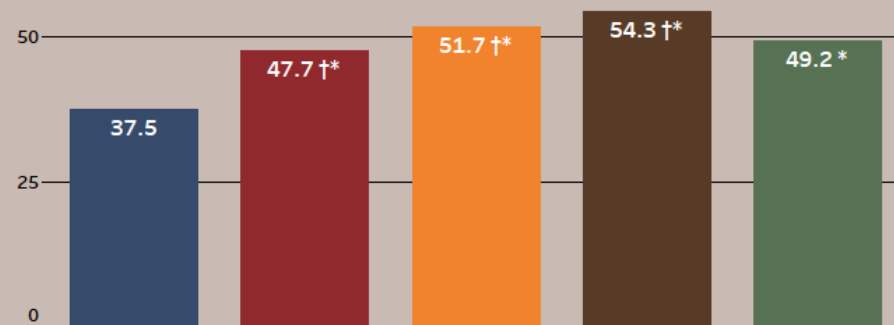
Lung and Bronchus



Cervix Uteri



Colon and Rectum



Population

■ US

■ KY

■ Rural KY

■ Appalachian KY

■ Black KY

Group Comparisons:

(1) Kentucky/Rest of SEER, all sex & race; (2) Rural KY/Urban KY, all sex & race; (3) Appalachian KY/Non-Appalachian KY, all sex & race; (4) Black KY/White KY, all sex

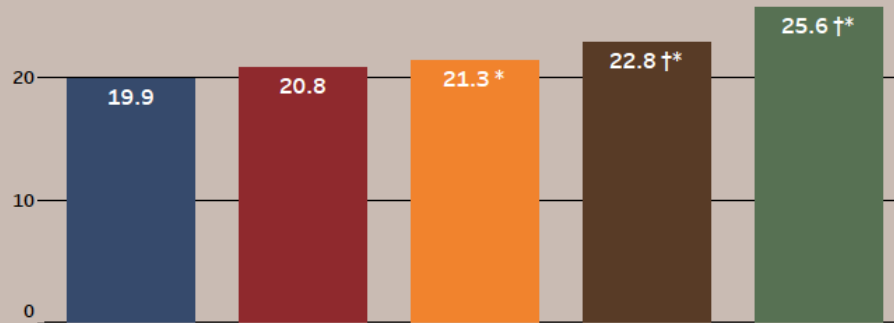
Significance:

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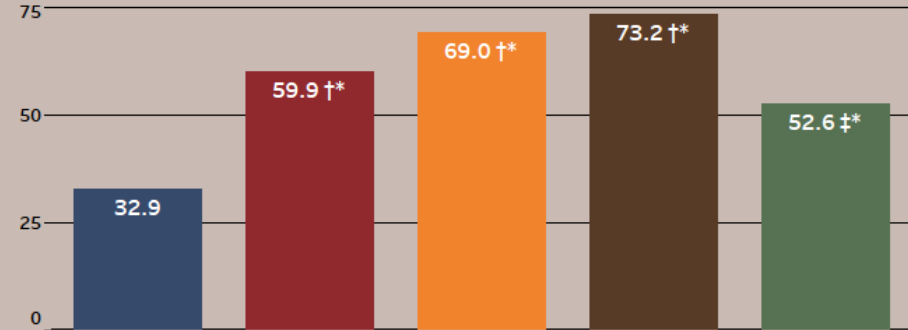
Screenable Cancer Mortality

Mortality of Screenable Cancers (KCR and SEER, 2014-18)

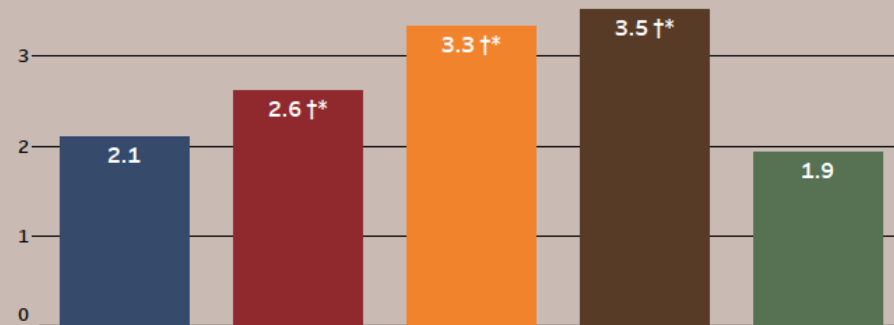
Female Breast



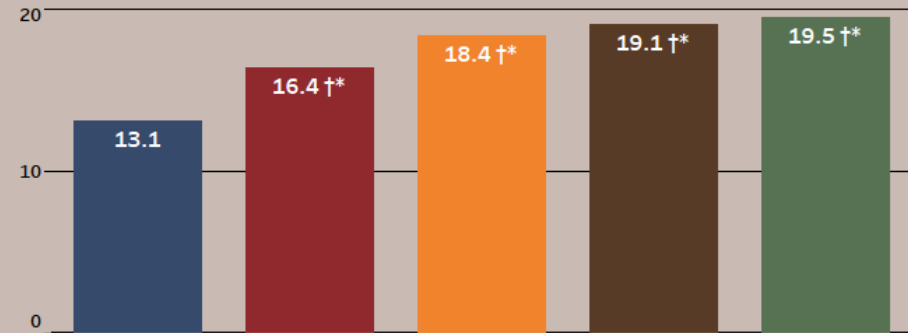
Lung and Bronchus



Cervix Uteri



Colon and Rectum



Population



Group Comparisons:

(1) Kentucky/Rest of SEER, all sex & race; (2) Rural KY/Urban KY, all sex & race; (3) Appalachian KY/Non-Appalachian KY, all sex & race; (4) Black KY/White KY, all sex

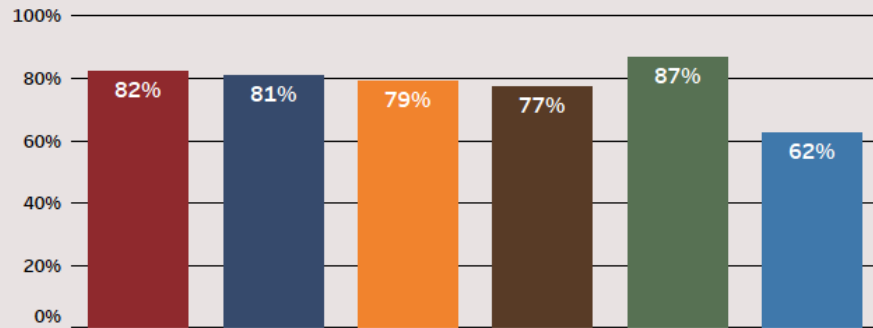
Significance:

