

Cancer in Cherokee County

Mary Charlton, PhD & Amanda Kahl, MPH

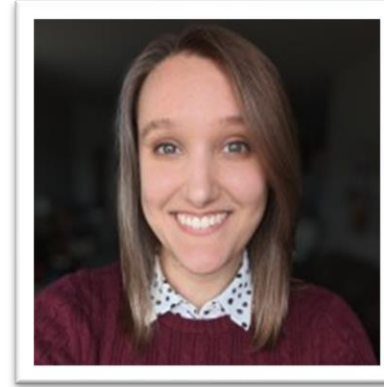
March 25, 2025

Who we are



Mary Charlton, PhD

- Professor, University of Iowa College of Public Health
- Director, Iowa Cancer Registry
- President, Iowa Cancer Consortium
- Co-Leader of the Cancer Epidemiology & Population Science Program, Holden Comprehensive Cancer Center
- Research: Rural/ Urban differences in cancer prevention, screening, & quality of care



Amanda Kahl, MPH

- Epidemiologist, Iowa Cancer Registry
- Studies:
 - Associations between viral infections & cancer
 - Rural-urban differences in treatment and quality of cancer care
 - Cancer Registry data quality

99 Counties Project Team



Iowa Cancer
Consortium

www.canceriowa.org



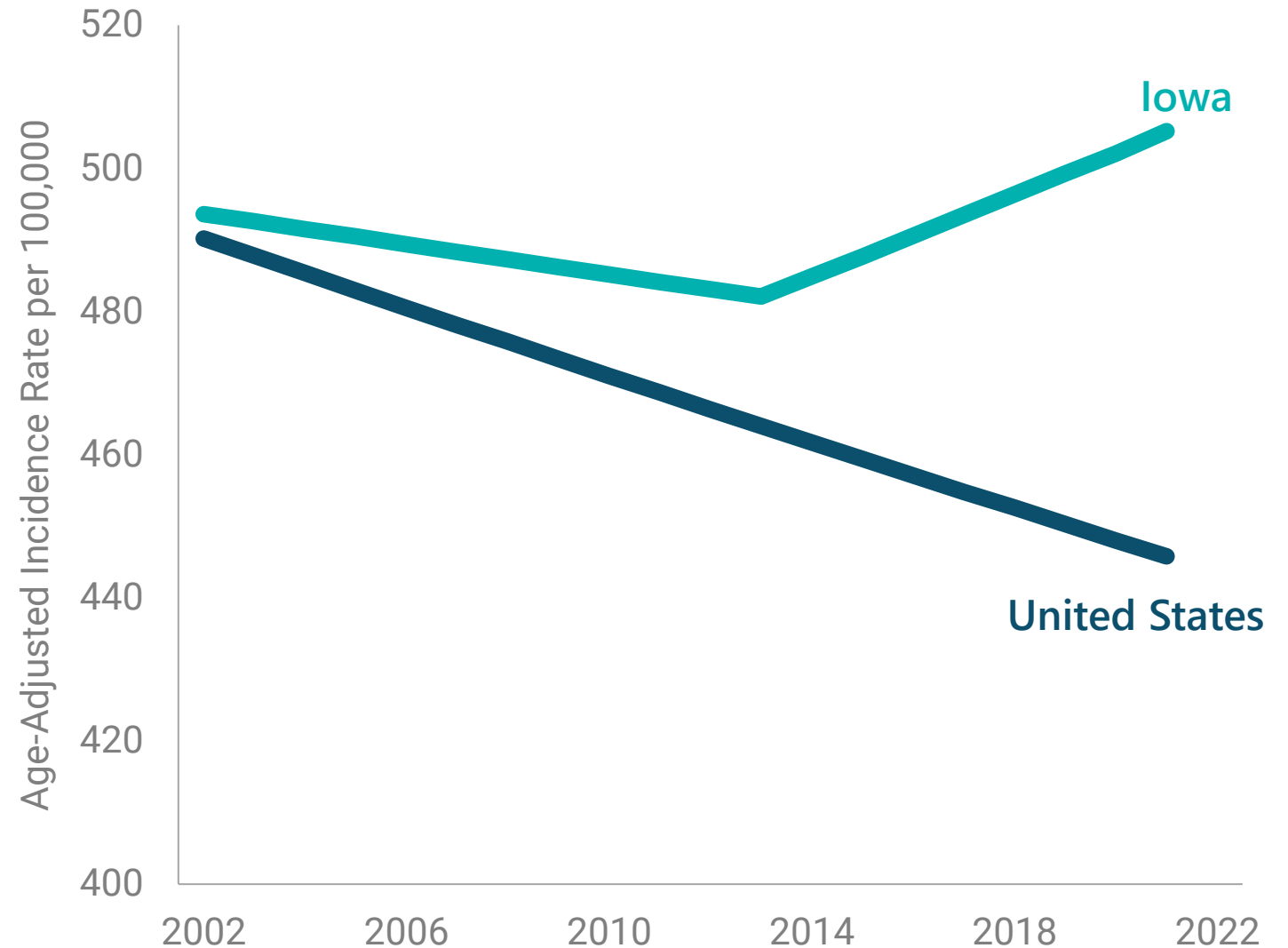
IOWA
HEALTH CARE

Holden Comprehensive
Cancer Center

IOWA™ | Health and
Human Services

Iowa has the **second** highest rate of new cancers in the U.S.

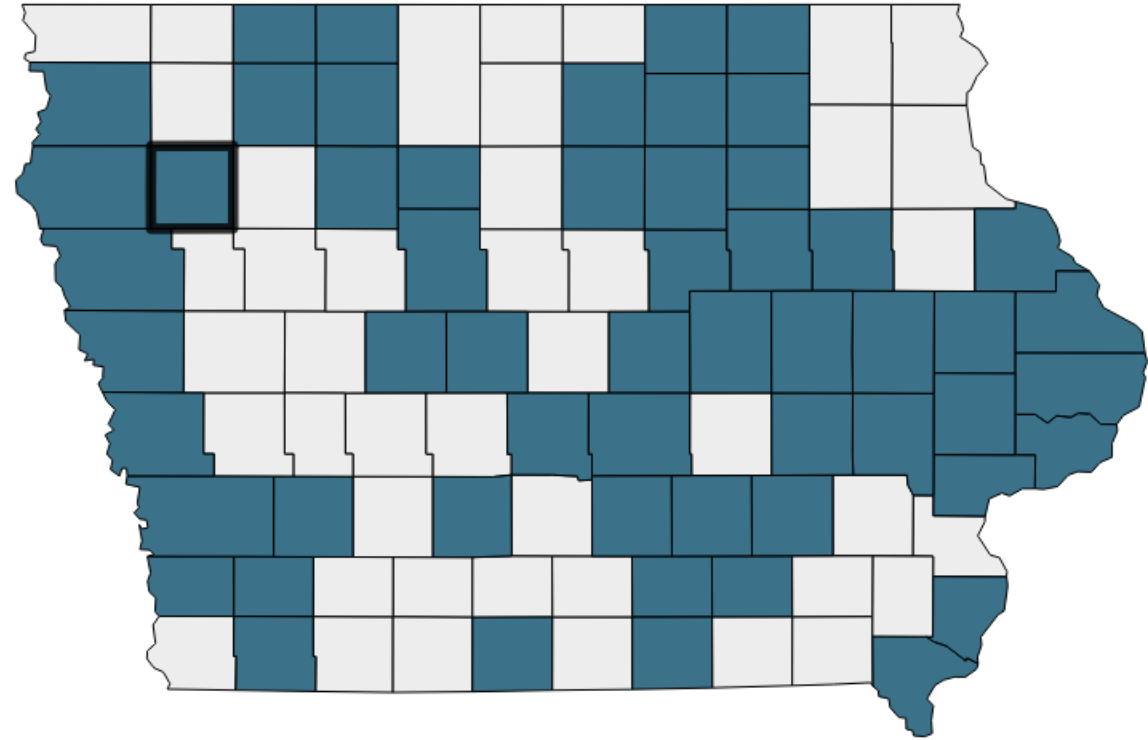
Iowa's rate is rising while the rest of the country improves



Over half of Iowa's counties have a higher incidence rate than the U.S.

56 Counties with rates **OVER** the national average

0 Counties below the national average



■ Above National rates
■ Similar to National rates

About the Project

Goal: to enhance **community engagement** & **education** around cancer prevention and control across all of Iowa's 99 counties.



Present county-specific cancer data



Listen



Provide Resources



Recommend actions

*“Statistics are people
with the tears wiped away”*

Dr. Irving Selikoff

Cancer Control Partners in Iowa

State Government



Governor

- Implement state laws
- Advance and pursue policies and programs

Iowa Legislature

- Propose and vote on legislation
- Appropriate money to state agencies and programs
- Create and modify Iowa laws



Bureau of Chronic, Congenital and Inherited Conditions

Comprehensive Cancer Control Program

Cancer prevention, screening, survivorship

Care for Yourself
(Breast & Cervical Cancer Program)

Colorectal Cancer Screening Program

Bureau of Environmental Health Services

- Track environmental health-related diseases
- Assist local boards of health

Local (County) Public Health Services/Boards of Health

- Address health priorities and health disparities
- Promote healthy living
- Protect against environmental hazards
- Assure access to health services

Unity Point, MercyOne, Great River, Avera, Mayo, Methodist, Gundersen, Sanford and numerous independent **health systems, hospitals and clinics across Iowa**

Provide cancer prevention, screening, treatment, and survivorship services



Iowa Cancer Consortium

Advocate, collaborate, plan



Iowa Cancer Action Network

Advocate for better policies

ACS Iowa

Help with cancer treatment and recovery



Iowa's only NCI Designated Cancer Center

Health Care, research, education



STATE HEALTH REGISTRY OF IOWA

Data, research, education

UI Research Centers



Federal Funding for Cancer Control

- The Iowa Cancer Registry is funded in part with Federal funds from the **National Cancer Institute (National Institutes of Health)**, Department of Health and Human Services, under Contract No. HHSN261201800012I
- The Cancer in Iowa: 99 Counties Project is specifically funded by Federal funds from the **National Cancer Institute** through grant award: 5R01CA254628-04S2, and through National Cancer Institute funds provided to the University of Iowa Holden Comprehensive Cancer Center (P30CA086862)
- The Iowa Cancer Consortium acknowledges the **Centers for Disease Control and Prevention (CDC)** for its funding support under cooperative agreement NU58DP007103 awarded to the Iowa Department of Health and Human Services (Iowa HHS).

The contents of this presentation are solely the responsibility of the authors and do not necessarily represent the official views of CDC or the National Institutes of Health/National Cancer Institute.

Iowa Cancer Registry Goals



Assemble & report data on new cancers, cancer deaths, & survival

Respond to **data requests** from organizations & individuals

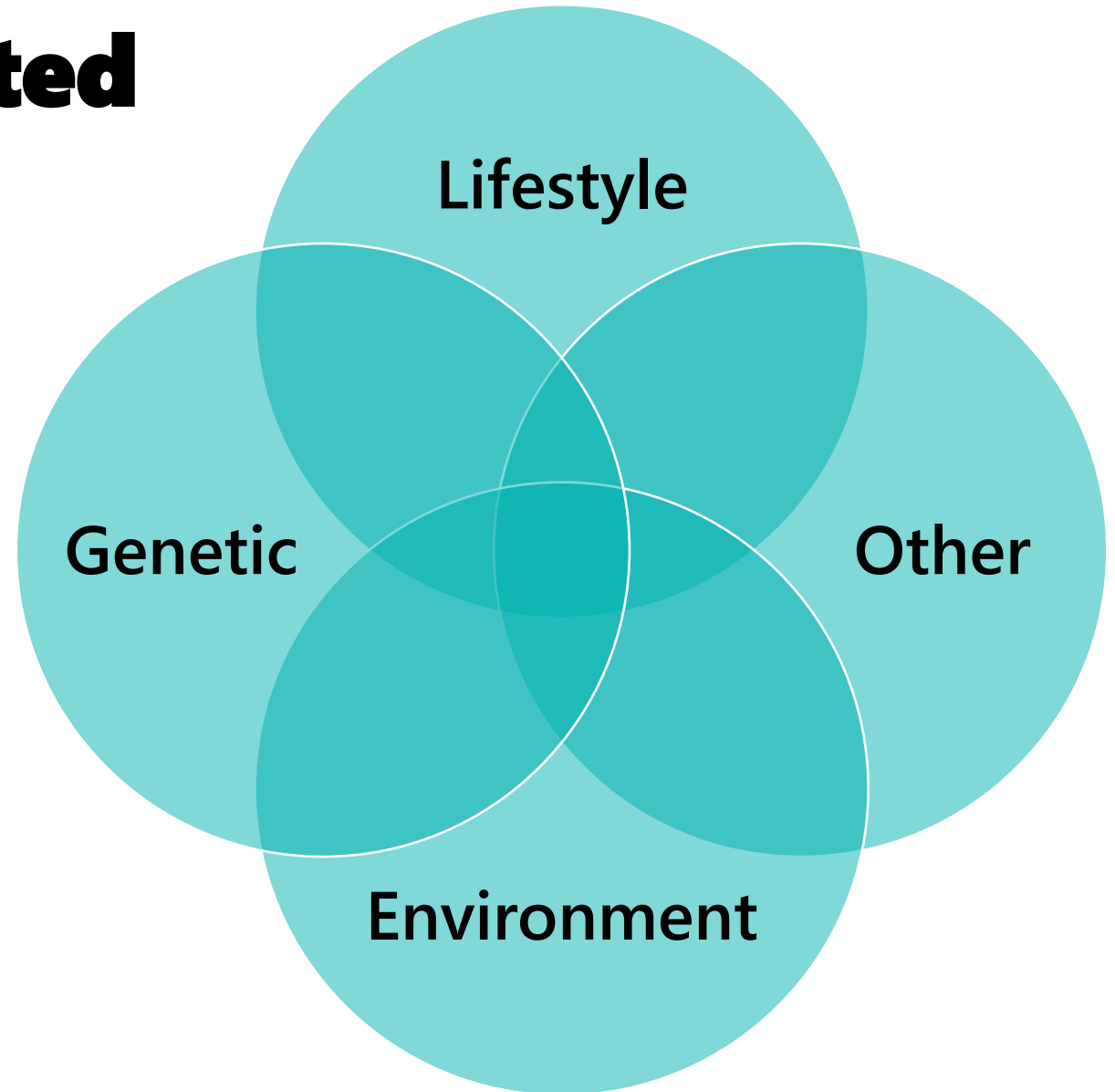
Support studies for cancer prevention, research, & education



