

STATE HEALTH REGISTRY OF IOWA

Cancer in Humboldt County

Sarah Nash, PhD, MPH, CPH & Amanda Kahl, MPH

May 22nd, 2025

Who we are



Sarah Nash, PhD, MPH, CPH

- Assistant Professor, University of Iowa Department of Epidemiology
- Director of Research,
 Analytics, and Dissemination,
 Iowa Cancer Registry
- Community Outreach and Engagement Co-Lead, Holden Comprehensive Cancer Center
- Research: Cancer health disparities for rural and underserved minority populations



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



STATE HEALTH REGISTRY OF IOWA



www.canceriowa.org





Holden Comprehensive Cancer Center

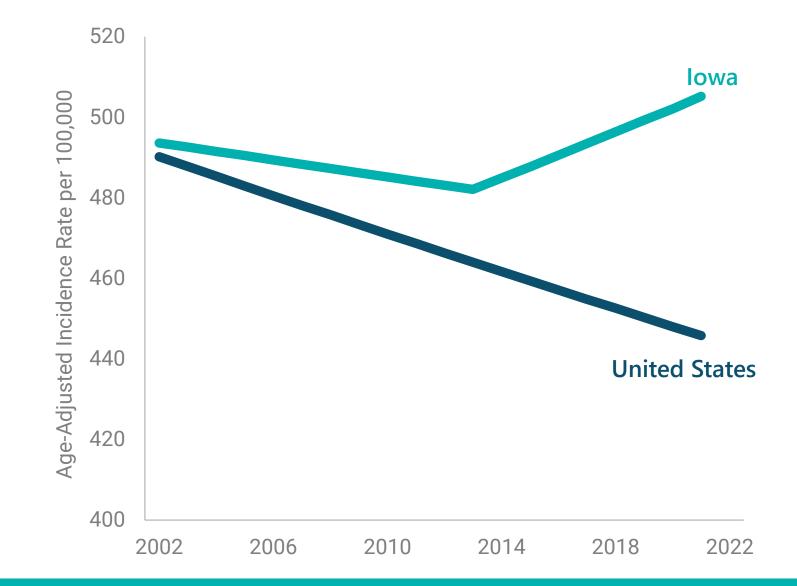


"Statistics are people with the tears wiped away"

Dr. Irving Selikoff

Iowa has the **#2** highest rate of new cancers in the U.S.

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

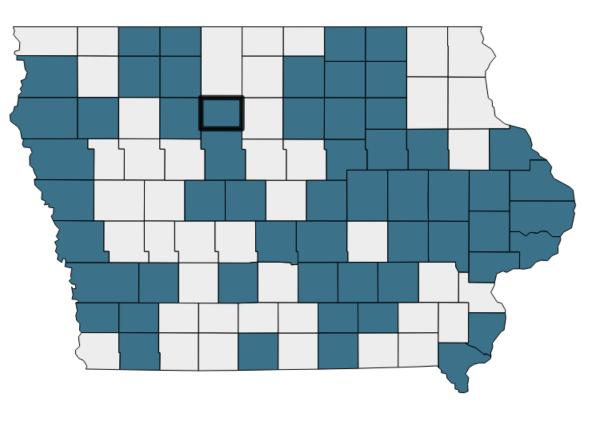




Over half of Iowa's counties have a higher incidence rate than the U.S.