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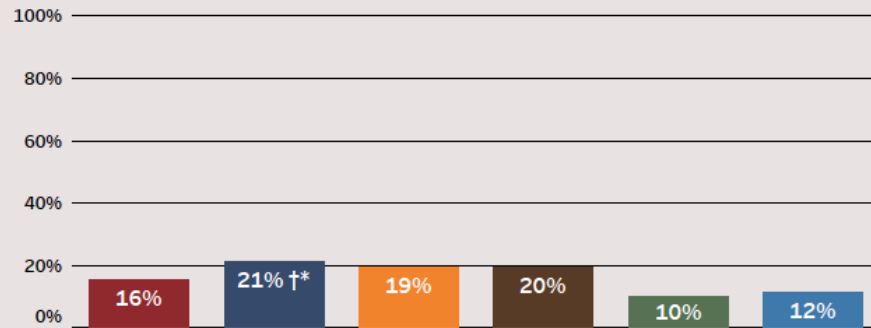
Cancer Screening Rates

Disparities in Cancer Screenings (BRFSS/KyBRFS, 2016-19)

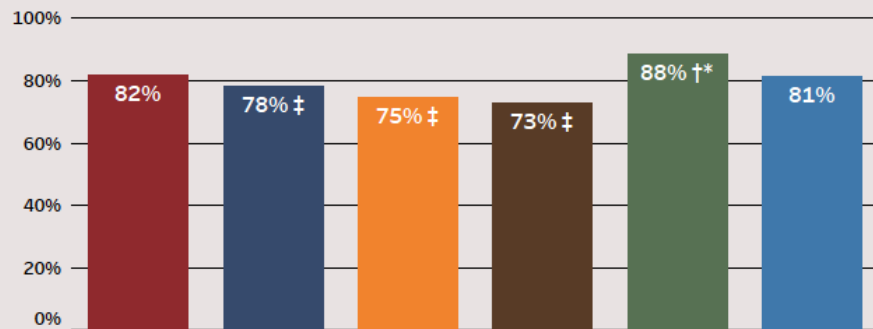
Met Breast Cancer Guidelines



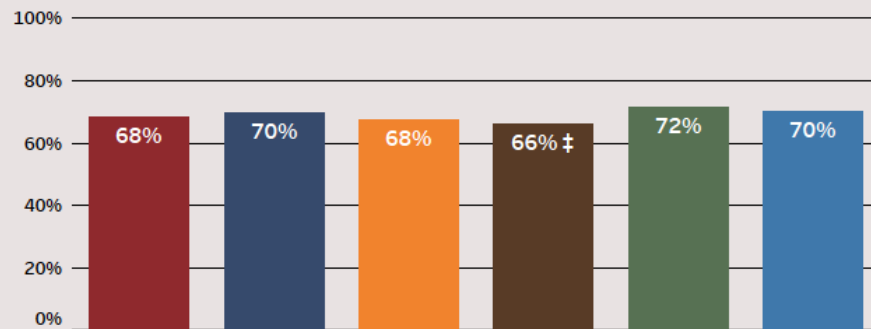
Met Lung Cancer Guidelines



Pap Test in Last 3 Years (ages 21-64)



Met Colorectal Cancer Guidelines



Population



Group Comparisons:

(1) Kentucky/Rest of US, all sex & race; (2) Rural KY/Urban KY, all sex & race; (3) Appalachian KY/Non-Appalachian KY, all sex & race; (4) Black KY/White KY, all sex; (5) Hispanic KY/Non-Hispanic KY, all sex

Significance:

† = Significantly higher than comparison group ‡ = Significantly lower than comparison group * = Significantly higher than all sex/all race US

Screenable Cancer Stage Rates and Survival

Kentucky Data on Stages of Screenable Cancers

Percent Late Stage Diagnosis for Screenable Cancers (KCR, 2014-18)

	Kentucky	Rural KY	Urban KY	Appl KY	Non-Appl KY	Black KY	White KY
Lung and Bronchus	77.3%	78.3%	76.4%	78.9%	76.5%	78.9%	77.2%
Colon and Rectum	42.4%	42.3%	42.6%	43.9%	41.8%	42.8%	42.7%
Cervix Uteri	41.8%	44.7%	39.4%	44.3%	40.5%	41.0%	42.1%
Female Breast	25.8%	27.1%	24.9%	28.2%	24.9%	28.8%	25.5%

Relative Survival for Screenable Cancers by Stage (SEER, 2012-18)

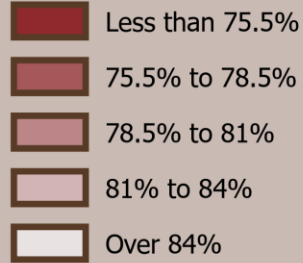
	Early Stage (local)	Late Stage (regional)	Late Stage (distant)
Lung and Bronchus	54.5%	30.8%	5.1%
Colon and Rectum	90.1%	72.8%	13.6%
Cervix Uteri	92.1%	58.3%	13.9%
Female Breast	99.7%	84.1%	27.7%

Risk Increase by Stage of Diagnosis (SEER, 2012-18)

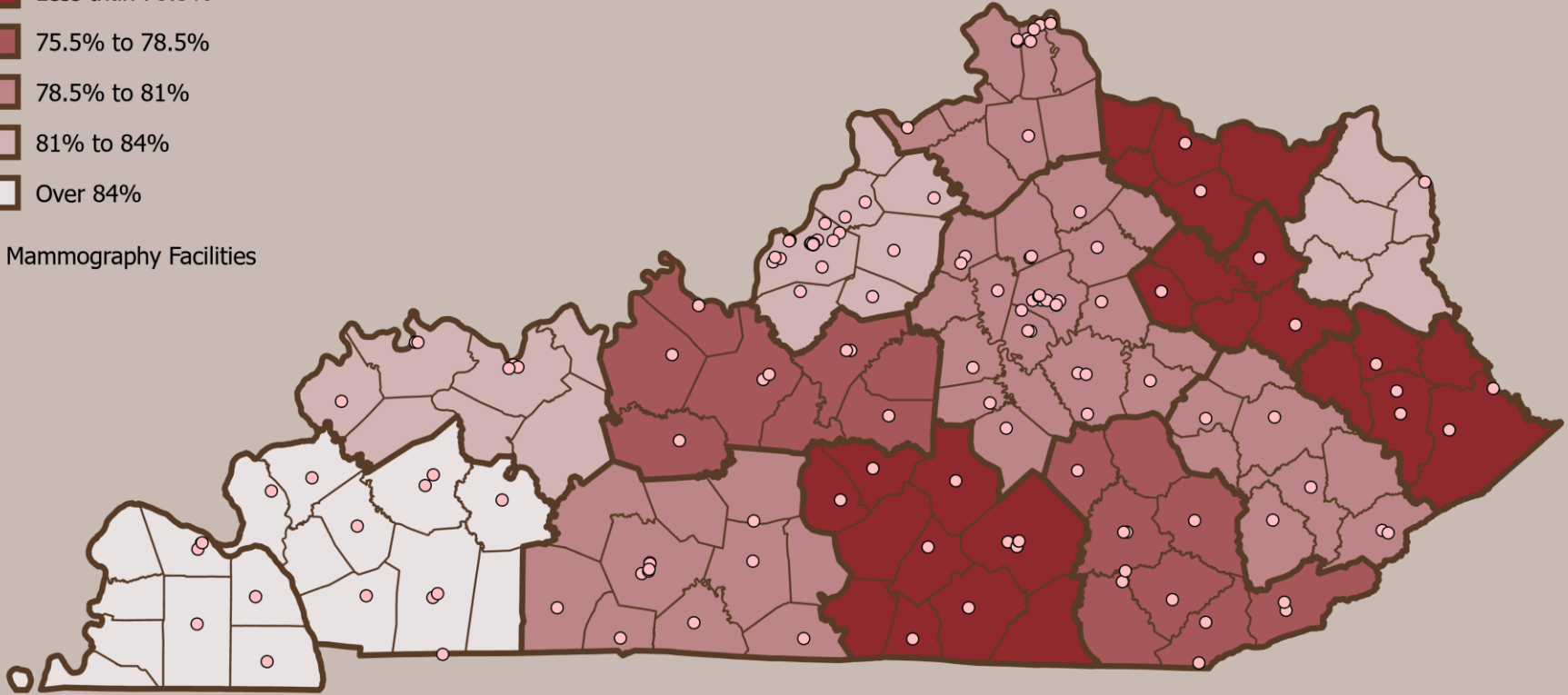
Lung and Bronchus	Colon and Rectum	Cervix Uteri	Female Breast
1.5 times more likely to die within 5-years with a regional vs a local diagnosis	2.7 times more likely to die within 5-years with a regional vs a local diagnosis	5.3 times more likely to die within 5-years with a regional vs a local diagnosis	53.0 times more likely to die within 5-years with a regional vs a local diagnosis
2.1 times more likely to die within 5-years with a distint vs a local diagnosis	8.7 times more likely to die within 5-years with a distint vs a local diagnosis	10.9 times more likely to die within 5-years with a distint vs a local diagnosis	241.0 times more likely to die within 5-years with a distint vs a local diagnosis