Background on Cancer

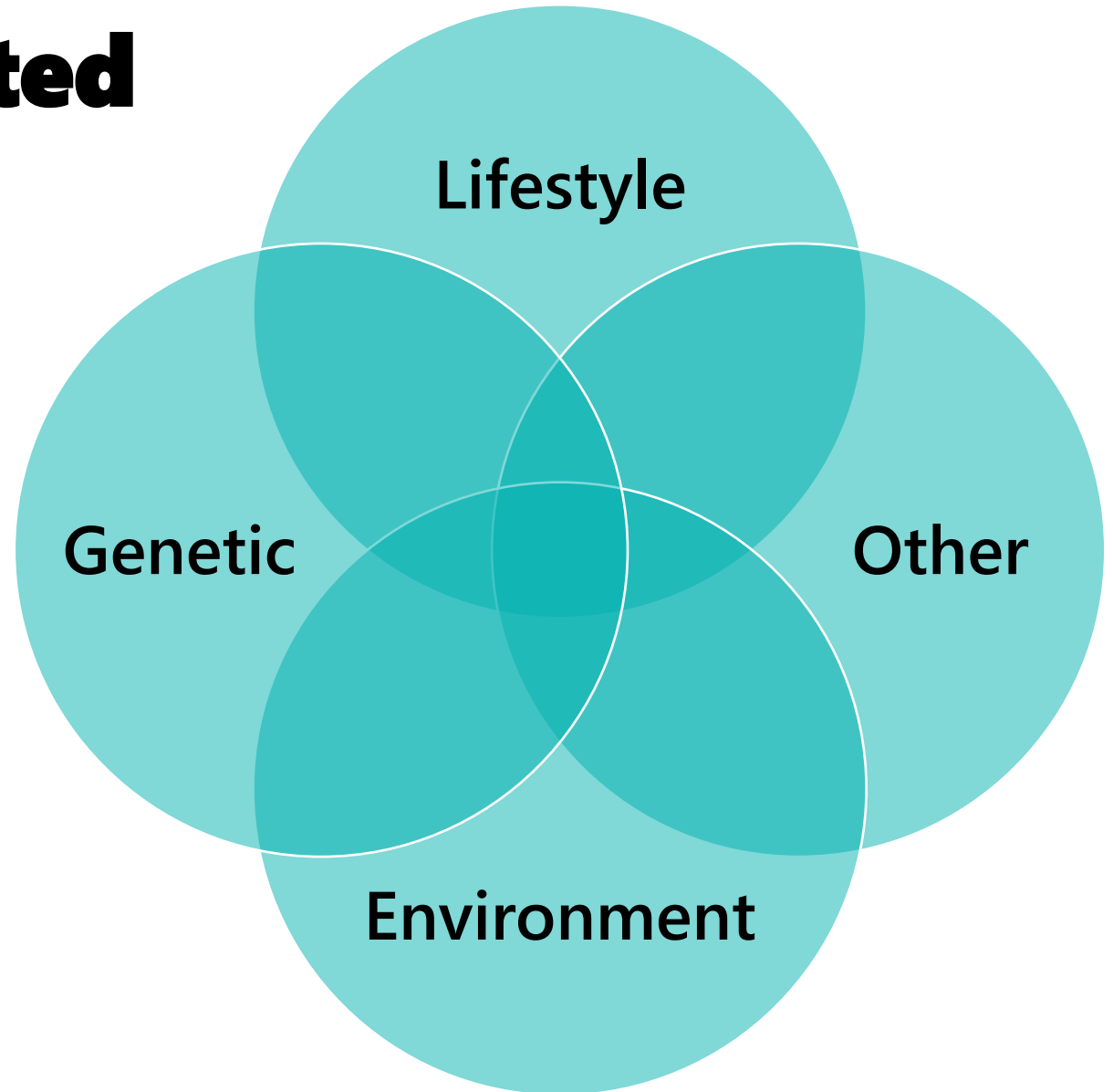
Cancer is Complicated

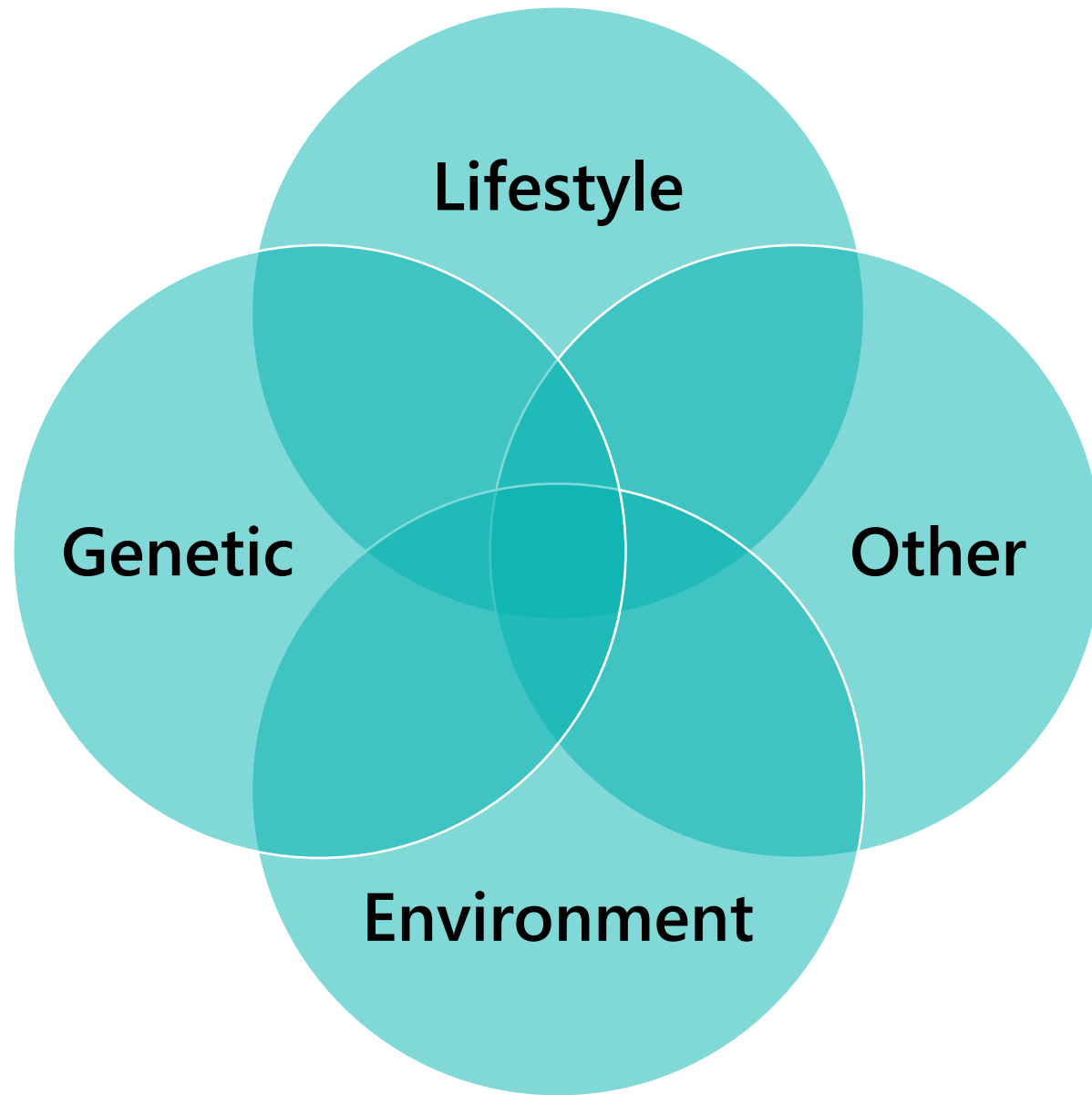
There is no one cause of cancer; it is a combination of different **genetic, lifestyle, environmental,** and **structural** risk factors that change the function of cells