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

O Counties below the national average

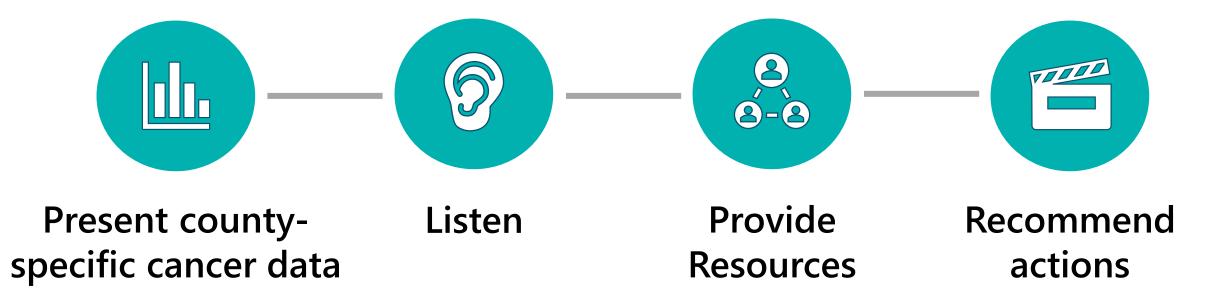






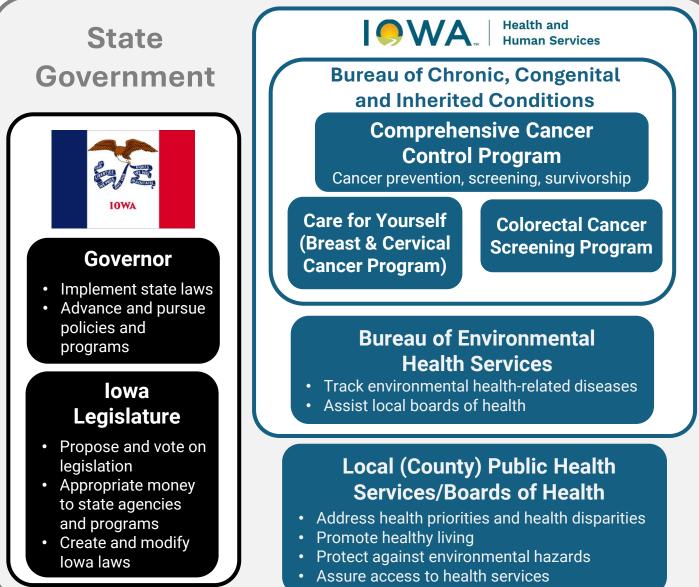
About the Project

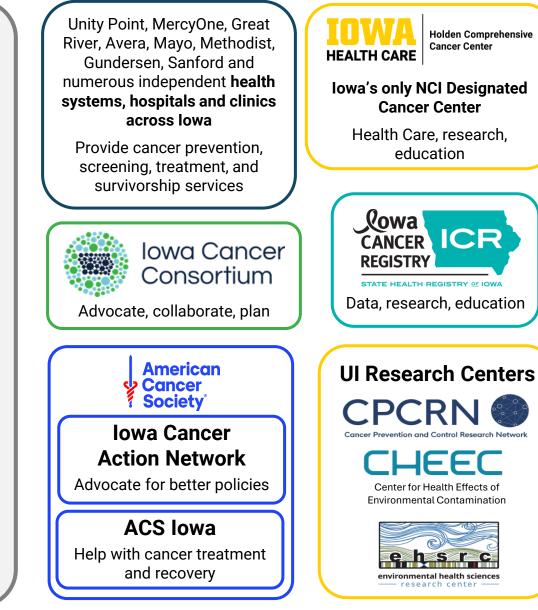
Goal: to enhance **community engagement** & **education** around cancer prevention and control across all of Iowa's 99 counties.





Cancer Control Partners in Iowa





Federal Funding for Cancer Control

- The <u>Iowa Cancer Registry</u> 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 <u>Cancer in Iowa: 99 Counties Project</u> 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 <u>lowa Cancer Consortium</u> acknowledges the **Centers for Disease Control and Prevention** (CDC) for its funding support under cooperative agreement NU58DP007103 awarded to the lowa Department of Health and Human Services (lowa 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