Breast Cancer Screening Locations

Met USPSTF Recommendations (Female Breast, ages 50-74)



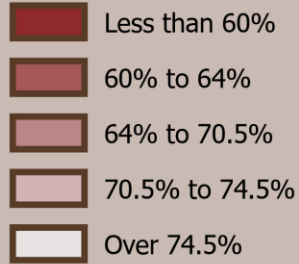
○ Mammography Facilities



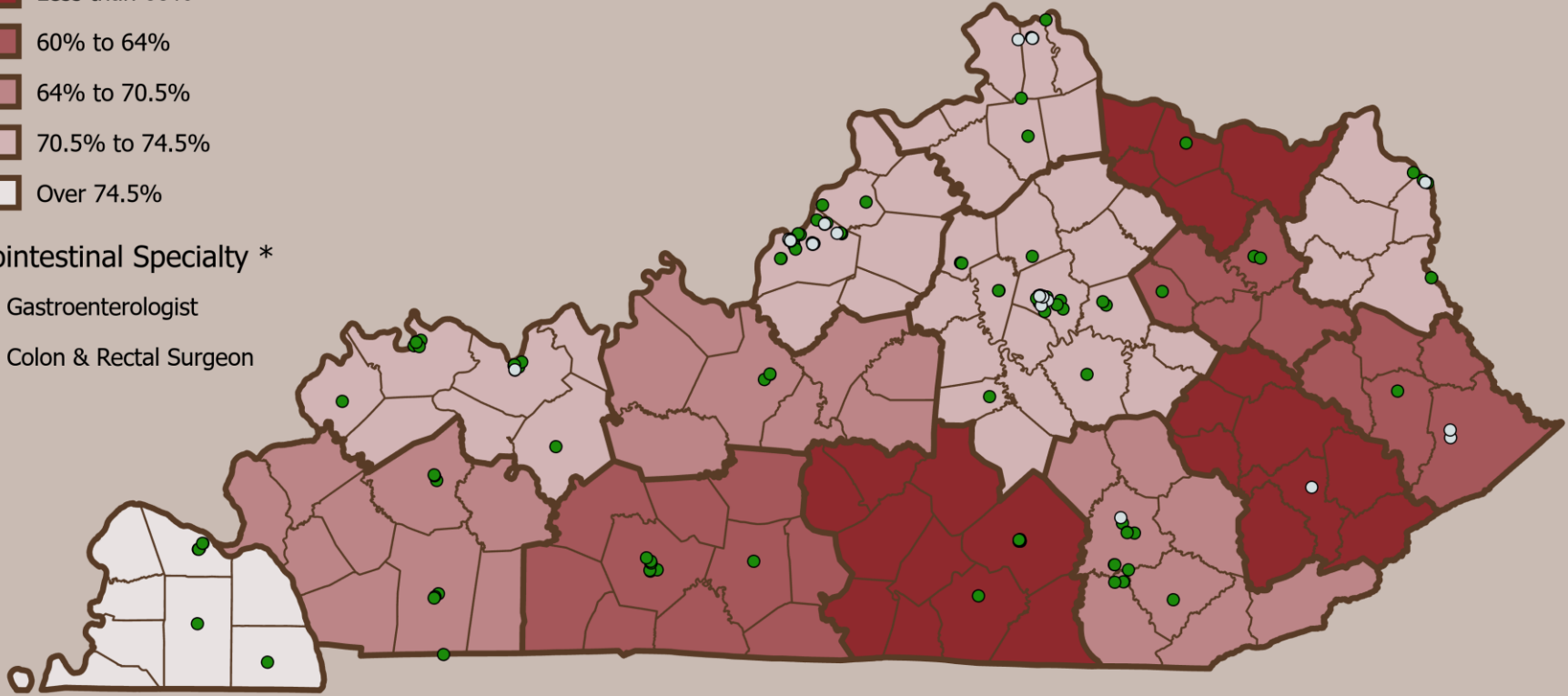
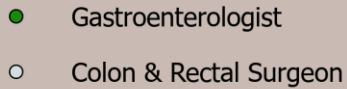
Source: KyBRFS, 2016 & 2018; FDA

Colorectal Cancer Screening Locations

Met USPSTF Recommendations (Colorectal, ages 50-75)



Gastrointestinal Specialty *

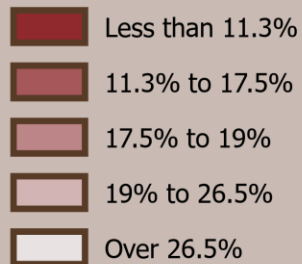


* Other providers (e.g., general surgery) can perform these screening services that are not captured here