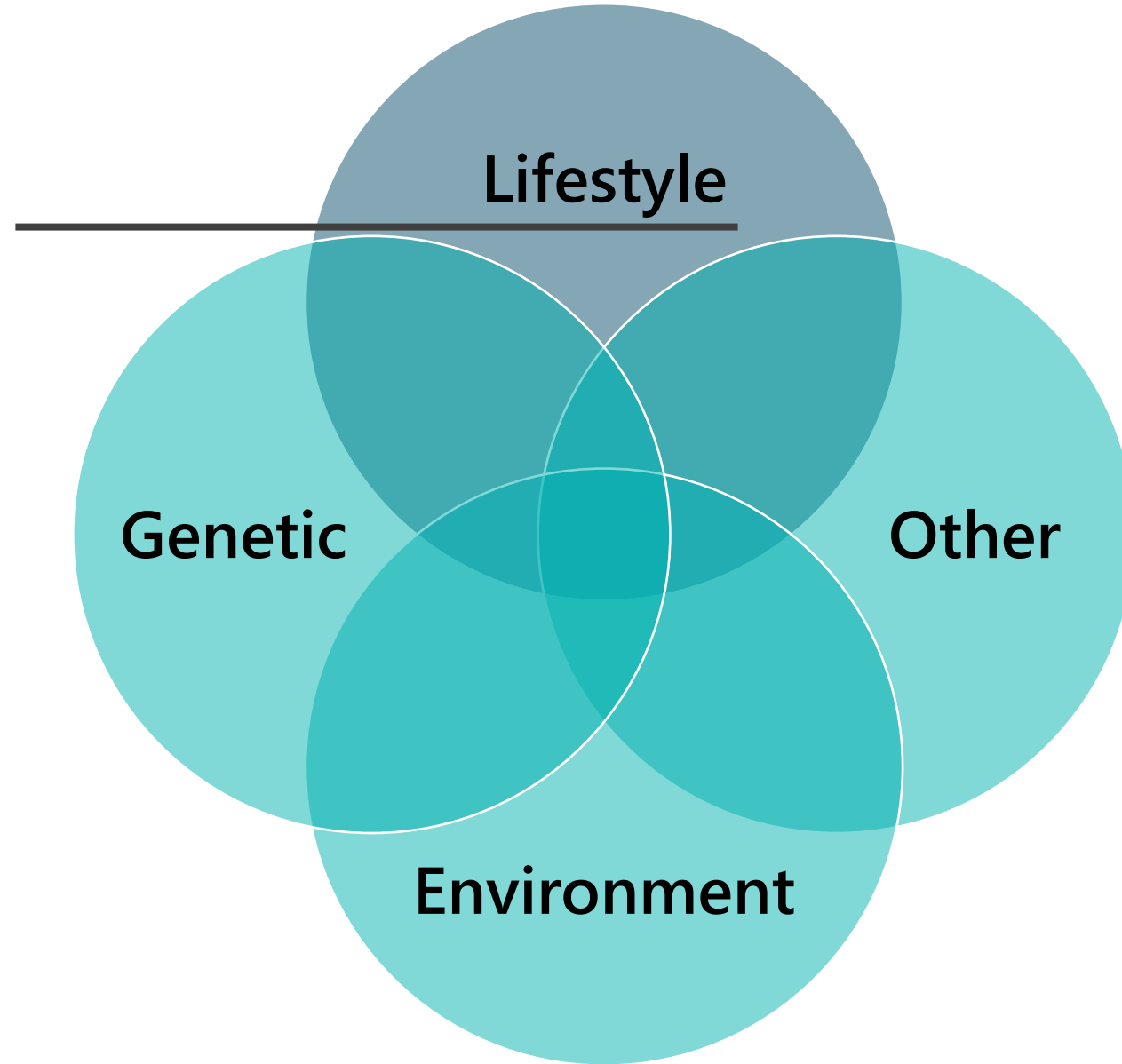
Cancer is Complicated

Risk factors are things that increase your chances of getting cancer

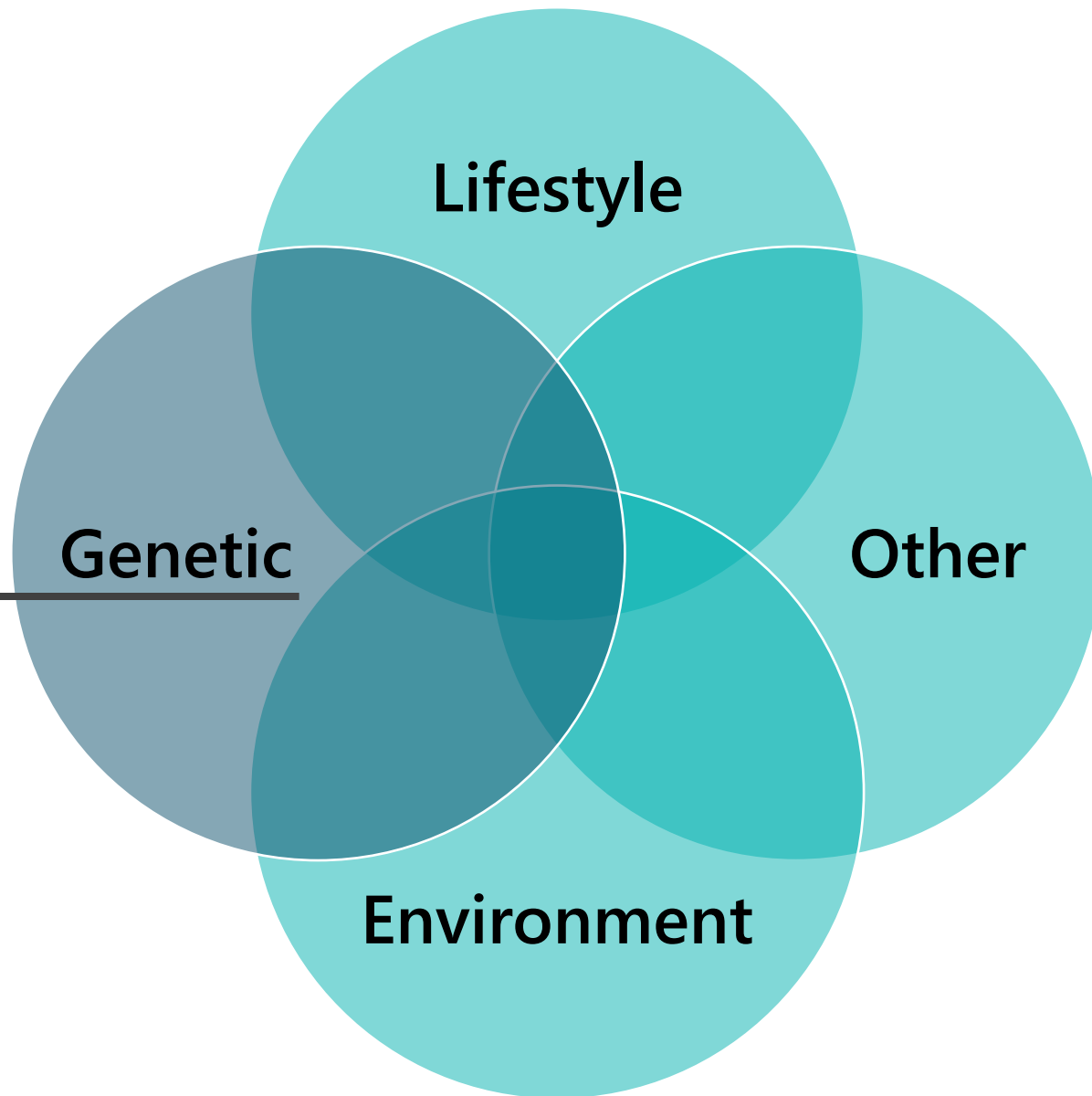


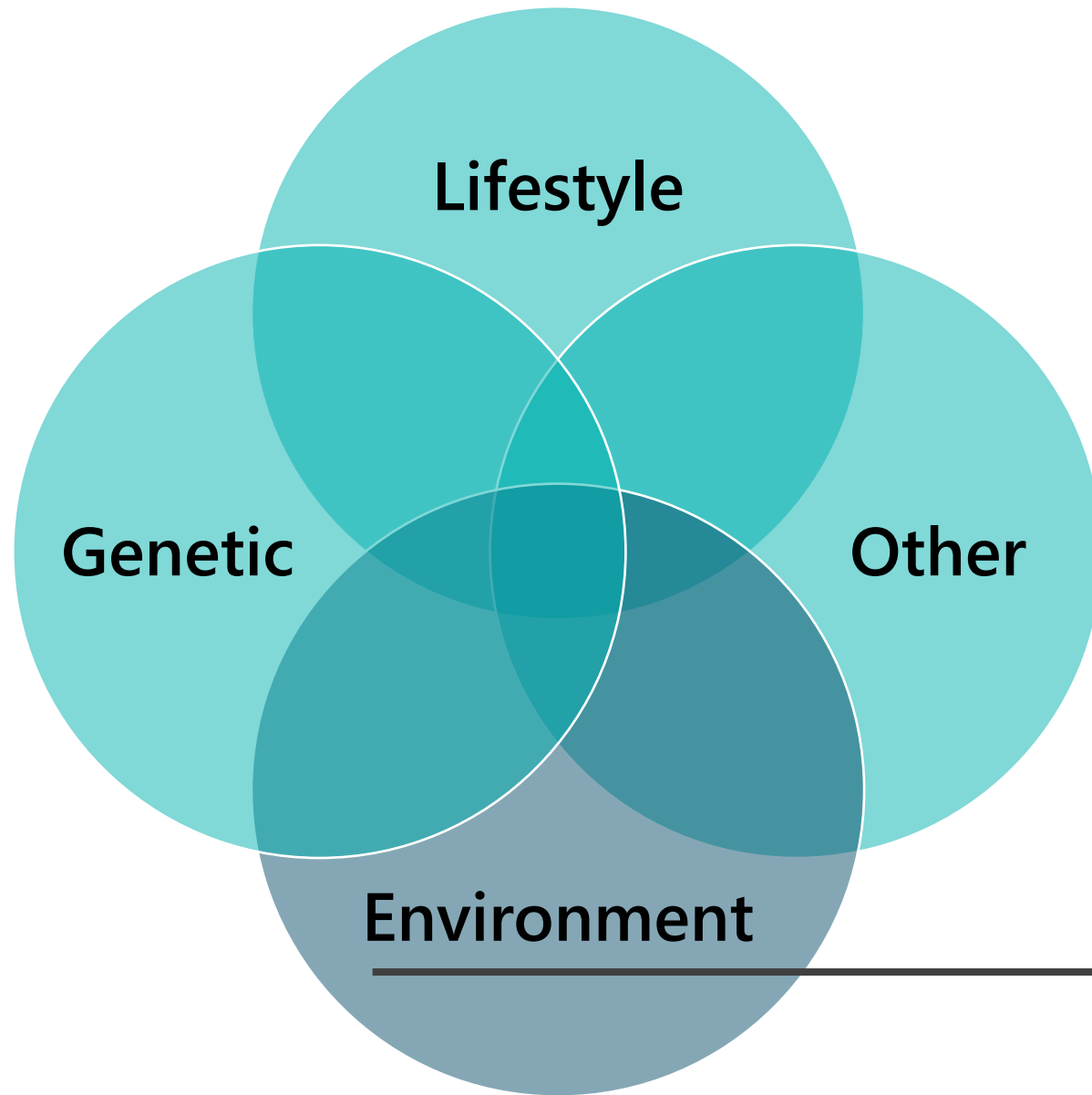


- Tobacco
- Alcohol
- Unhealthy diet
- Not being physically active
- Sunburns

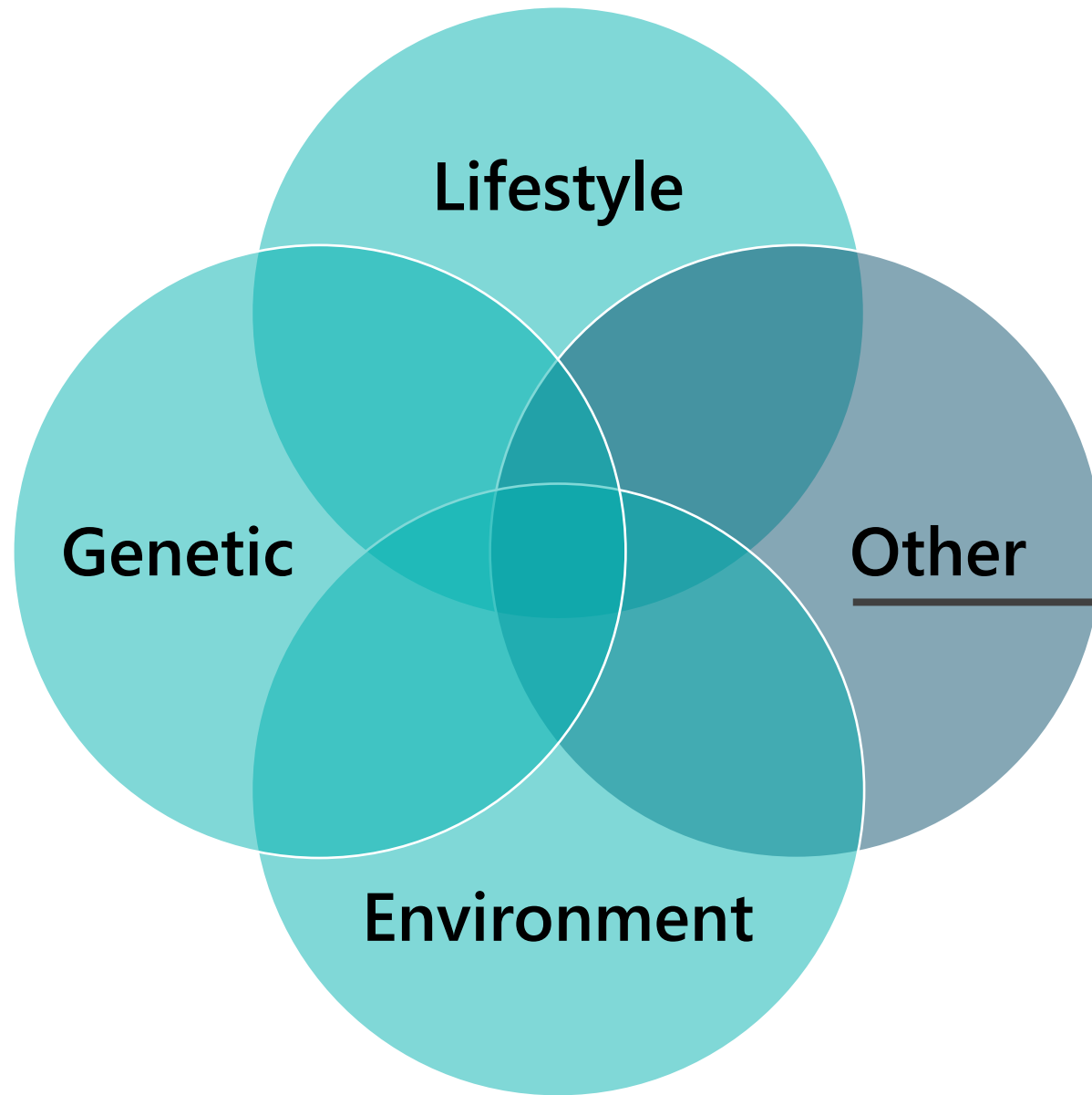


- Family history of cancer
- Random mutations





- Exposure to chemicals
- Radiation



- **Aging**
- Viruses (HPV, HIV)
- Medical conditions like chronic inflammation

Cancer & the Environment

- Many Iowans understandably have questions about potential links between environmental exposures and cancer
- This is an important area of continued research, and Iowans are right to ask questions and be cautious
- ICR, along with other population-based cancer registries, do not collect data on environmental risk factors, but we do share our data with researchers to support studies of cancer & environmental risk factors

Risk Factors

- There can be many years between exposure to risk factors & cancer development, which makes it difficult to prove connections.
 - For example, lung cancer may not occur until 30 years after a person starts smoking
- To reduce your risk, **avoid risk factors** whenever possible
- Today we will focus on things you can do to reduce your cancer risk. These things can be addressed at the state, community, and individual levels.



Key Terms

Incidence & Mortality

- Incidence
 - Number of **new cases** of a disease occurring during a specified time period in a population
- Mortality
 - Number of **deaths** from a disease that occur during a specified time period in a population

Rates & Counts

- Counts
 - The **number** of new cases diagnosed or deaths from cancer
- Rates
 - Adjusts the counts to give a **# per 100,000 people**
- Age-Adjusted Rates
 - Addresses the question: *If the size and age of the populations were the same, would there be a difference in outcomes?*

Stage definition used today

- **Early Stage includes**
 - **Localized:** Cancer is limited to the place where it started, with no sign that it has spread
- **Late Stage includes**
 - **Regional:** Cancer has spread to nearby lymph nodes, tissues, or organs.
 - **Distant:** Cancer has spread to distant parts of the body

<https://www.cancer.gov/about-cancer/diagnosis-staging/staging>

How to read the graphs

Unless otherwise stated,
bars are your county data

Grey boxes on
bar graphs are
95% Confidence
Intervals.

These are used to
determine if rates
are statistically
different from
each other

Black lines on
bar graphs
are United
States data





Cancer in Cherokee County

New Cancers in Cherokee County

All cancer types, average counts and rates, 2017-2021

Each year, there are about

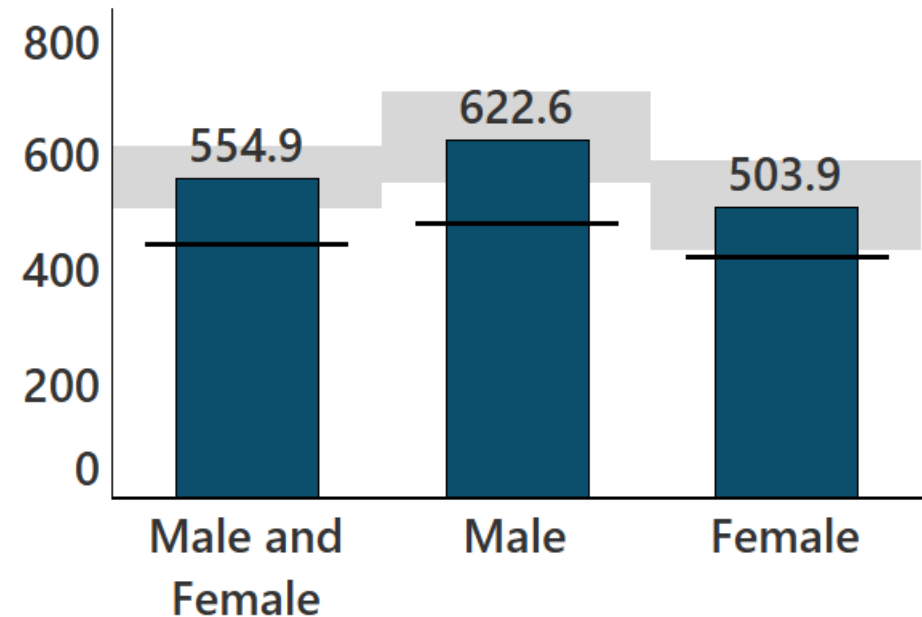
100

new cancers diagnosed in
Cherokee County

Cancer incidence rates in Cherokee
County are **higher than the U.S.
average**

Ranks #3 of 99 counties

Cancer incidence rates are typically
higher in men than women



Age-Adjusted rate per 100,000 (2017-2021)

Cancer deaths in Cherokee County

All cancer types, average counts and rates, 2018-2022

Each year, there are about

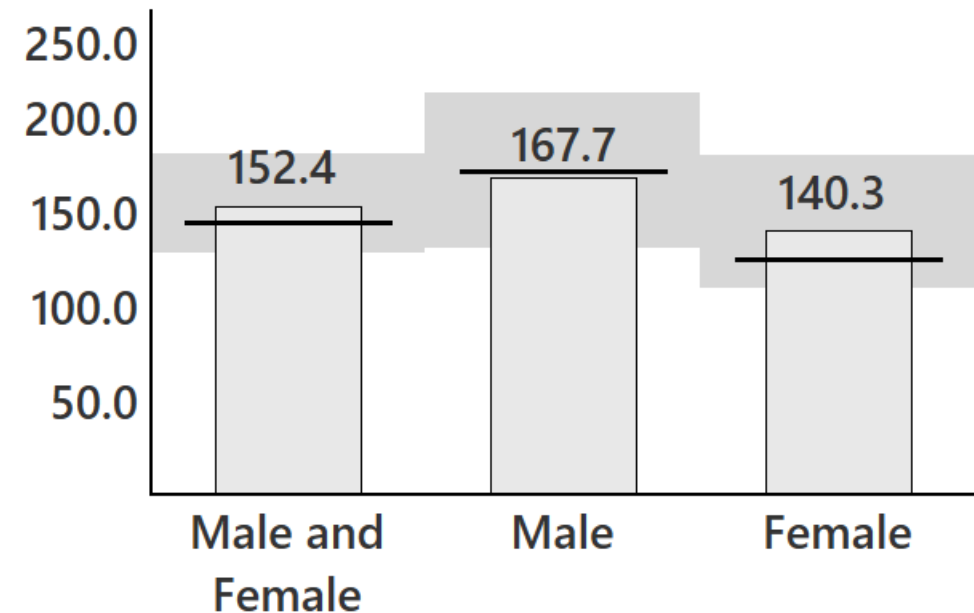
32

cancer deaths in Cherokee County

Cancer mortality rates in Cherokee County are **not different from the U.S. average**

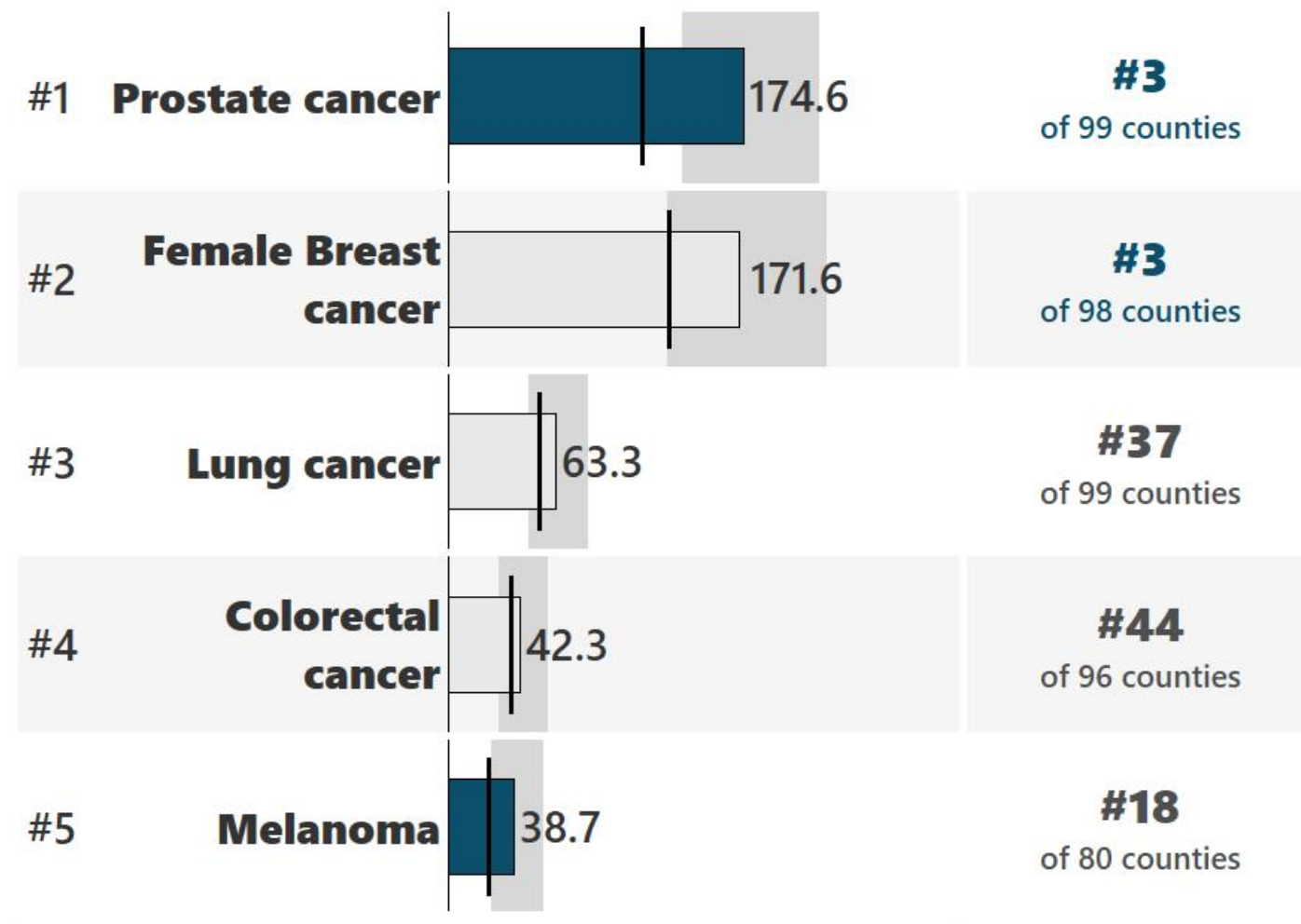
Ranks #48 of 99 counties

Cancer mortality rates are typically higher in men than women



Age-Adjusted rate per 100,000 (2018-2022)

Top cancers in Cherokee County



Age-Adjusted rate per 100k, 2017-2021

Rank compared to other counties, where #1 is highest in the state

#1 | Prostate cancer

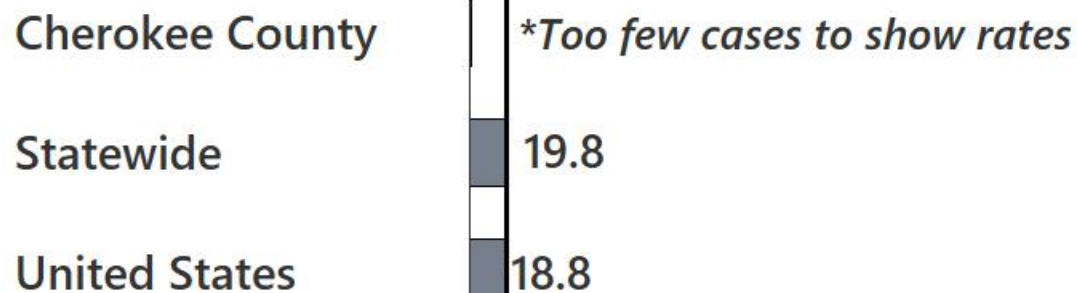
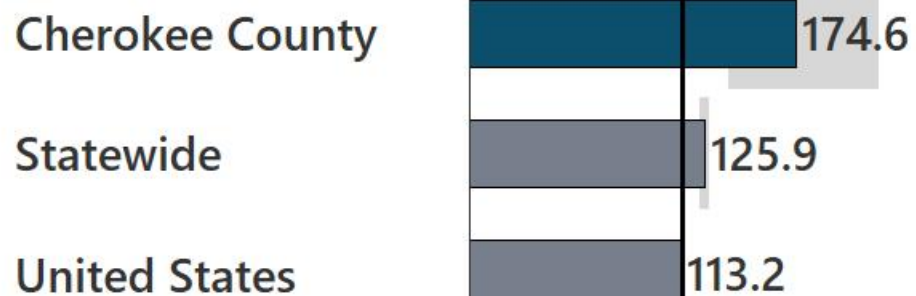
Each year in Cherokee County, there are about...