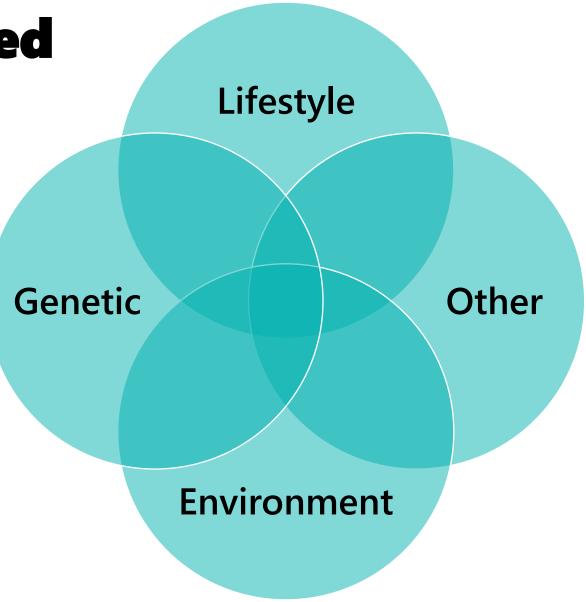
cancer prevention, research & education





Cancer is Complicated

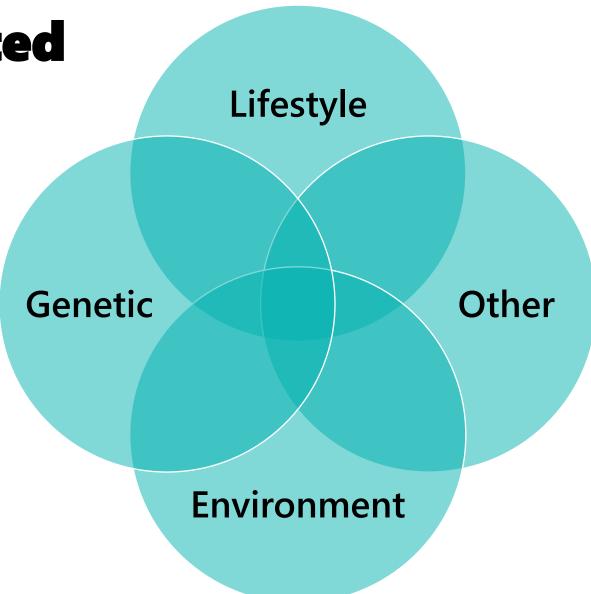
There is no one cause of cancer; it is a combination of different genetic, lifestyle, and environmental risk factors that change the function of cells