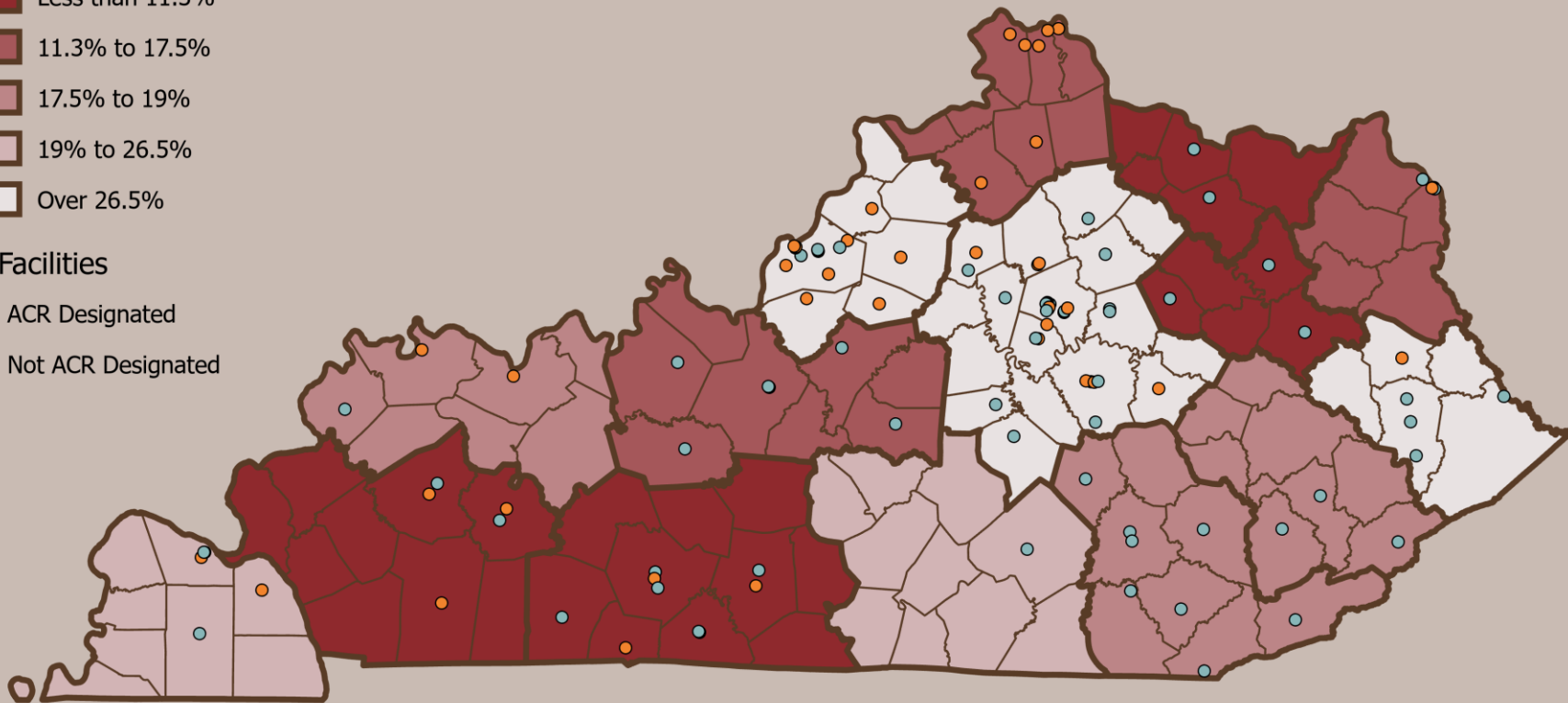
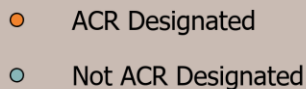
Source: KyBRFS, 2016 & 2018; NPPES

Lung Cancer Screening Locations

Met USPSTF Recommendations (Lung, ages 55-80)



LCSR Facilities



ACR = American College of Radiology; LCSR = Lung Cancer Screening Registry

Source: KyBRFS, 2017 & 2019; ACR

Focus Groups: Cancer Screening Access

- "There's a lot of **older folks** here, and there's a lot of **lower income** people who **don't have cars** so they're not able, you know to drive, you know, to go **30 minutes out a way** to go to it."
- "Another issue is that even people that have insurance and then all the things [she] said, like **people that work all the time** that are working **two jobs** or they don't have someone to **watch their kids**. They don't have **transportation**. That's a big problem here, we don't have public transit."

Focus Groups: Cancer Screening Access

- "The CT scans for the lung [cancer]. I guess **I didn't know that they actually did that.** I don't know if there's a time for that or what, **but I have a family history** for that to happen."
- "You know, I do think some people were just not – especially some of our **older seniors – they weren't going out** [because of COVID], and it was recommended that they not go out. Well, you **can't do screenings on teleconference.** I definitely think that **it has had some impact.**"

Focus Groups: Cancer Screening Access

- "I think it was a **mammogram screening**. It was on the **mobile clinic**, so I think that's a really good idea that they had as they came up with, and you know, it's able to go **around and meet the people where they are** with the mobile clinic."
- "Well, you know the colon [screening], **it's not so much that the procedure's horrible but the process of getting ready for the procedure is not pleasant**, and I know that I'm aware of that. And even though my best friend has gone through the process, she shared it , so **I'm trying to hold off.**"

Focus Groups: Cancer Screening Attitudes

- "Even if they do have a way, a lot of people just don't understand why screening is important. People will **only go to the doctor if they feel like they're dying** if they're really sick."
- "Some people really don't go to the doctor unless they **know for a fact something is wrong** with them. Sometimes I think what the Black community, there is a **lack of trust with health care providers**, and I think that sometimes there's a **lot of fear** so out of sight out of mind. Like, if I **don't have anybody telling me** that there's nothing wrong with me, **then I don't have anything to worry about.**"

Discussion: Cancer Screening

Share your thoughts and ideas about:

1. **SURPRISES** and new insights from the data
2. **GAPS** in data for future attention
3. **ACTION** opportunities suggested by the data

Make notes to share out loud during discussion, or share your ideas in the chat box in this format to label the type of idea:

SURPRISE: Type your idea

GAPS: Type your idea

ACTION: Type your idea



Inherited Cancers and Precision Oncology



Focus Groups: Genetic Testing

- "I have **never openly heard anybody talk** about that [family history/genetics] other than in **my private conversations with my doctors.**"
- "Even though they know that **this is all prevalent in our family**, they just **don't want to know**, so I think that's a lot for people, like my family, people don't want to know, because **what you don't know won't hurt you** right, which it will."

Focus Groups: Genetic Testing

- **"The younger like 30 and under group, like we're much more open to like 23 and me, and like exchanging information and talking to each other about it. Whereas like my mom is over 60 and I think she's much more like 'you're sending off your DNA' and 'I don't want to know,' and I feel like maybe there's like a like a generational difference for sharing information and understanding like why it's important."**

Discussion: Inherited Cancers & Precision Oncology

Share your thoughts and ideas about:

1. **SURPRISES** and new insights from the data
2. **GAPS** in data for future attention
3. **ACTION** opportunities suggested by the data

Make notes to share out loud during discussion, or share your ideas in the chat box in this format to label the type of idea:

SURPRISE: Type your idea

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ACTION: Type your idea



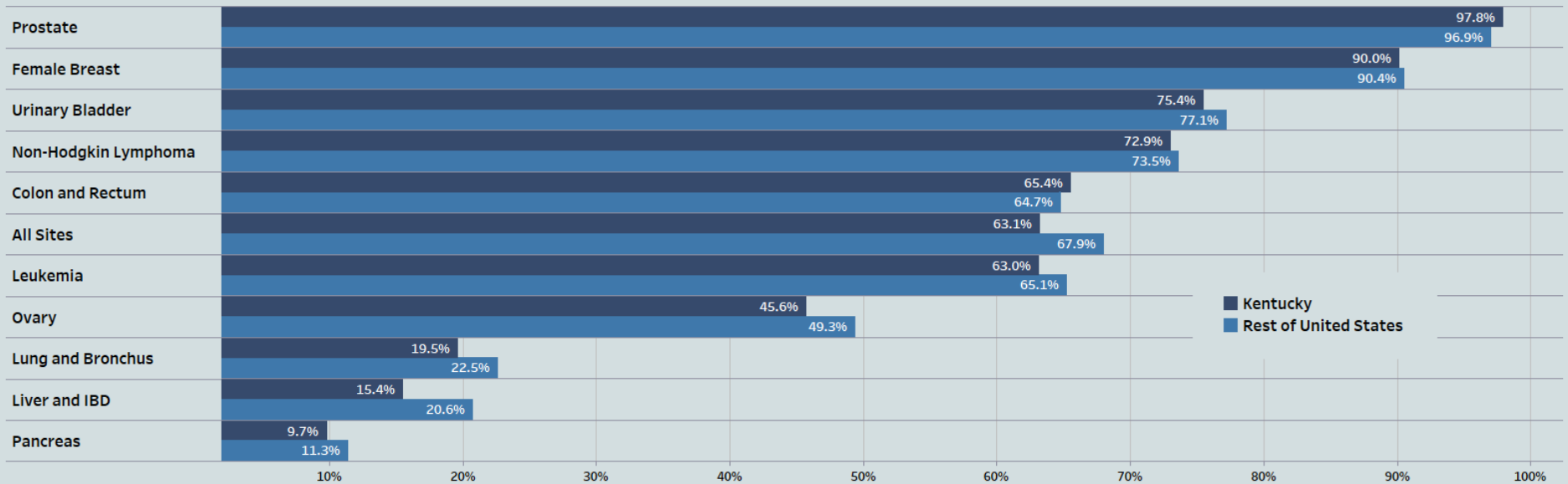
Needs of Cancer Survivors in Kentucky



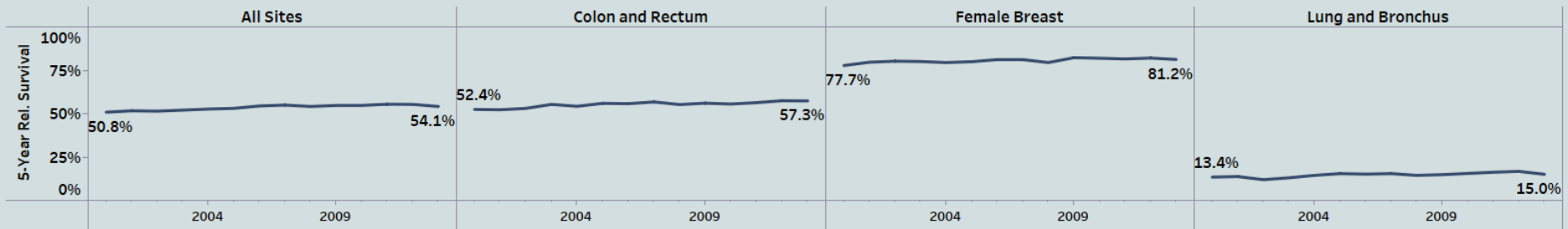
Relative Survival of Cancers

Overview of Relative Survival in Kentucky

Relative Survival of Top 10 Cancers for Mortality, KY vs US (SEER 2012-18)



Relative Survival Trends for Major Cancers in KY (SEER 2000-2013)

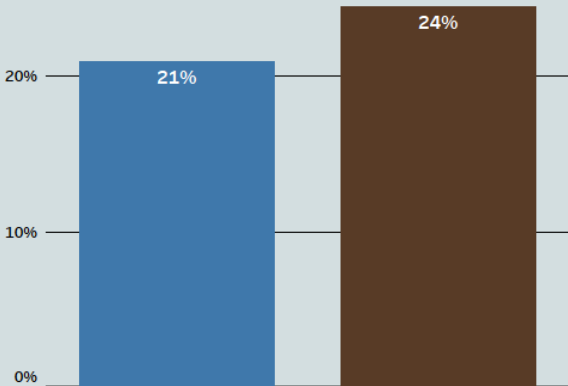


Cancer Survivors in Kentucky

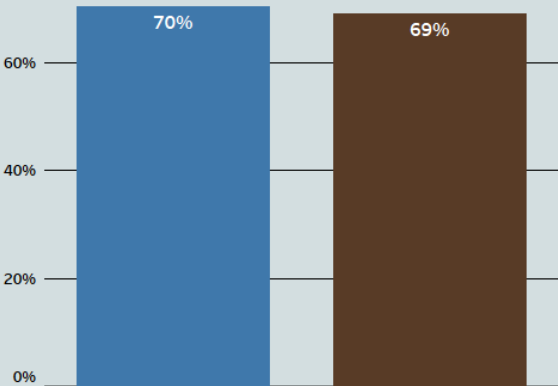
Comparison of Cancer Survivors and Those Without a Cancer Diagnosis (KyBRFS, 2018-19)

~ 500,000 Cancer Survivors estimated currently in Kentucky

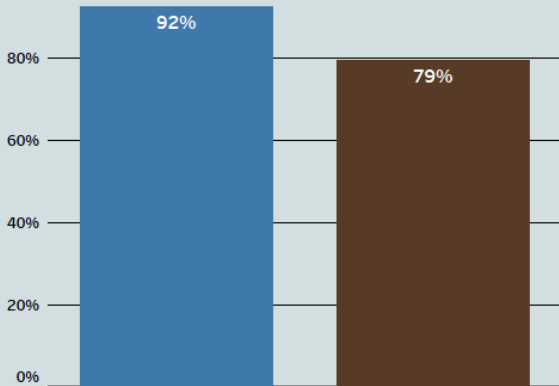
Current Smoker



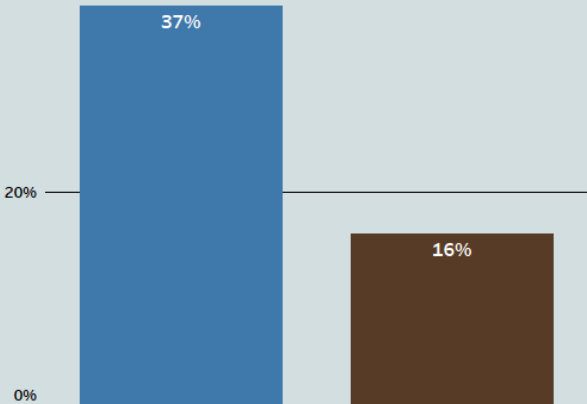
Unhealthy Weight (BMI > 25)



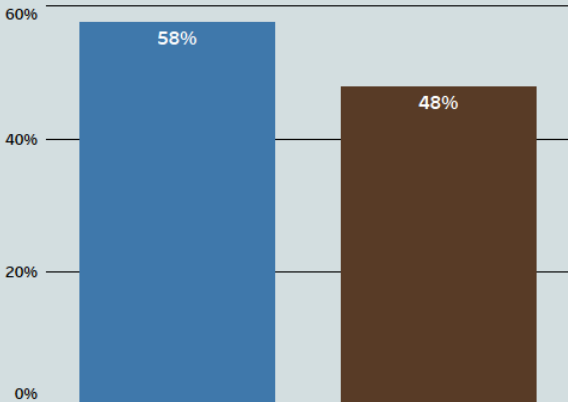
Has a Primary Care Physician



Met Lung Cancer Screening Guidelines



Physically Inactive



Quality of life for cancer survivors over the past 30 days

Poor general health	60.9% more likely to experience this than those without a cancer diagnosis
Experienced poor physical health on 14 or more days	75.4% more likely to experience this than those without a cancer diagnosis
Experienced poor mental health on 14 or more days	5.4% more likely to experience this than those without a cancer diagnosis
Experienced physical limitations due to health on 14 or more days	32.5% more likely to experience this than those without a cancer diagnosis