17

New Cases per year

<6

Deaths per year



Age-Adjusted Rate per 100,000
Incidence (2017-2021); Mortality (2018-2022)

#1

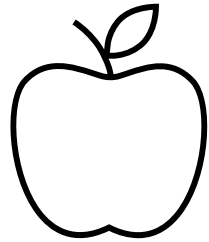
#2

#3

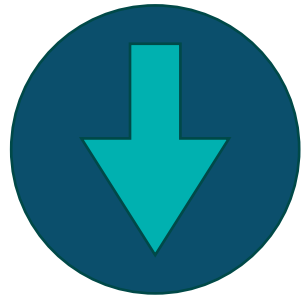
#4

#5

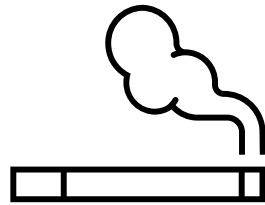
What can you do to prevent prostate cancer?



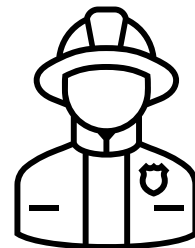
Healthy
Foods



Alcohol



Smoking

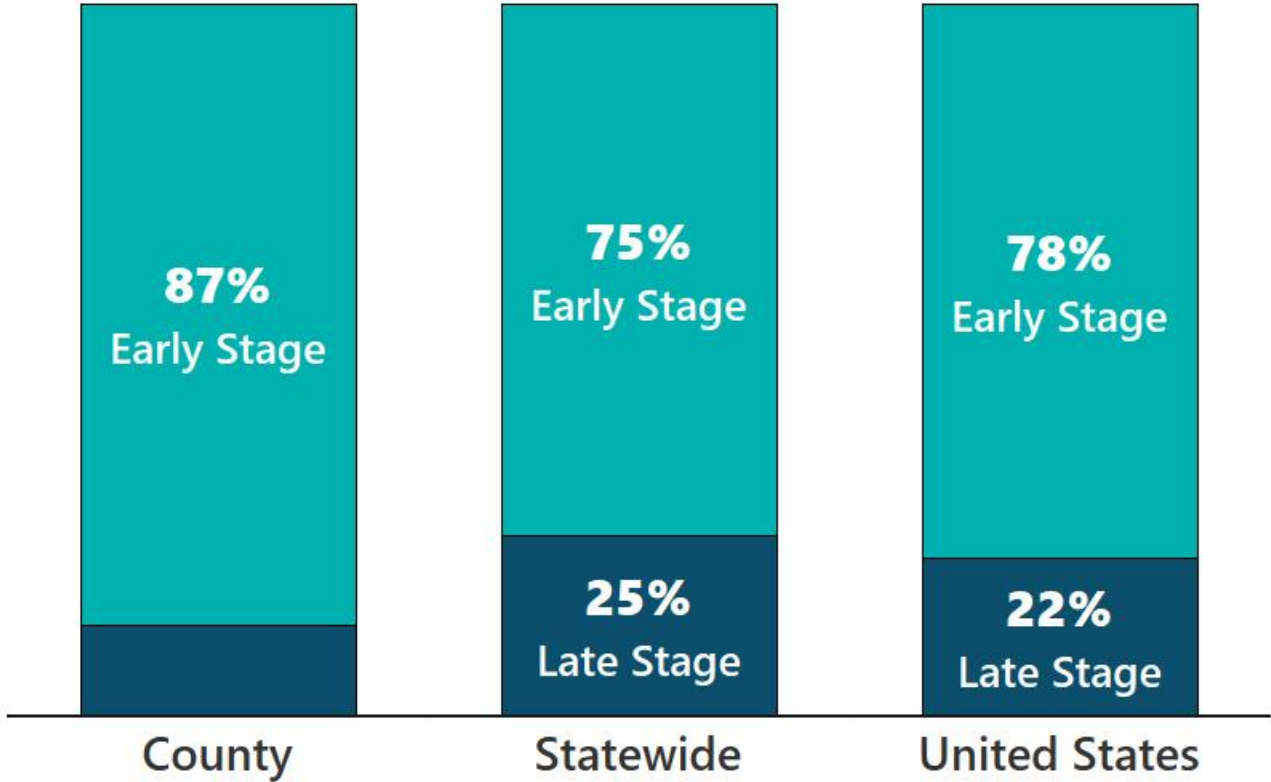


Chemical
Exposures

**+ Get
Screened!**

#1 | Prostate cancer Stage at Diagnosis

Early stage = Easier to treat, Higher survival rates

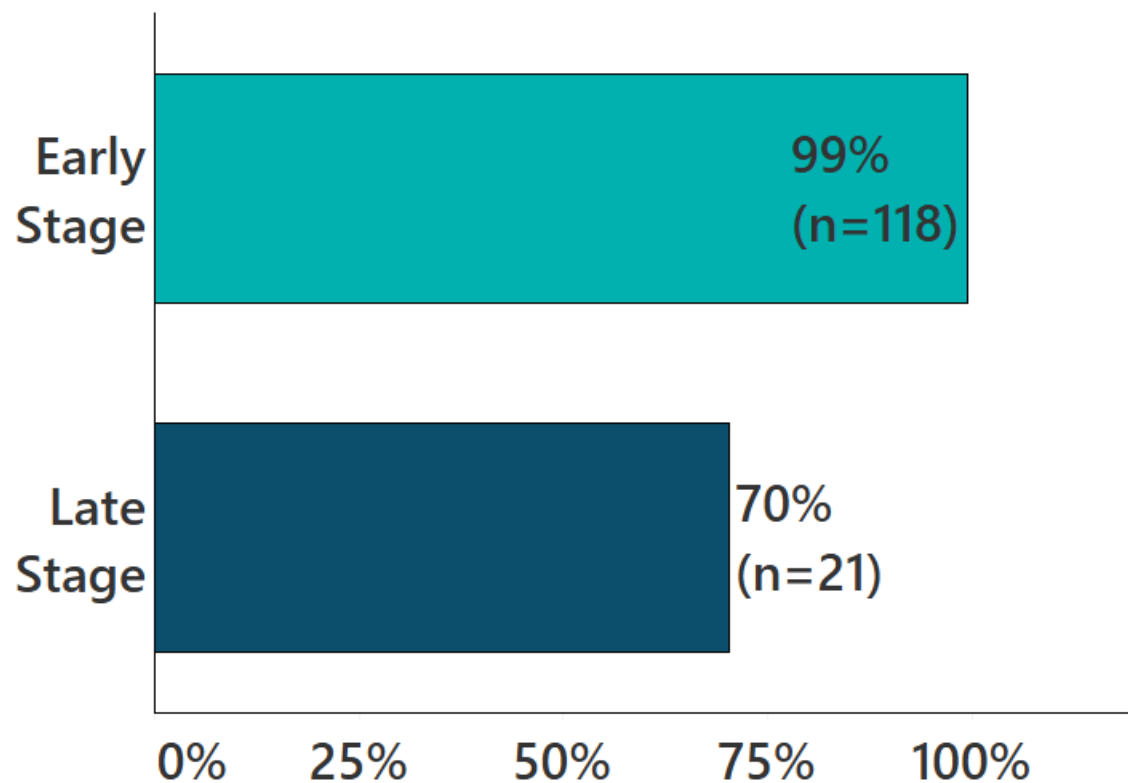


13%
Diagnosed at a Late Stage

- #1
- #2
- #3
- #4
- #5

#1 | Prostate cancer | 5-Year Survival

5-Year Relative Survival Rates, by Stage



Finding cancer early leads to higher survival rates

#1

#2

#3

#4

#5

Prostate Cancer Screening

Screening Guidelines

Screening test: Prostate-specific antigen (PSA) blood test

If you have a prostate and are 55-69 years old, discuss with your doctor if a PSA test is right for you

(U.S. Preventative Services Task Force)

#2 | Female Breast cancer

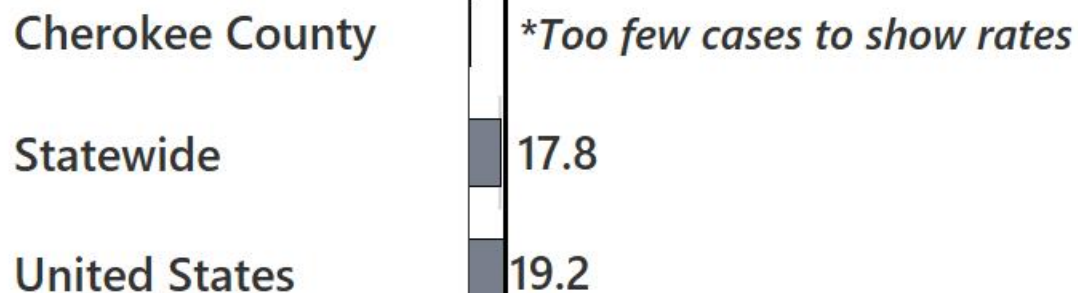
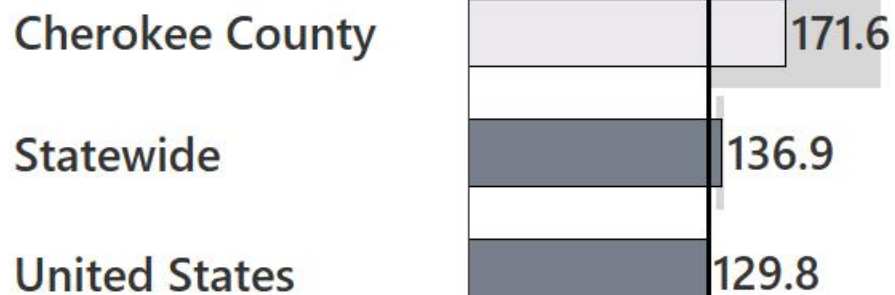
Each year in Cherokee County, there are about...

14

New Cases per year

<6

Deaths per year



Age-Adjusted Rate per 100,000
Incidence (2017-2021); Mortality (2018-2022)

#1

#2

#3

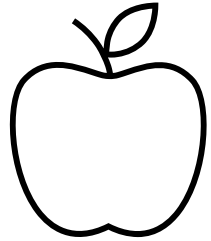
#4

#5

What can you do to prevent breast cancer?