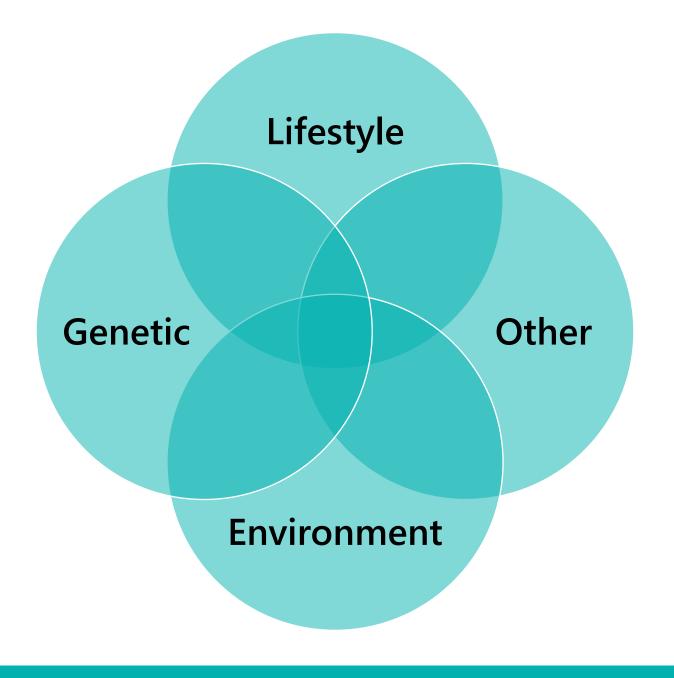


Cancer is Complicated

Risk factors are things that increase your chances of getting cancer



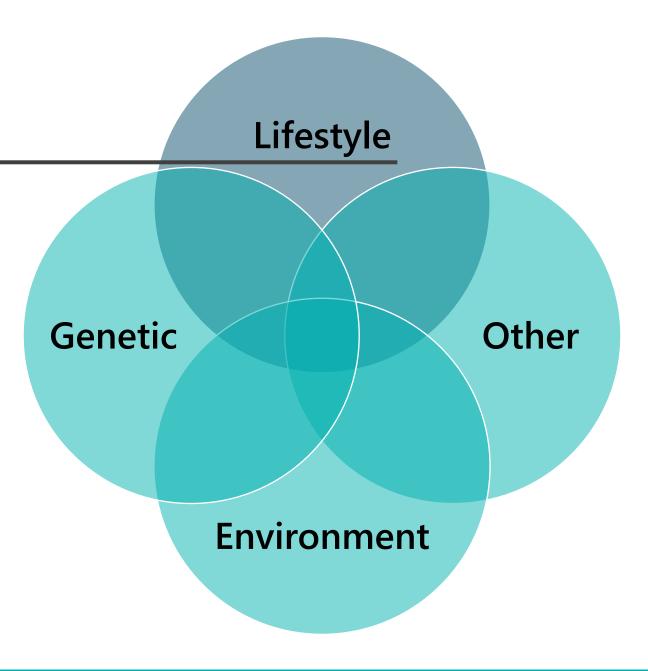