■ Cancer Survivor ■ No Cancer Diagnosis

Focus Groups: Survivor Mental Health Needs

- "But the reality is there's **no in-person support groups right now**. I spent today trying to find a an individual therapist, and everybody's either... **full up** they're **not taking any new patients**."
- "We probably need **more mental health professionals** down here. Everybody needs more mental health professionals right now. When I first got a cancer diagnosis, the **insurance company sent me a letter** in the mail that I could talk to an **oncology nurse**, and I talked with her, and that was really helpful to have like a **third party person** not involved in like my achieving my plan and not family or friend who has any emotional investment but also not my doctor to talk to. That was **a really great support**."

Focus Groups: Survivor Quality of Life

- "She ended up having just about every kind of cancer you possibly have, and she was eighty-three years old... they **said that she wouldn't live six months**, but [she lived] two years. They put her on to **some experimental drug** and **obviously it helped**, but **I don't want to die that way.**"
- "I think they gave her family **false hope** and that they did things that work, probably, for some people because they're younger. They would choose to take extraordinary measures at the end of their life, but I think they did things that probably **lowered her quality of life** at the end when it was **inevitable that she was going to pass away.**"

Focus Groups: Survivor Follow-up Needs

- "Because a lot of times, especially the physical therapy or all of that [survivor supports] **requires referrals** and sometimes that **can be a process**, depending upon the **type of medical insurance**."
- "And the other person I met with... was like 'well, I don't understand **why a young pretty women like you wouldn't want to have that surgery done**.' So I think that there is sort of like pressure to meet **traditional gender stereotypes** in reconstruction, and you know, like how you deal with that that sort of thing, and also with like fertility issues."

Focus Groups: Survivor Follow-up Needs

- "They found that she had Medicaid it's like 'oh we're sorry, **this is an experimental treatment, and this isn't covered by Medicaid.**' So, [we asked] how much does this cost. It will **cost you about \$100,000** to get this, and it might as well have been a million dollars. I have followed the research and it has been phenomenal, and it's **so sad that we live in a world that \$100,000 is worth more than an extra 10 to 15 years of my mother's life.**"

Discussion: Cancer Survivors

Share your thoughts and ideas about:

1. **SURPRISES** and new insights from the data
2. **GAPS** in data for future attention
3. **ACTION** opportunities suggested by the data

Make notes to share out loud during discussion, or share your ideas in the chat box in this format to label the type of idea:

SURPRISE: Type your idea

GAPS: Type your idea

ACTION: Type your idea



Overall Reflection and Discussion



Healthy People 2030 Cancer Goals

Healthy People 2030 Cancer Goals

Goal	HP2030 Source	US Baseline	Target	Kentucky
Reduce the overall cancer death rate (per 100k people)	NVSS	149.1	122.7	189.3
Reduce the lung cancer death rate (per 100k people)	NVSS	34.8	25.1	59.9
Reduce the female breast cancer death rate (per 100k women)	NVSS	19.7	15.3	20.8
Reduce the colorectal cancer death rate (per 100k people)	NVSS	13.4	8.9	16.4
Reduce the prostate cancer death rate (per 100k men)	NVSS	18.8	16.9	19.1
Increase the proportion of cancer survivors who are living 5 years or longer after diagnosis (%)	SEER	64.1	66.2	63.1
Increase the proportion of oral and pharyngeal cancers detected at the earliest stage (%)	SEER	29.5	34.2	29.7



Kentucky currently worse than US baseline



Kentucky better than US baseline, but worse than target

The NHIS isn’t publicly available or representative at the state level, making a direct comparison to Healthy People cancer goals based on this source impossible. For interest of comparison, a similar measure has been provided for each using the KyBRFS from 2016 to 2019.

Goal	HP2030 Source	KY Source	US Baseline	Target	Kentucky
Increase the proportion of adults who get screened for lung cancer (%)	NHIS	KyBRFS	4.50	7.50	21.20
Increase the proportion of females who get screened for breast cancer (%)	NHIS	KyBRFS	72.80	77.10	80.80
Increase the proportion of adults who get screened for colorectal cancer (%)	NHIS	KyBRFS	65.20	74.40	69.90
Increase the proportion of females who get screened for cervical cancer (%) *	NHIS	KyBRFS	80.50	84.30	78.30

* Kentucky value only includes percentage of women 21-64 who have not had a hysterectomy and received a Pap test

Discussion: Overall

Share your thoughts and ideas about:

1. **SURPRISES** and new insights from the data
2. **GAPS** in data for future attention
3. **ACTION** opportunities suggested by the data

Make notes to share out loud during discussion, or share your ideas in the chat box in this format to label the type of idea:

SURPRISE: Type your idea

GAPS: Type your idea

ACTION: Type your idea



Next Steps



CNA Data Resources: Coming Soon



**Summary Report:
Key Highlights**

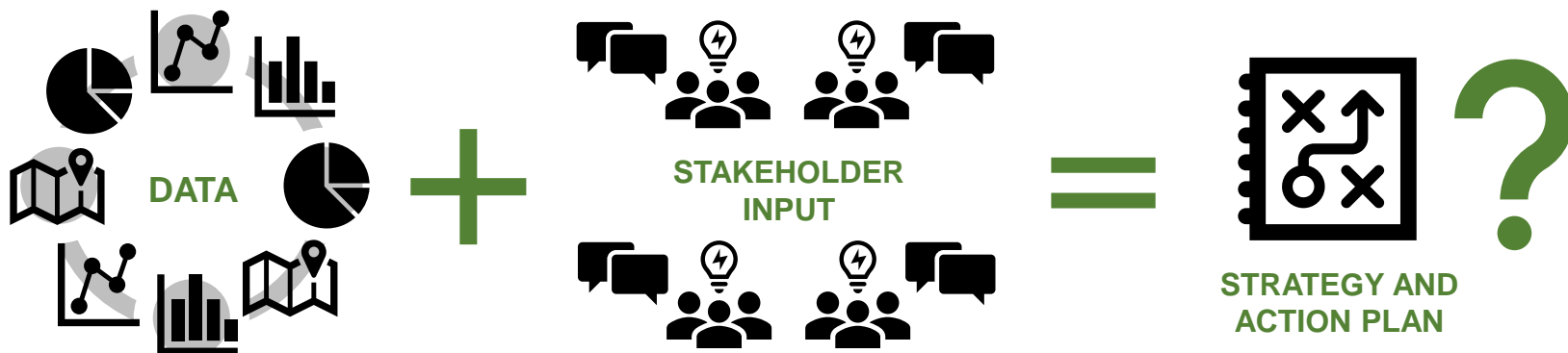
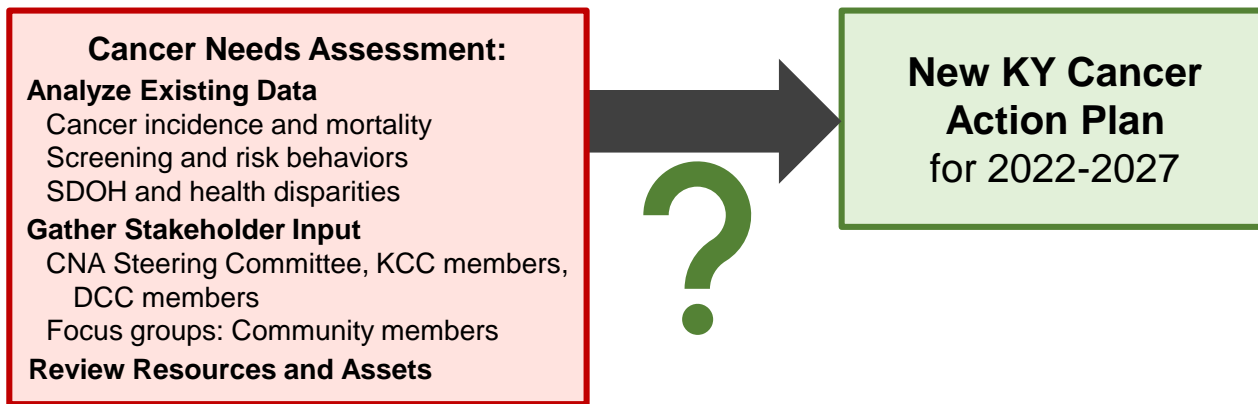