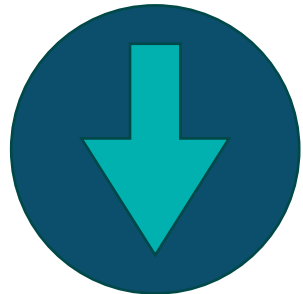


Physical
Activity



Healthy
Foods

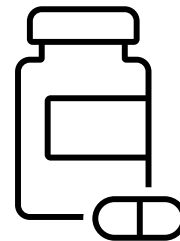
**+ Get
Screened!**



Alcohol



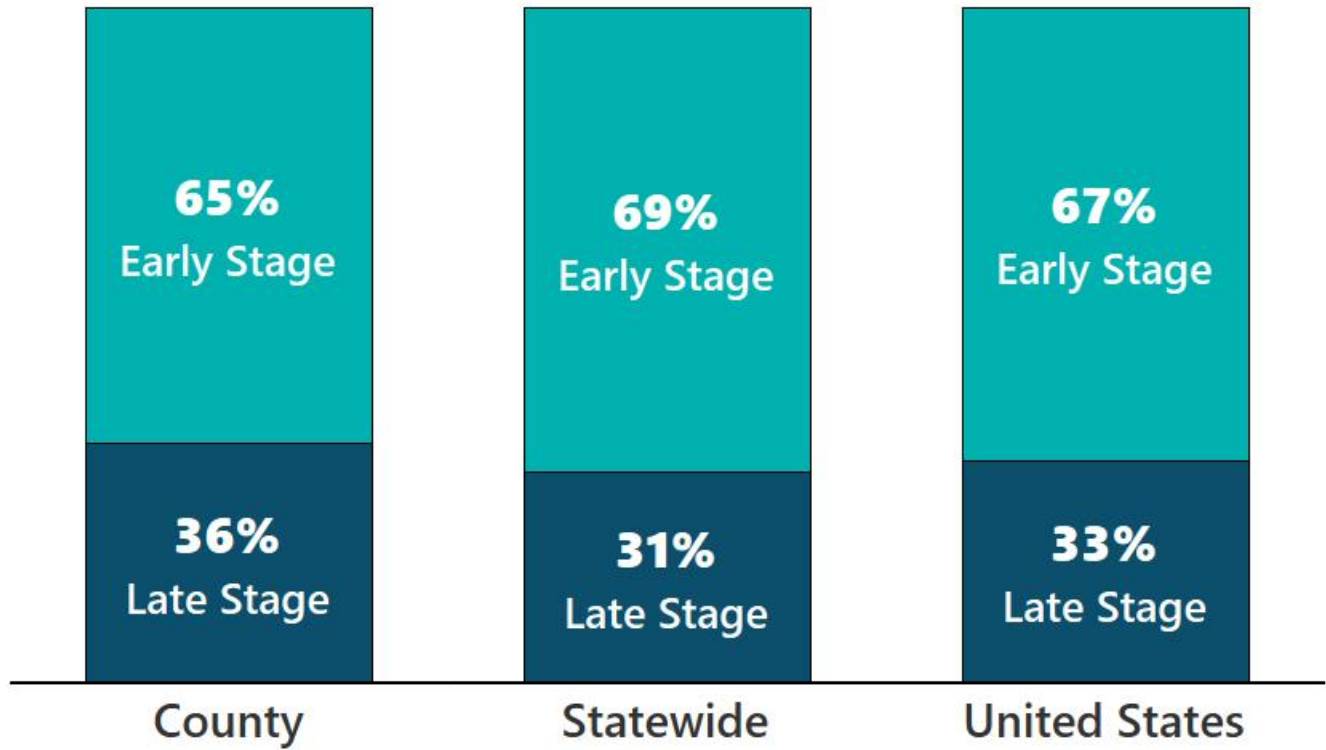
Excess Body
Weight



Taking
Hormones

#2 | Female Breast cancer | Stage at Diagnosis

Early stage = Easier to treat, Higher survival rates



36%
Diagnosed at a Late Stage

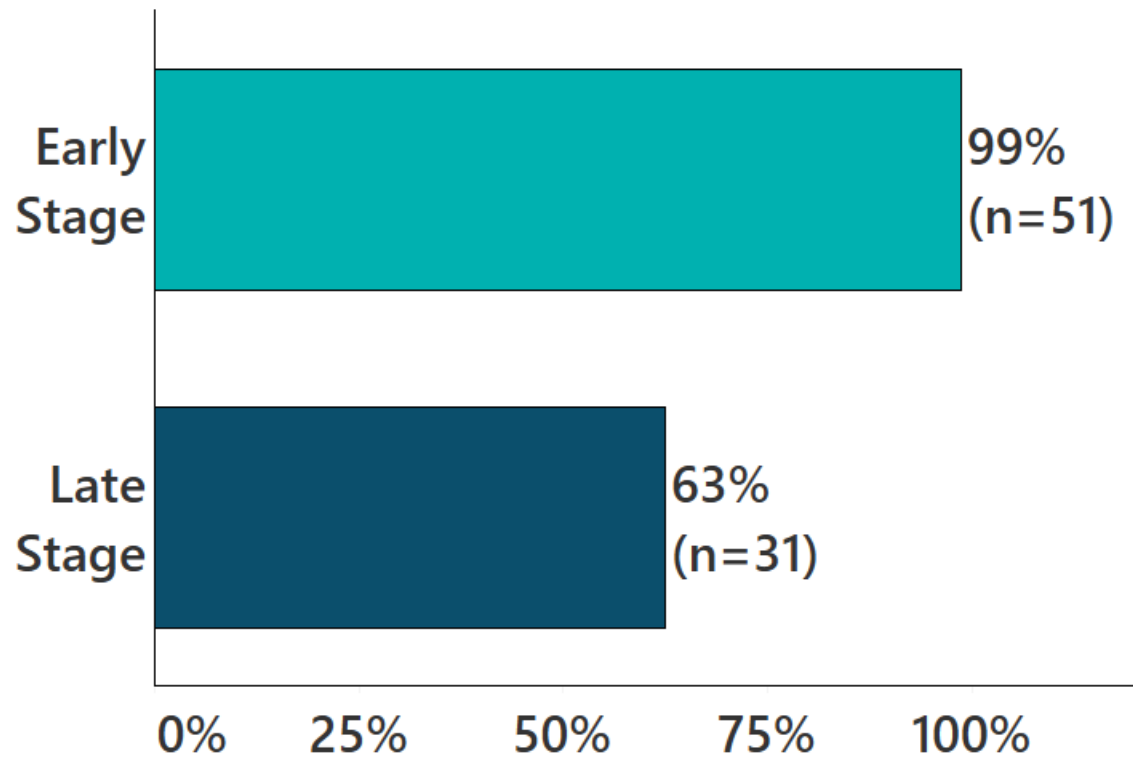
- #1
- #2**
- #3
- #4
- #5

Data from 2012-2021



#2 | Female Breast cancer | 5-Year Survival

5-Year Relative Survival Rates, by Stage

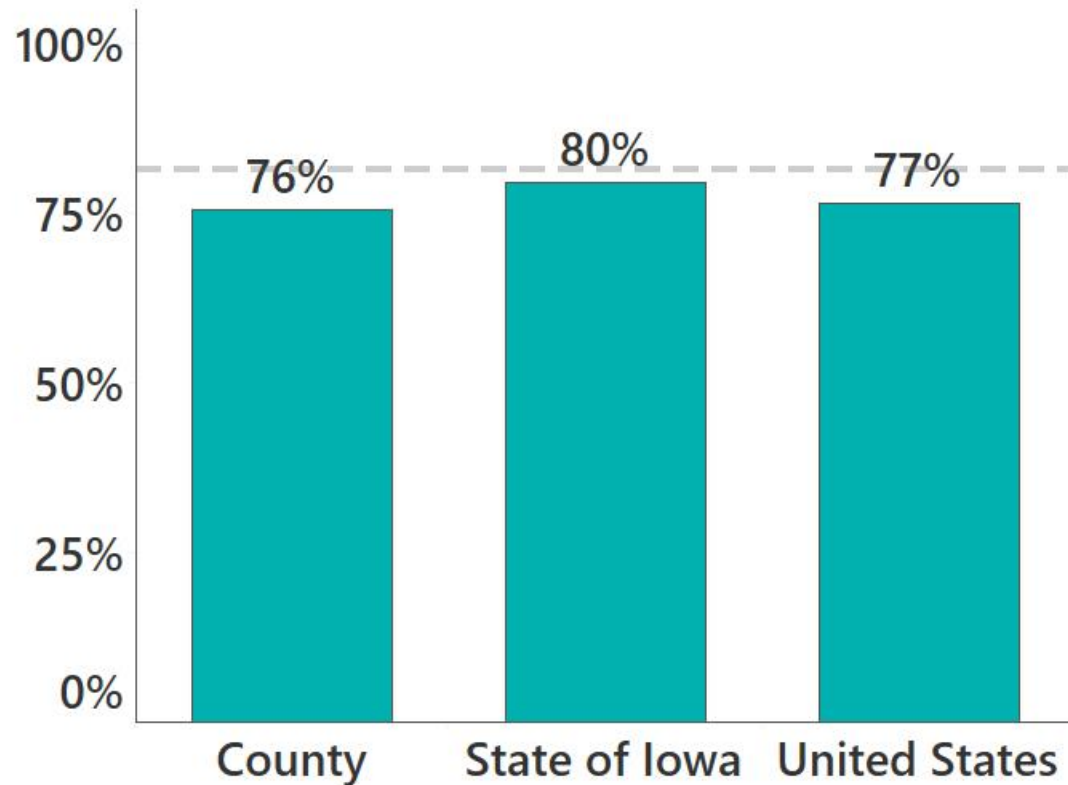


Finding cancer early leads to higher survival rates

- #1
- #2
- #3
- #4
- #5

Breast Cancer Screening

Women age 50+ who are up to date with their breast cancer screening



Screening Guidelines

People with breasts ages 40-74 should screen with a mammogram every 2 years

Talk to your doctor if you have a family history of breast cancer

(U.S. Preventative Services Task Force)

*Data from 2022 BRFSS
Goal: 81.4% by 2027*

The Care for Yourself – Breast and Cervical Cancer Program (CFY-BCC)

We provide free breast and cervical cancer screenings across Iowa.

- ▶ CFY-BCC is also called the Iowa Breast and Cervical Cancer Early Detection Program.
- ▶ CFY-BCC serves Iowans between 21 and 64 years of age.
- ▶ Are at or earn less than 250% of the Federal Poverty Level.
- ▶ Call (866) 339-7909 to speak to a confidential coordinator immediately.
- ▶ CFY-BCC coordinators are available to help you Monday-Friday, 8:00 a.m. to 4:00 p.m.

<https://hhs.iowa.gov/public-health/cancer/cfy>



#3 | Lung cancer

Each year in Cherokee County, there are about...

12

New Cases per year

8

Deaths per year

Cherokee County

63.3

Statewide

60.8

United States

53.1

Cherokee County

35.0

Statewide

34.9

United States

32.3

Age-Adjusted Rate per 100,000
Incidence (2017-2021); Mortality (2018-2022)

#1

#2

#3

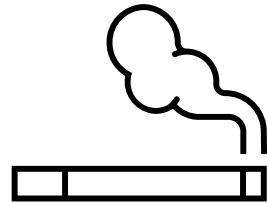
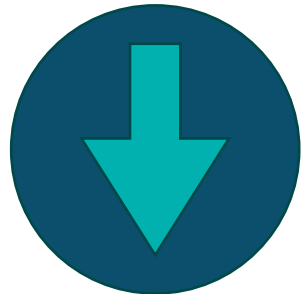
#4

#5

What can you do to prevent lung cancer?



Test your home
for Radon



Smoking

**+ Get
Screened!**

What is Radon?

- Radon is an invisible, tasteless, odorless, radioactive gas
- It is naturally produced by radium and uranium in the soil
- Radon becomes harmful when it becomes trapped and concentrated in the air
 - For example, when it leaks into a basement through a crack in the foundation or a space around a pipe

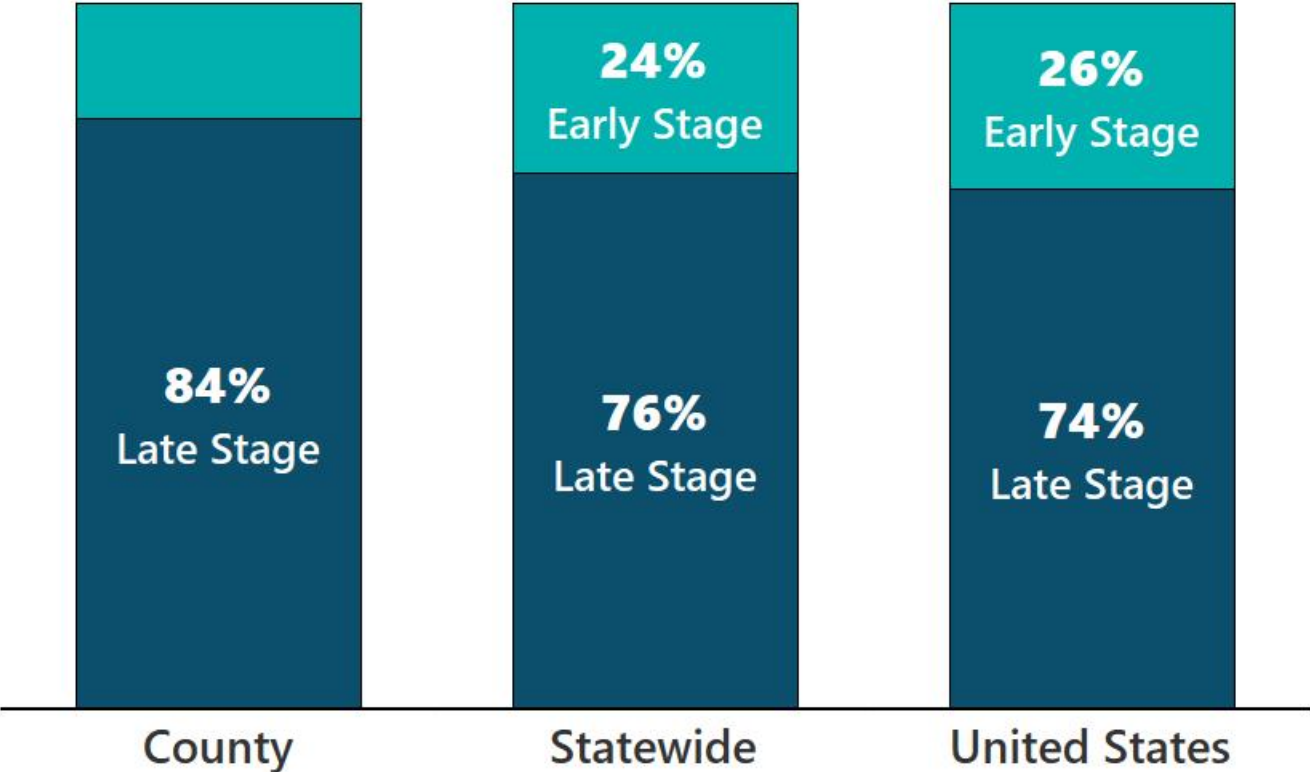
Learn more about Radon testing and mitigation:

Iowa Health & Human Services
hhs.iowa.gov/radiological-health/radon

Iowa Cancer Consortium
canceriowa.org/radon/

#3 | Lung cancer | Stage at Diagnosis

Early stage = Easier to treat, Higher survival rates

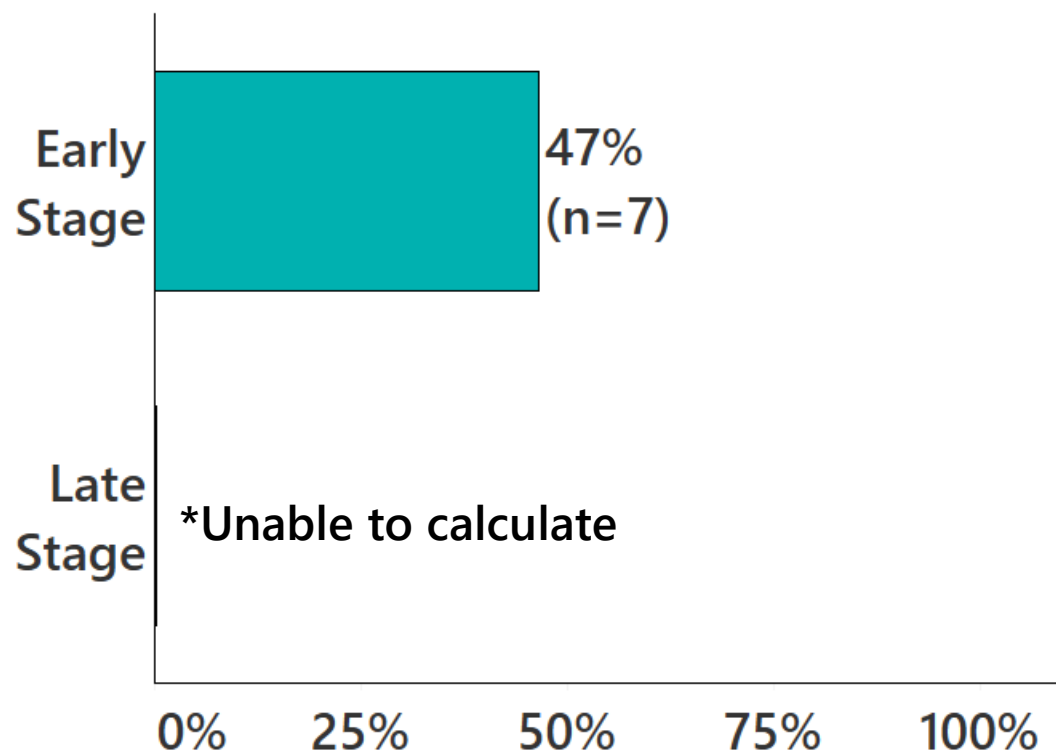


84%
Diagnosed at a Late Stage

- #1
- #2
- #3
- #4
- #5

#3 | Lung cancer | 5-Year Survival

5-Year Relative Survival Rates, by Stage



Finding cancer early leads to higher survival rates

#1

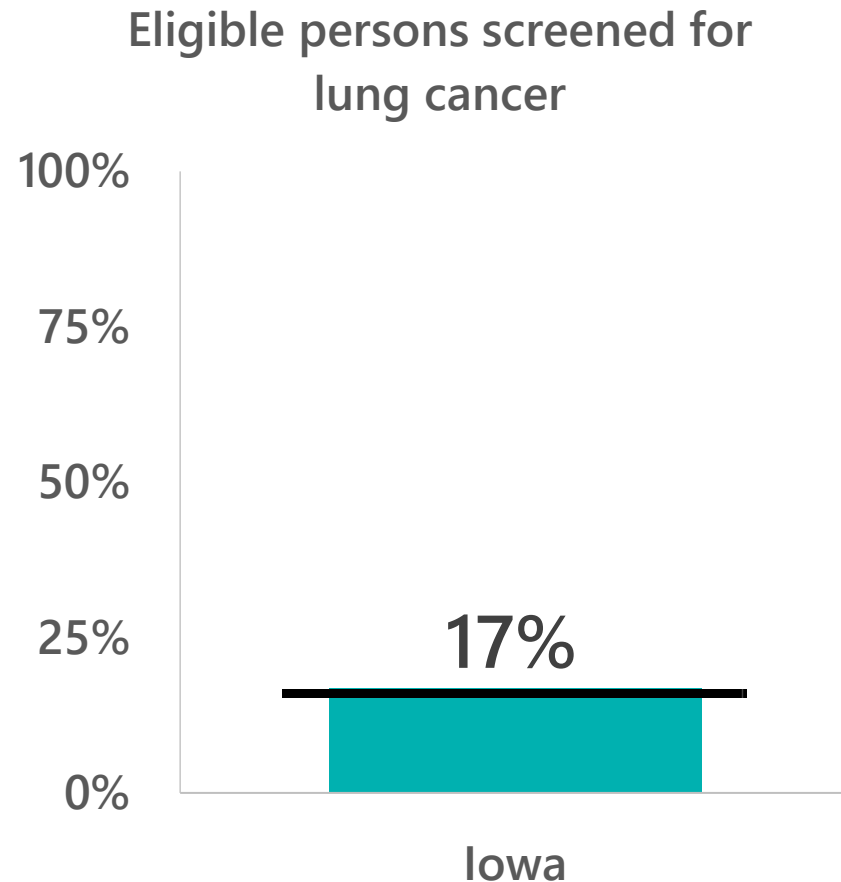
#2

#3

#4

#5

Lung Cancer Screening



Screening Guidelines

Lung cancer screening is a low-dose CT scan

If you have smoked in the last 15 years and are between the ages 50-80 years talk to your doctor about being screened for lung cancer