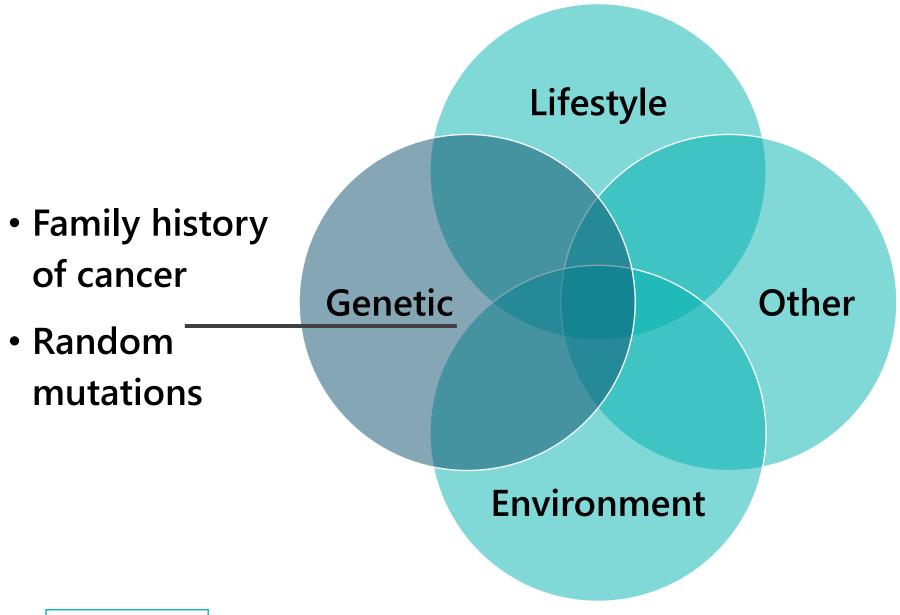




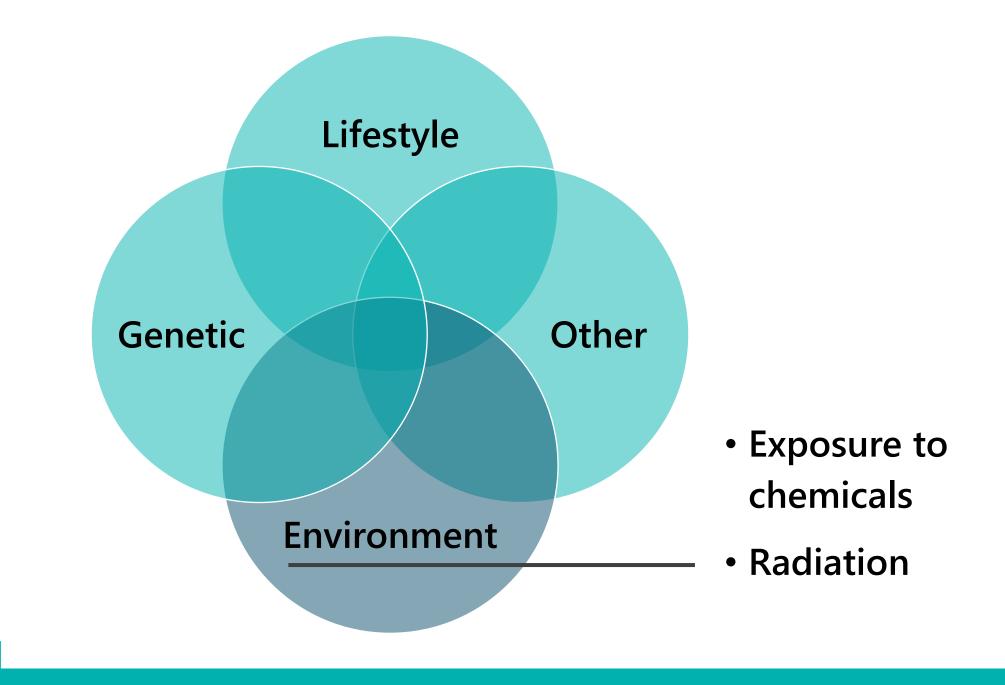
- Alcohol
- Unhealthy diet
- Not being physically active
- Sunburns