**Web Portal:
Interactive Mapping
and Tables**

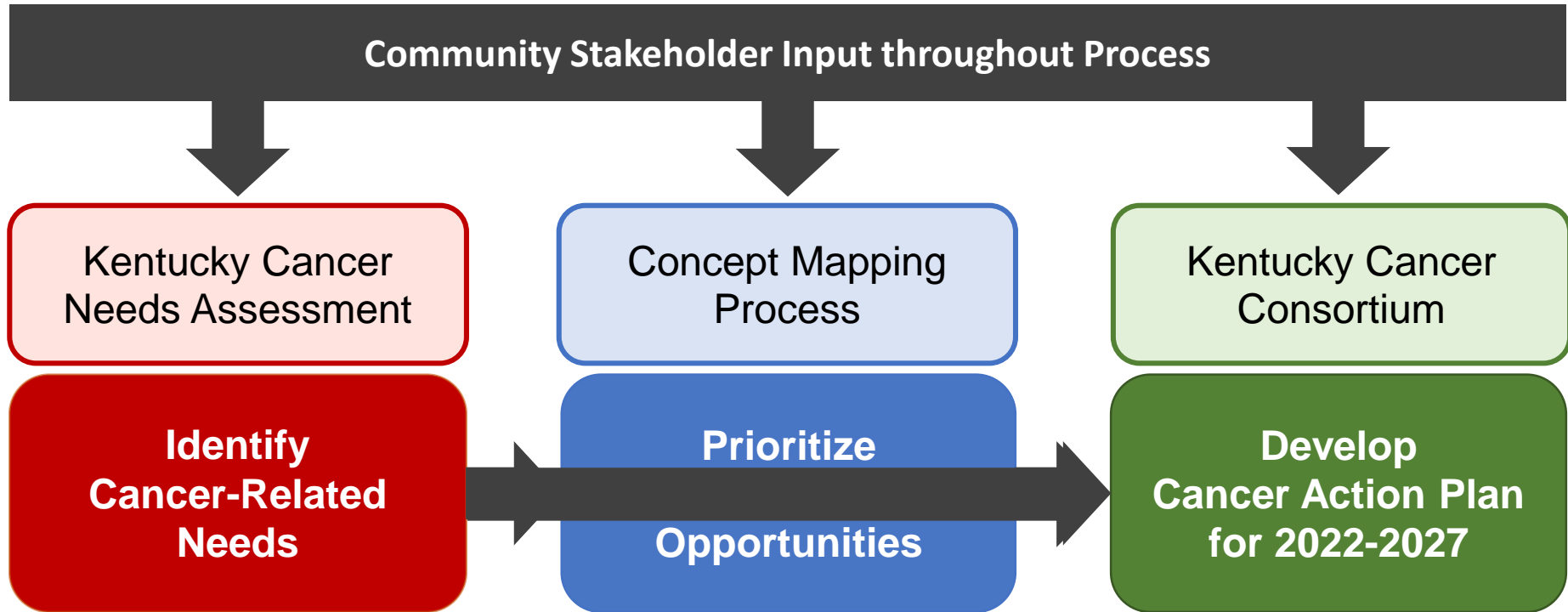


District Profiles

Lots of Data and Stakeholder Input ... Now What?



Next Steps: How CNA will be used for new CAP





What is Concept Mapping?

1. Preparation

- Outline planning goals
- Determine participant recruitment process

2. Generation

- Brainstorming and idea generation around focal question
- *Generate list from CNA

3. Structuring

- Sorting and rating the brainstormed items
- *Stakeholder organizations and lay community members

4. Representation

- Run multi-level analysis to create concept maps

5. Interpretation

- Group discussions to understand meaning of concept maps
- *Stakeholder organizations and lay community members

6. Utilization


- How findings can be used to inform planning goals
- *Use results to identify priorities & objectives for CAP

- Concept mapping is “a **structured process, focused on a topic** or construct of interest, involving input from one or more participants, that produces an interpretable **pictorial view** (concept map) of their ideas and concepts and how these are interrelated” (Trochim, 1989)
- **Participatory** method (directly engaging stakeholders) to **identify priorities**

Example Sorting Activity in Groupwisdom Concept Mapping Software

← Sorting

ENG ▼

 Cards

12
⋮

Availability of home care options

8
⋮

Equitable access to treatment services

1
⋮

Availability of community health workers

4
⋮

Availability of cancer screenings

16
⋮

Health literacy

14
⋮

Poverty

47
⋮



0 of 22 statements sorted

[More info >](#) ⋮

FINISH

FOCUS PROMPT: >What are all the factors, good or bad, that affect cancer services (e.g., prevention, screening, treatment, supports for survivors/caregivers) in your community?

▼ Expand All | ▲ Collapse All




Drag and drop cards to create piles

- Completely online and accessible by computer/tablet/mobile phone at any time
- Time: Total 30-60 minutes; does not have to be done in one sitting
- Provides detailed step-by-step instructions

Example Rating Scale in Groupwisdom Concept Mapping Software

RATING← How important is this item for receiving cancer services in your community? ENG ▼

 0 of 22 statements rated More info > ⋮ **FINISH**

FOCUS PROMPT: What are all the factors, good or bad, that affect cancer services (e.g., prevention, screening, treatment, supports for survivors/caregivers) in your community?