(U.S. Preventative Services Task Force)

#4 | Colorectal cancer

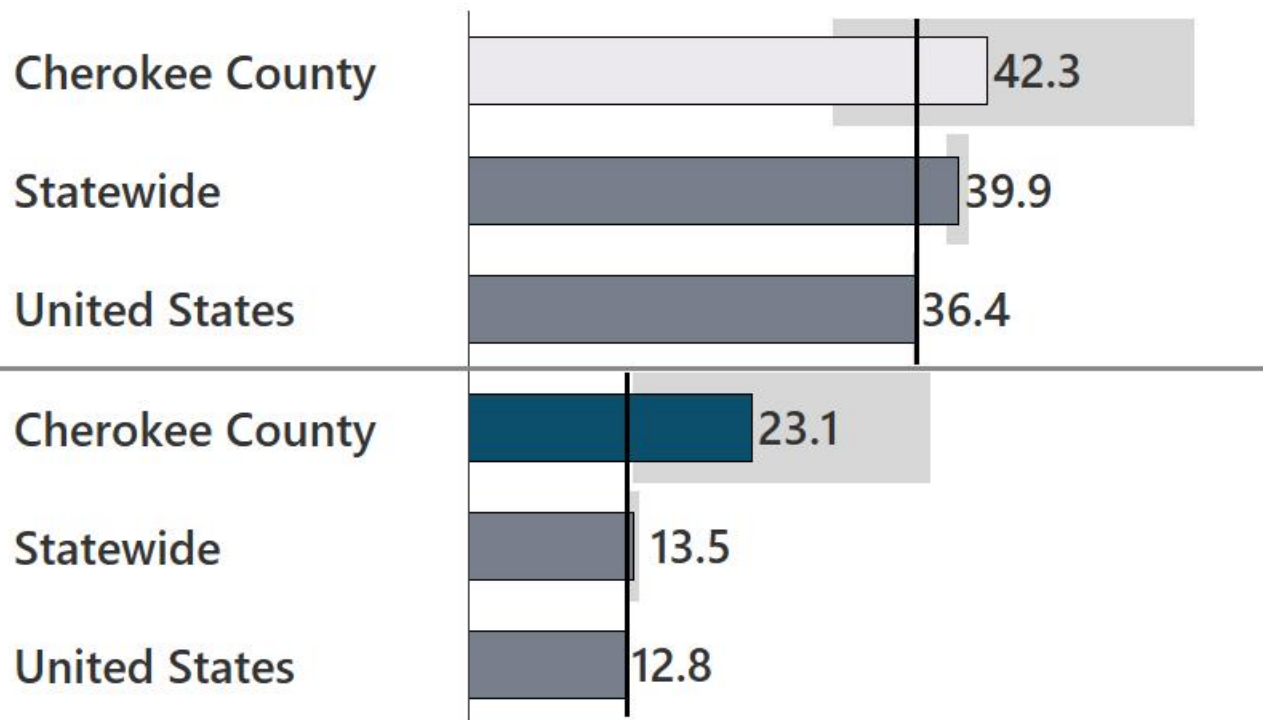
Each year in Cherokee County, there are about...

8

New Cases per year

<6

Deaths per year



Age-Adjusted Rate per 100,000
Incidence (2017-2021); Mortality (2018-2022)

#1

#2

#3

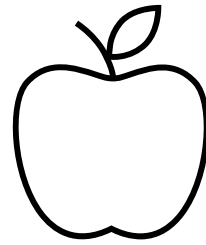
#4

#5

What can you do to prevent colorectal cancer?

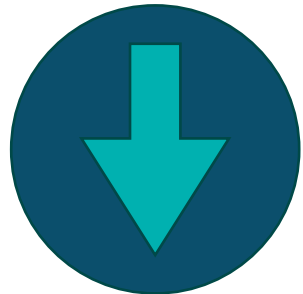


Physical
Activity



Healthy
Foods

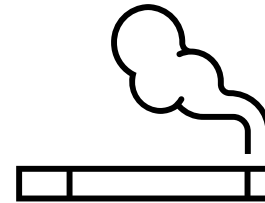
**+ Get
Screened!**



Alcohol



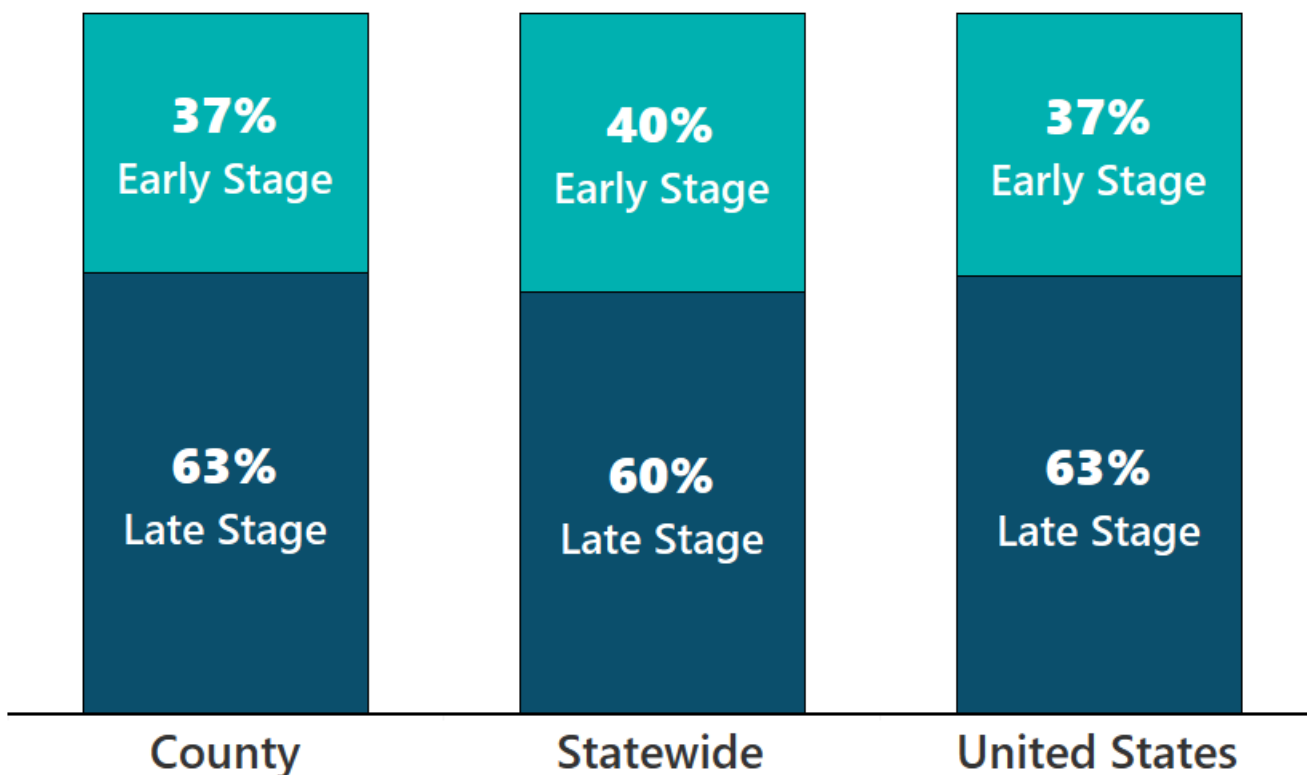
Excess Body
Weight



Smoking/
Tobacco

#4 | Colorectal cancer | Stage at Diagnosis

Early stage = Easier to treat, Higher survival rates

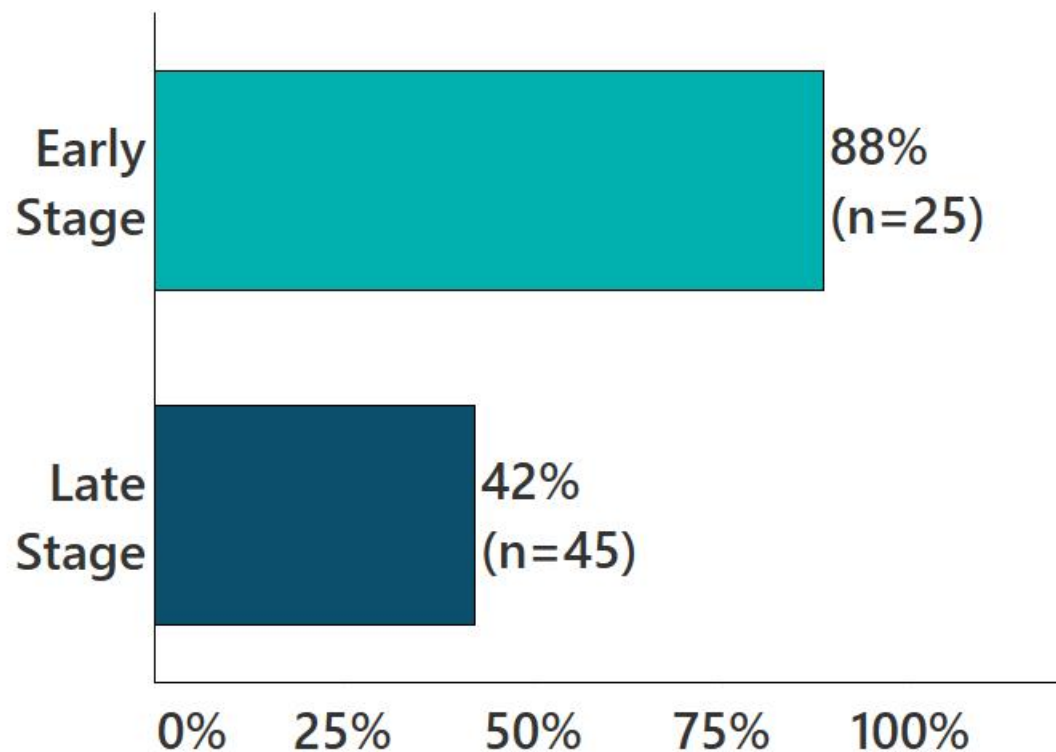


63%
Diagnosed at a Late
Stage



#4 | Colorectal cancer | 5-Year Survival

5-Year Relative Survival Rates, by Stage



Finding cancer early leads to higher survival rates

#1

#2

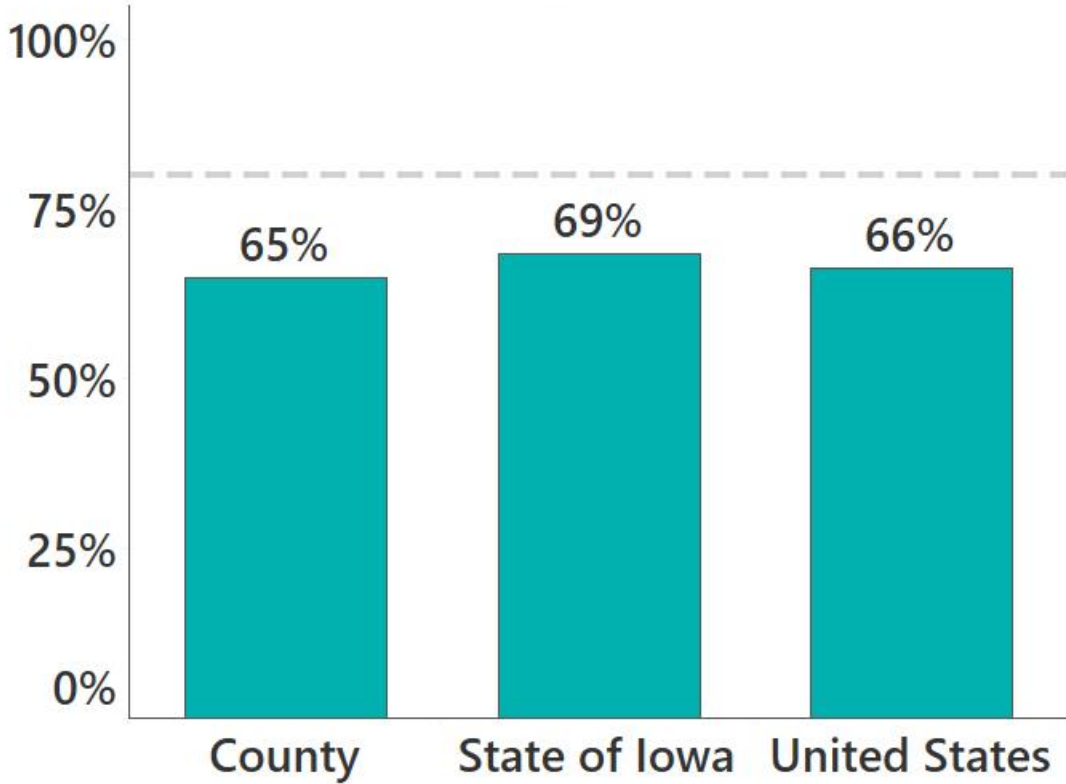
#3

#4

#5

Colorectal Cancer Screening

Adults ages 45-75 who are up to date with their colorectal cancer screening



Screening Guidelines

Adults ages 45-75 can screen with either (1) an at-home, stool-based test, or (2) a colonoscopy.

Talk to your doctor about which is best for you.

(U.S. Preventative Services Task Force)

*Data from 2022 BRFSS
Goal: 80% by 2027*



Iowa Get Screened (IGS): Colorectal Cancer Program

We partner with Iowa's Federally Qualified Health Centers (FQHCs) and local public health agencies to increase colorectal cancer screening.

Through a collaboration with the Iowa Primary Care Association (Iowa PCA) and FQHCs, the program serves low-income Iowans, ages 45-75, to:

- ▶ Increase the number of cancers prevented
- ▶ Increase the diagnosis of early-stage colorectal cancer
- ▶ Reduce colorectal cancer incidence and mortality in the state



<https://hhs.iowa.gov/public-health/cancer/colorectal-cancer-screening-program>

#5 | Melanoma

Each year in Cherokee County, there are about...

7

New Cases per year

<6

Deaths per year

Cherokee County

38.7

Statewide

31.4

United States

22.7

Cherokee County

**Too few cases to show rates*

Statewide

2.6

United States

2.0

#1

#2

#3

#4

#5

Age-Adjusted Rate per 100,000
Incidence (2017-2021); Mortality (2018-2022)

What can you do to prevent melanoma?



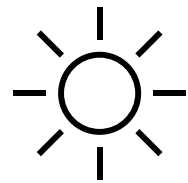
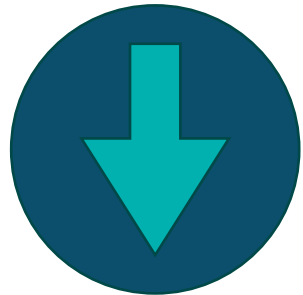
Wear broad spectrum sunscreen with at least SPF 30



Wear long sleeves and hats when outdoors



Sit in the shade when possible

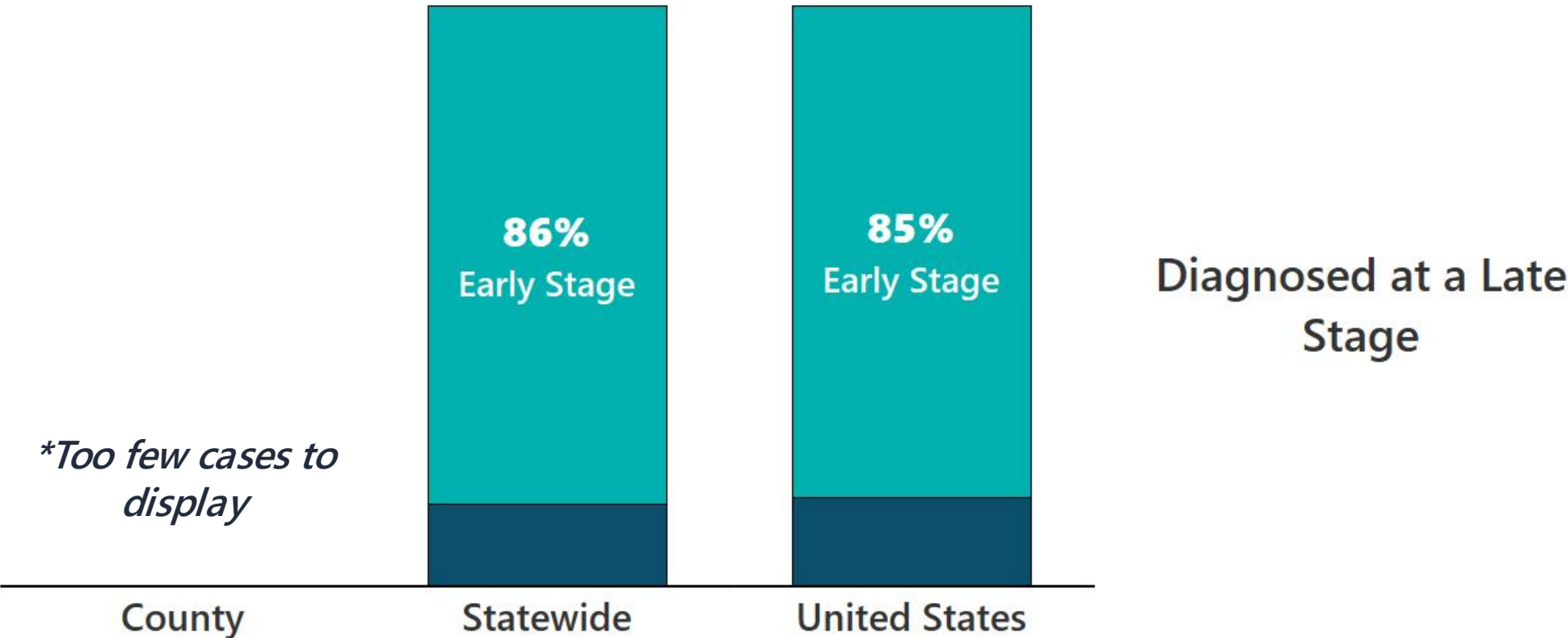


Avoid being in the sun from 10am – 2pm

Do not use indoor tanning beds

#5 | Melanoma | Stage at Diagnosis

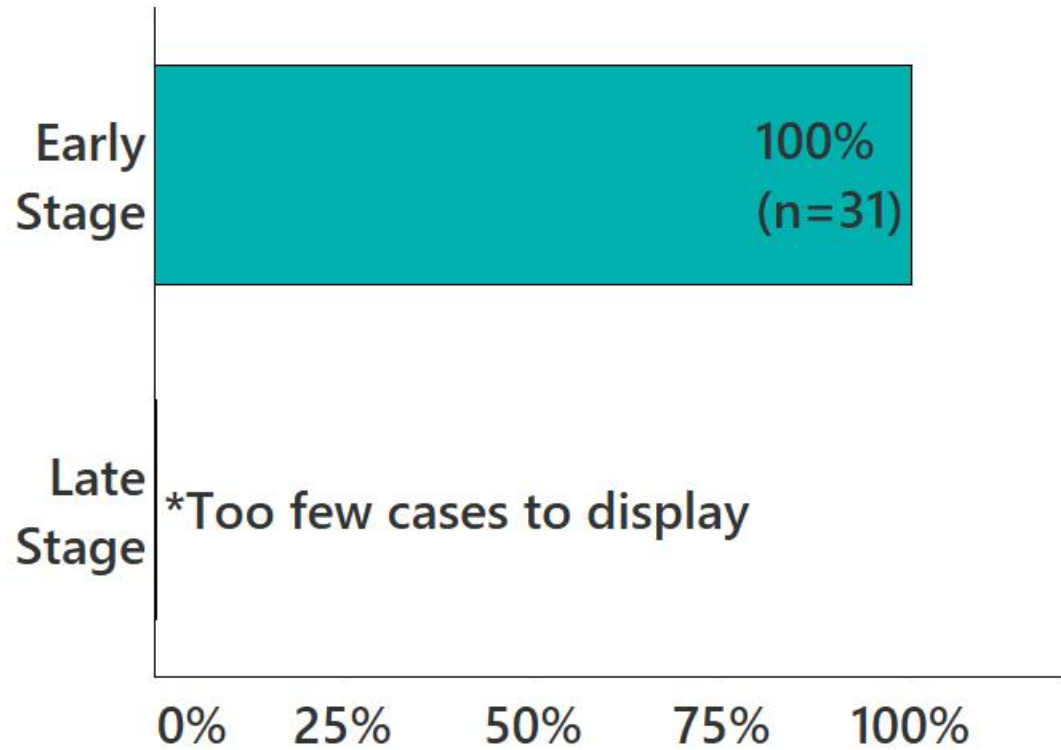
Early stage = Easier to treat, Higher survival rates



- #1
- #2
- #3
- #4
- #5

#5 | Melanoma | 5-Year Survival

5-Year Relative Survival Rates, by Stage



Finding cancer early leads to higher survival rates

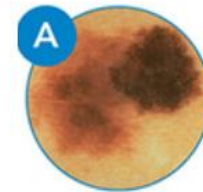
- #1
- #2
- #3
- #4
- #5

Melanoma Self-Exams

Perform regular **self-examinations** using a mirror. Look for new spots or changes in existing spots.

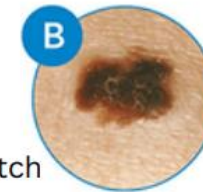
If you are concerned about a spot, talk to your doctor or a dermatologist

Most moles and brown spots are harmless, but following the **ABCDE's** can help you detect melanoma early.



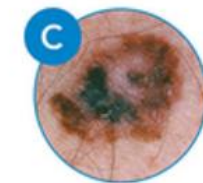
A is for **Asymmetry**

the shape of one half does not match the other



B is for **Border**

the edges are ragged, blurred, or irregular



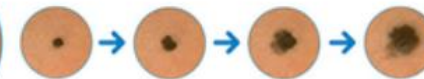
C is for **Color**

color is uneven and may include shades of black, brown, or tan



D is for **Diameter**

there is a change in size, usually an increase



E is for **Evolving**

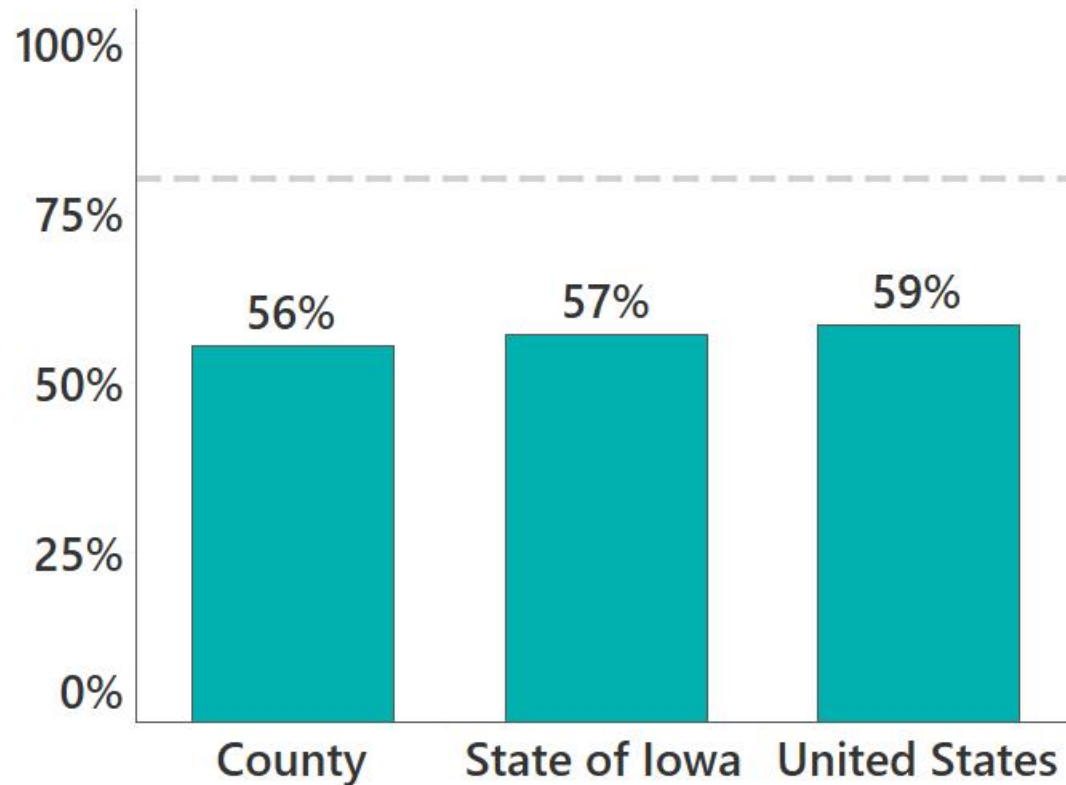
the mole has changed over the past few weeks or months

American Academy of Dermatologist

[Check out the Iowa Cancer Registry Melanoma Spotlight](#)

A vaccine that prevents cancer: HPV

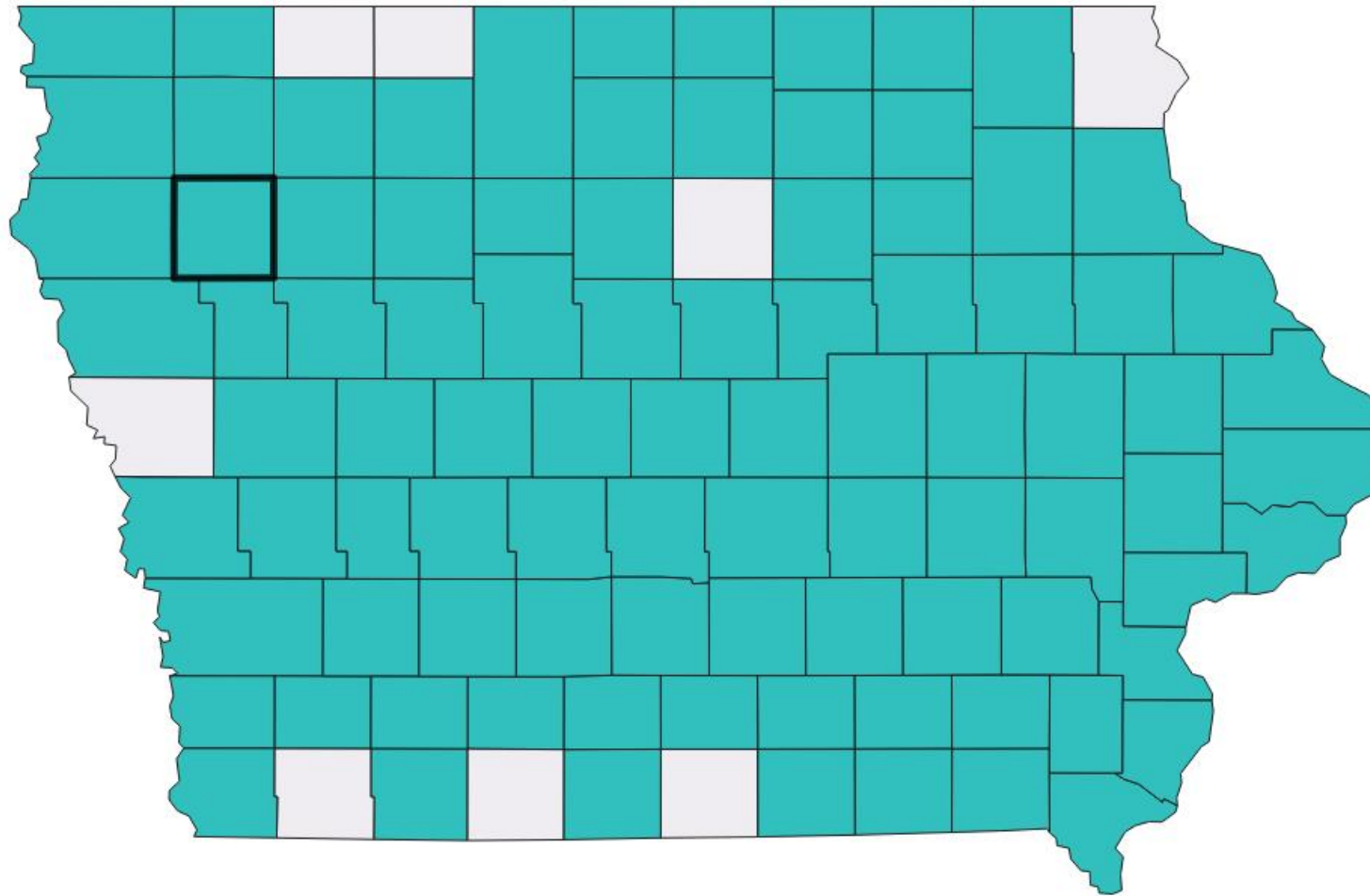
Adolescents ages 13-15 who have completed their HPV vaccine series (2022)



- HPV infection can cause cancers of the cervix, mouth and throat, anus, rectum, penis, vulva, and vagina.
- Iowa has the highest rate of oropharyngeal cancer in the U.S.
- Vaccine provides safe, effective, and lasting protection against HPV, thus reducing cancer risk
- Recommended at age 11 or 12 years, when immune response is best & before HPV exposure

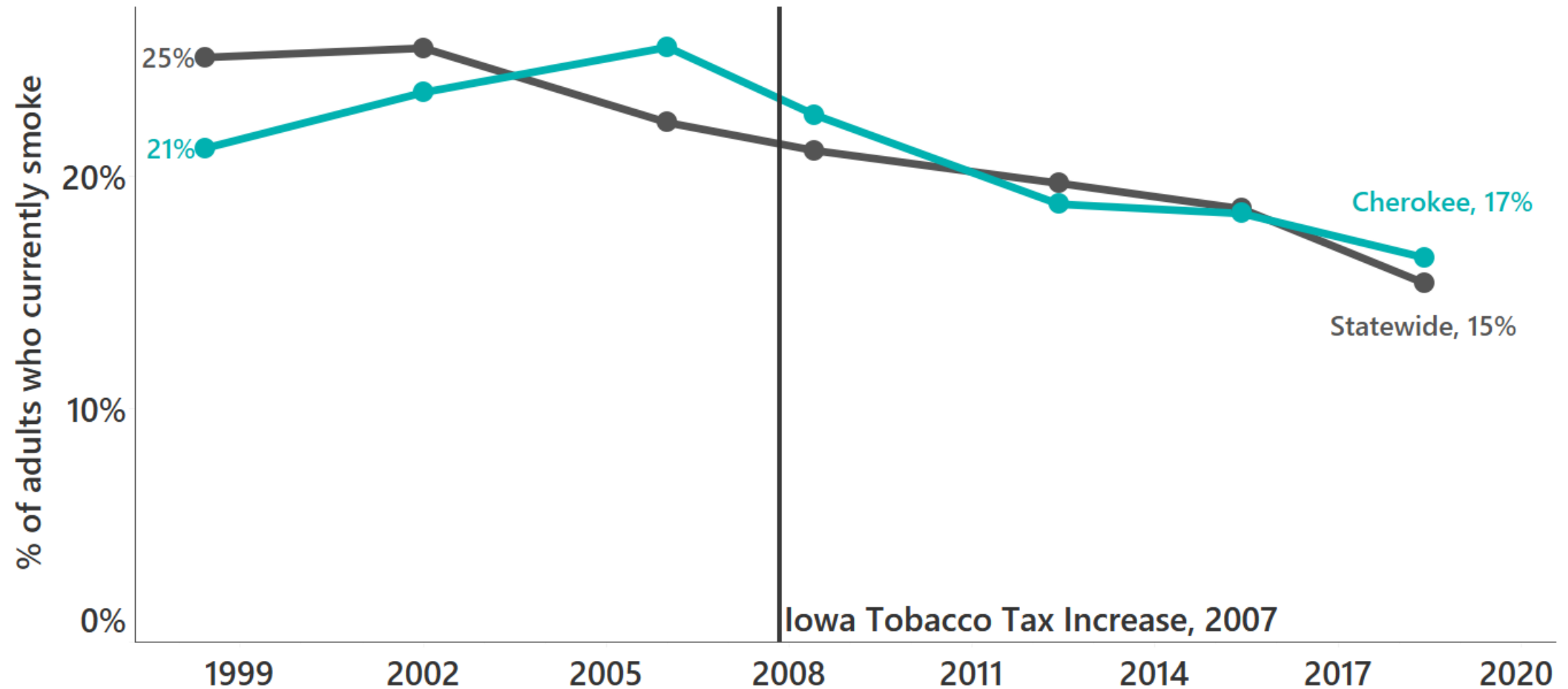
*Data from 2022 IHHS & NIS-Teen
Goal: 80% by 2027*