1 Culturally appropriate care

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not at all important	Somewhat important	Important	Very important	Extremely important

2 Social support

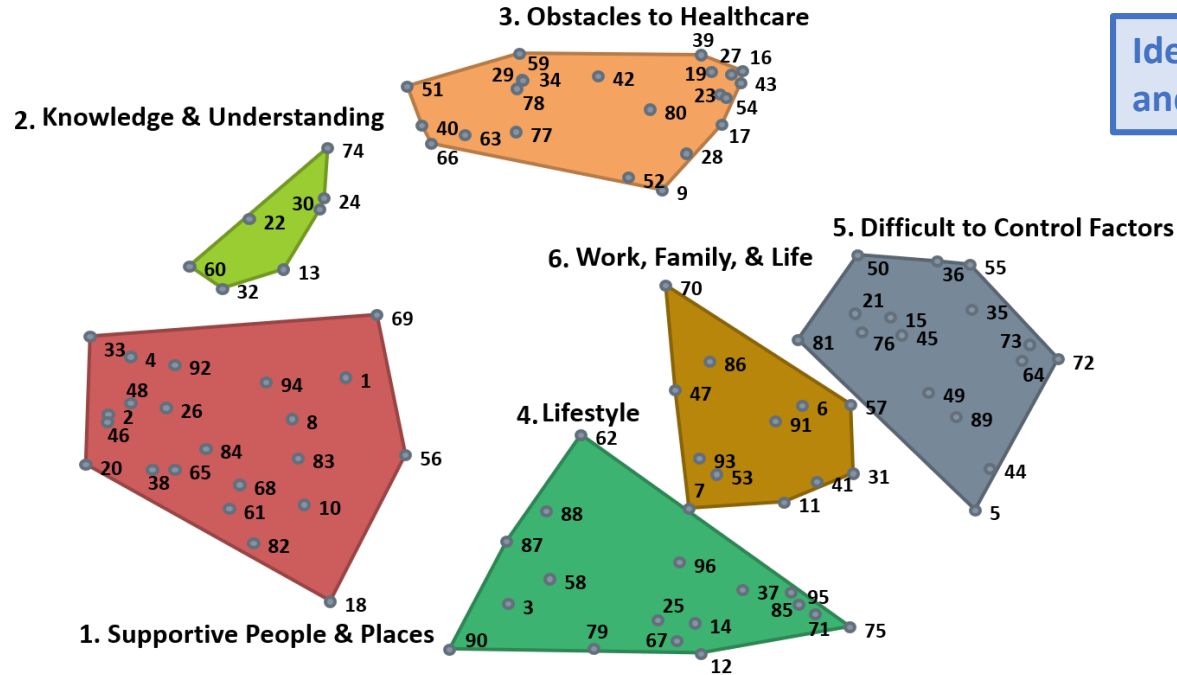
1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not at all important	Somewhat important	Important	Very important	Extremely important

3 Equitable access to treatment services

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not at all important	Somewhat important	Important	Very important	Extremely important

- Completely online and accessible by computer/tablet/mobile phone at any time
- Time: Total 20-30 minutes per rating (if 2 ratings: total 40-60 minutes); does not have to be done in one sitting
- Provides detailed step-by-step instructions and easy to use radio buttons

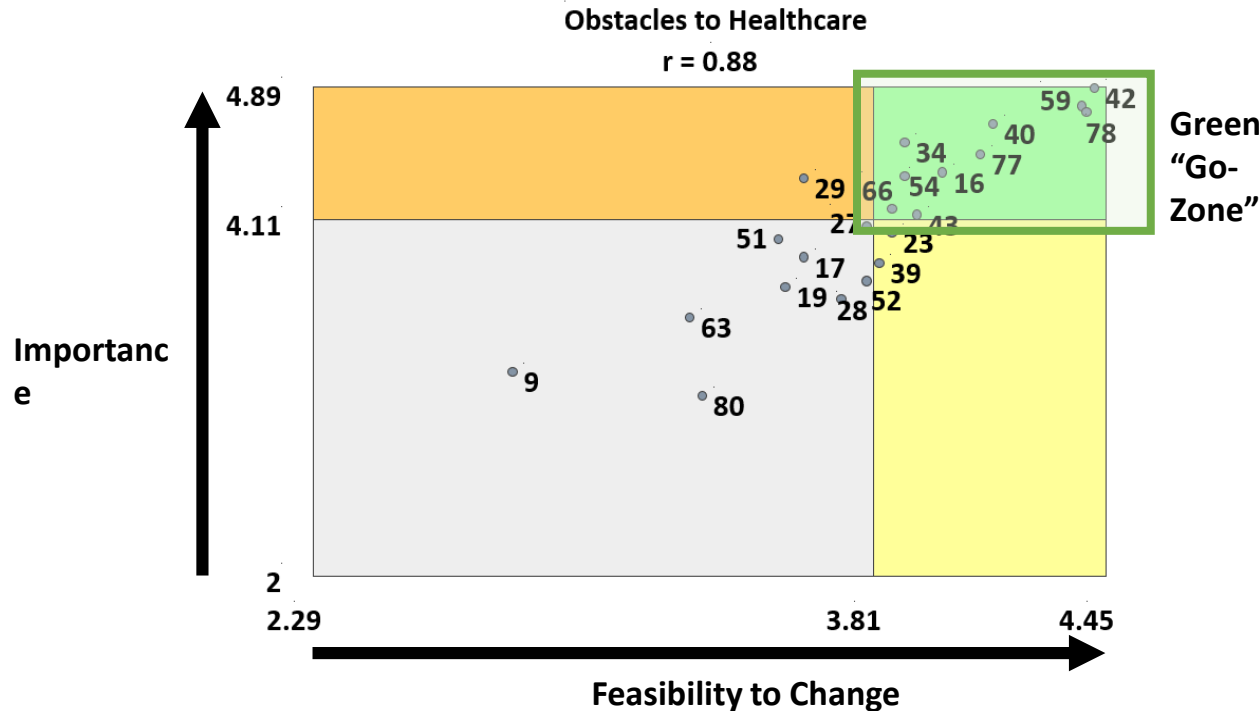
Example Concept Mapping Results: Combined Point and Cluster Map



Identify key themes
and priority areas

- Created from the combination of all sorting data
- Items that are closer together were more often sorted together by participants
- Cluster analysis identifies item groups by conceptual area
- Foundation for a conceptual framework and identification of priority areas

Example Concept Mapping Results: Go-Zone Plots



Identify potential strategies and actions

Sample Items:

16. Cost of medication, even with insurance coverage
 34. Availability of specialist doctors in the community
 40. Going to annual doctor visits
 42. Healthcare affordability
 43. Insurance changes repeatedly causing changes in doctors making it hard to get appointments/plan an overall health strategy
 54. Cost to maintain proper health screenings
 59. Good medical insurance
 66. Seeing a dentist regularly to address tooth decay and gum disease
 77. Availability of women's health care services
 78. A doctor you trust

- Allows for exploration within specific clusters
- Can be used to identify specific items (e.g., items in the green "Go-Zone") high across multiple rating scales or to compare different participant groups

Next Steps

- Preparing list of key findings from CNA to be used in online concept mapping tool
- Aiming to send out invitations for online concept mapping in late October
- Provide concept mapping findings to KCC Leadership Committee in December

QUESTIONS & DISCUSSION