After the last tobacco tax was passed in 2007, smoking rates **decreased** in **92%** of Iowa counties



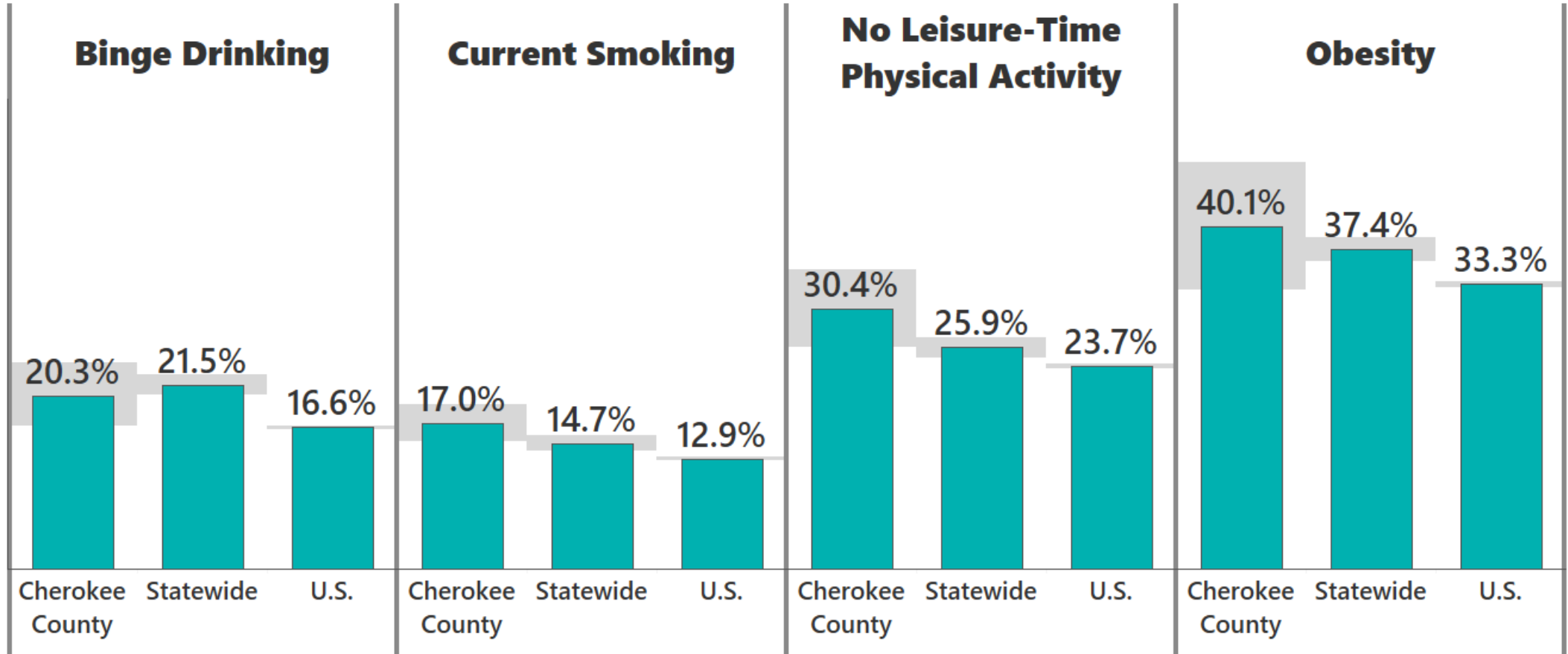
After the last increase to the tobacco tax was passed in 2007, smoking rates **decreased*** in Cherokee County

**Determined by comparing data from 2004-2007 combined to 2011-2013 combined*



Other Cancer Risk Factors

**Lower
is
better**



Resources to help understand
and address cancer in Iowa
communities

Iowa Comprehensive Cancer Control Program (CCCP)

We work with partners to prevent cancer whenever possible and support cancer survivors across Iowa.

- ▶ The CCCP partners with many organizations, including the Iowa Cancer Consortium, Iowa's cancer coalition.
- ▶ CCCP is involved in the revision and implementation of the Iowa Cancer Plan.
- ▶ Currently CCCP is focused on increasing HPV vaccination, increasing lung cancer screening, and supporting cancer survivors.

<https://hhs.iowa.gov/public-health/cancer>
<https://canceriowa.org/iowa-cancer-plan/>



Photo from the Iowa Cancer Consortium, taken at the Iowa Cancer Summit

Iowa Cancer Consortium



A non-profit cancer coalition that provides

- Connections and partnership
- Latest news and cancer updates via email
- Training and educational opportunities
- Grant opportunities and technical assistance
- Free cancer educational materials for distribution
- Blueprint for cancer control, the Iowa Cancer Plan

Virtually-hosted workgroups include:

- *Cancer Screening & Early Detection*
- *Health Equity*
- *HPV (w/ Iowa Immunizes coalition)*
- *Policy*
- *Radon*
- *Research & Clinical Trials*
- *Rural Cancer*
- *Quality of Life*
- *Cancer & the Environment Task Force*



Blueprint for cancer control, the *Iowa Cancer Plan*

Chapters with sections that include priorities, strategies, and specific action steps which may be tailored to many settings to guide cancer control activities.

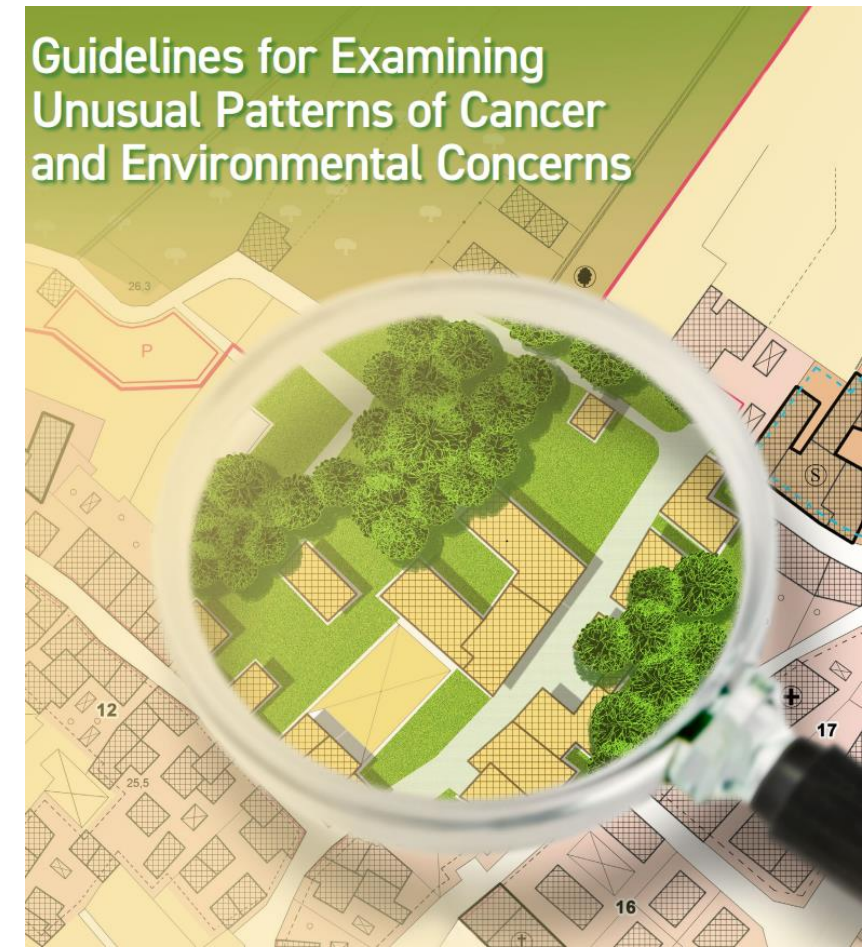
- 1. Health Equity:** identify and eliminate cancer health disparities.
- 2. Prevention and Risk Reduction:** whenever possible, prevent cancer from occurring.
- 3. Early Detection and Screening:** promote the benefits of screening tests to ensure early diagnosis.
- 4. Diagnosis and Cancer-Directed Therapy:** reduce barriers to care, promote evidence-based practices, and encourage participation in clinical trials and other forms of research.
- 5. Survivorship and End-of-Life Care:** ensure resources to optimize quality-of-life for cancer survivors and their families.



[https://canceriowa.org/
iowa-cancer-plan/](https://canceriowa.org/iowa-cancer-plan/)

What to do if you suspect a cancer cluster in your community

- If you are concerned about cancer excess in your area, please email us at ICR-CancerConcerns@uiowa.edu
- We will ask you about:
 - Geographic area of concern
 - Cancer types diagnosed in the area
 - Time frame
 - Exposure(s) of concern
- If possible, ICR will conduct an analysis comparing the expected number of cancers to what's been observed
 - A written report of the results will be sent to you and a meeting to discuss the results will be offered



Recommended Actions



Iowa Cancer Plan

Use to identify strategies aligned with community-specific needs

canceriowa.org/iowa-cancer-plan/

American Cancer Society Cancer Action Network



Engage American Cancer Society Cancer Action Network (ACSCAN) to promote cancer-relevant legislation

www.fightcancer.org



Iowa Cancer Consortium

Connect for state-wide collaboration and potential community-level funding

www.canceriowa.org

Include cancer in needs assessments

Include cancer-relevant strategies in your hospital's community health needs assessments or public health department's needs assessment

hhs.iowa.gov/lphs/cha-chip



Main Takeaways

Cancer is an important health issue facing your county

There are proven ways to prevent cancer & find it early
You can avoid risk factors and get screened

Iowa has a strong Cancer Plan, resources, & organizations to help fight cancer

Policy changes at the local and state levels can have a huge impact!
Please communicate your concerns & needs with your state representatives and local policymakers

And let us know how we can help!

**This is only the
first step.**

These slides will be posted

These slides will be posted to the Iowa Cancer Registry website:

<https://shri.public-health.uiowa.edu/cancer-data/cancer-in-iowa-99-counties-project/>



If you have questions, please email us at

ICR-99countiesproject@uiowa.edu

Cancer in Iowa: 99 Counties Project Resource Guide

- Organizations and programs we presented today
- IHHS Programs
 - Tobacco Use Prevention and Control
 - Immunization Program
 - The Hepatitis Program
 - Iowa Private Well Grants Program
 - Radon
- Iowa Rural Health Association
- Agricultural Health Study
- Environmental Exposures and Health Risks Fact Sheets
- Center for Health Effects of Environmental Contamination

And more!



Environmental Exposures and Health Risks Fact Sheets

These facts sheets include information on

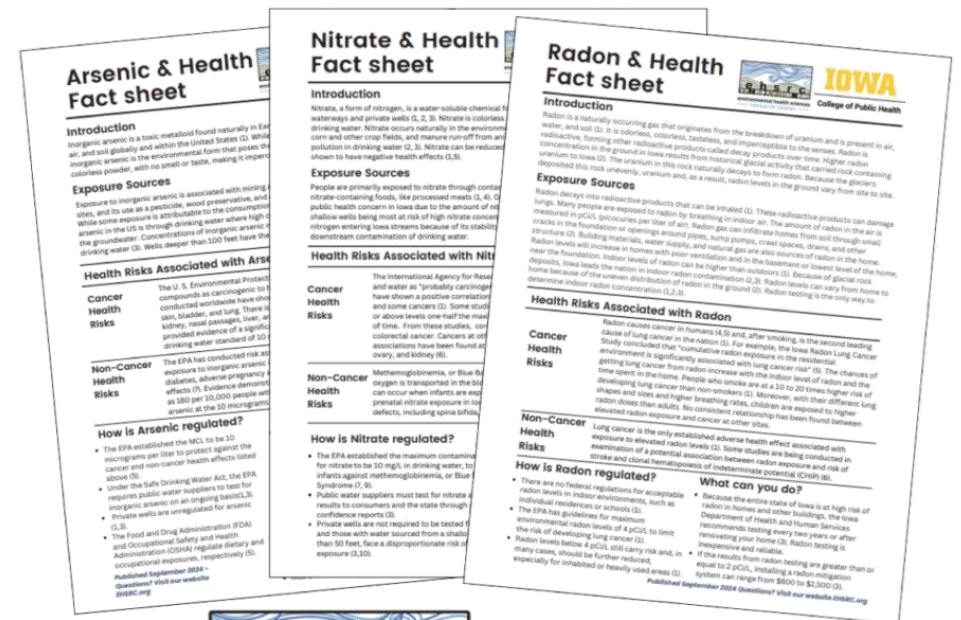
- Cancer and non-cancer health risks for each environmental exposure
- How the exposures are regulated
- What you can do to limit your exposure

Environmental Health Fact Sheets

- [Arsenic](#)
- [Nitrate](#)
- [Radon](#)



NEW Environmental Exposures & Health Risks Fact Sheets

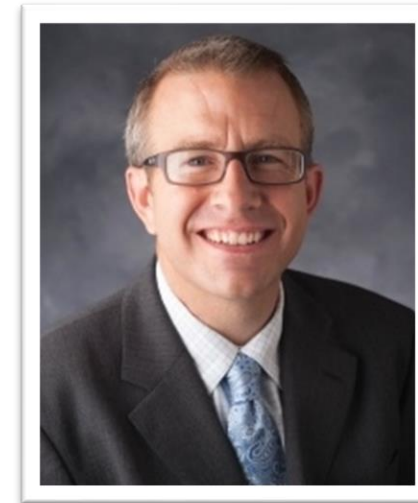


Center for Health Effects of Environmental Contamination (CHEEC)

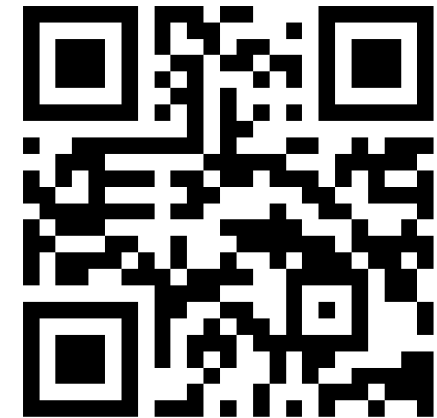
CHEEC

The University of Iowa Center for Health Effects of Environmental Contamination (CHEEC) supports and conducts research to identify, measure and study adverse health outcomes related to exposure to environmental toxins. CHEEC was established through the 1987 Iowa Groundwater Protection Act and has focused its efforts to date mainly on drinking water contaminants.

For questions about environmental contaminants, please contact Dr. Cwiertny at the email address below.



David Cwiertny
Director of CHEEC



cheec.uiowa.edu

Email: cheec@uiowa.edu

Iowa Private Well Grants Program

Iowa Health & Human Services

Iowa's [Private Well Grants Program](#) (PWG) provides free water testing to all private well owners and users for the analytes listed below. The Iowa DNR recommends that all private well owners have their water tested at least annually.

Follow the steps outlined on the Iowa DNR website.



To get your private well tested, please contact your local county health department.

[County Health Department - contact list \(click here\)](#)

- [Bacteria/coliform](#) (annually)
- [E.coli/fecal coliform](#) (annually)
- [Nitrate](#) (annually)
- [Arsenic](#) (every 3 years)
- [Manganese](#) (every 3 years)
- [PFAS](#) (requires pre-approval from the DNR)

<https://hhs.iowa.gov/public-health/environmental-health/private-well-grants>

<https://www.iowadnr.gov/Environmental-Protection/Water-Quality/Private-Well-Program/Private-Well-Testing>

Cherokee County Resources

Cherokee County Environmental Health

- Provides Private Well Testing
- Sell radon kits and educate the public on dangers of radon exposure

Contact Information

Phone: (712) 225-6721

https://www.cherokeecounty.iowa.gov/departments/offices_a_e/environmental_health/index.php



Thank you!

→ <https://shri.public-health.uiowa.edu/>

Email questions here: ICR-99countiesproject@uiowa.edu