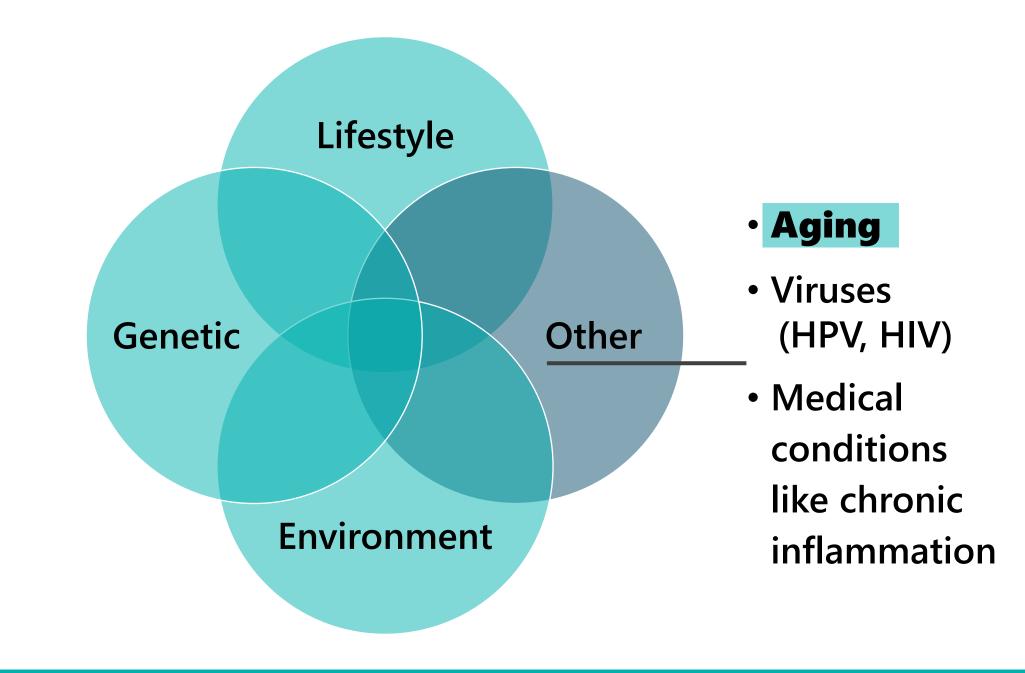














Cancer & the Environment

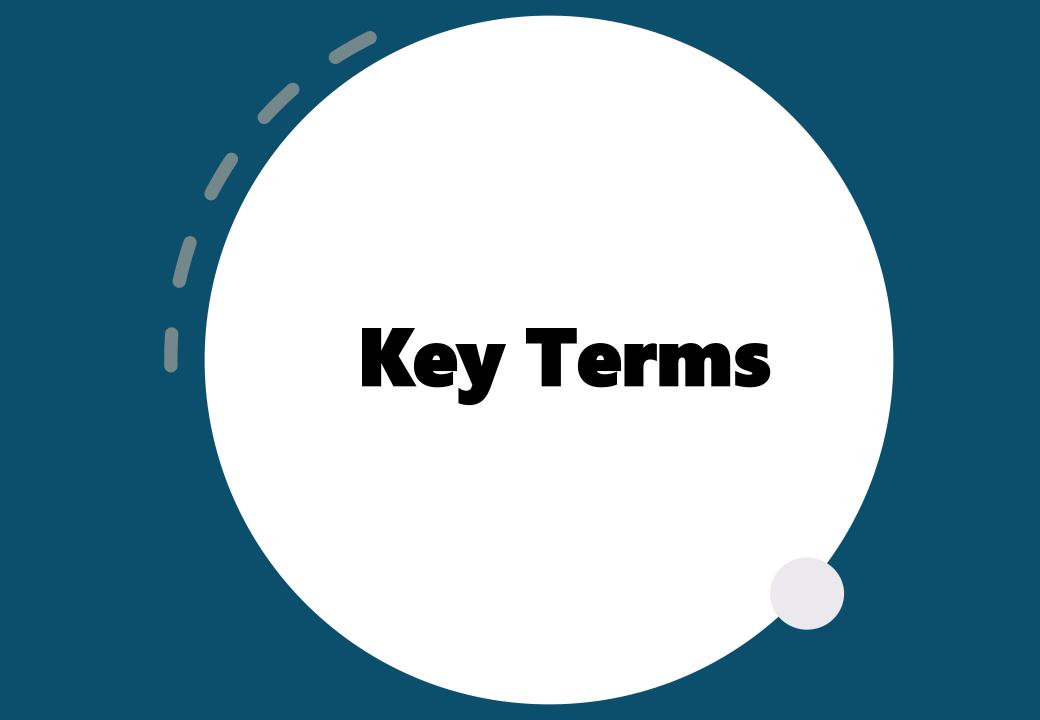
- Many lowans understandably have questions about potential links between environmental exposures and cancer
- This is an important area of continued research, and lowans are right to ask questions and be cautious
- ICR, along with other population-based cancer registries, do not collect data on environmental 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.





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



How to read the graphs

Unless otherwise stated, bars are your county data

Black lines on bar graphs are United States data

BelowAbout theAboveNationalsame asNationalRatesNational RatesRates

Grey boxes on bar graphs are 95% Confidence Intervals.

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

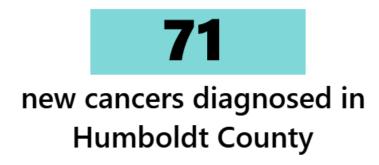


Cancer in Humboldt County

New Cancers in Humboldt County

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

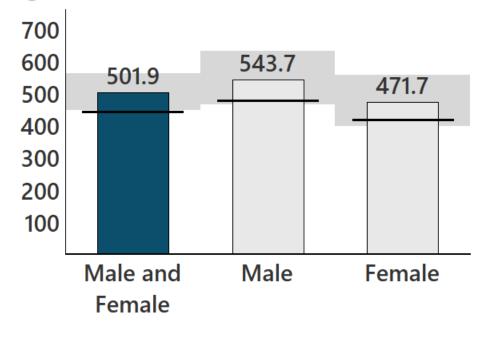
Each year, there are about



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

Ranks #42 of 99 counties

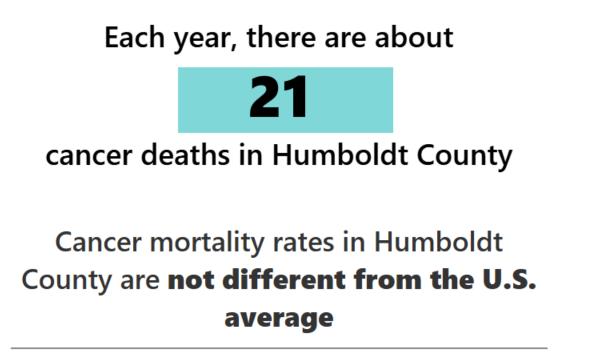
Cancer incidence rates are typically higher in men than women



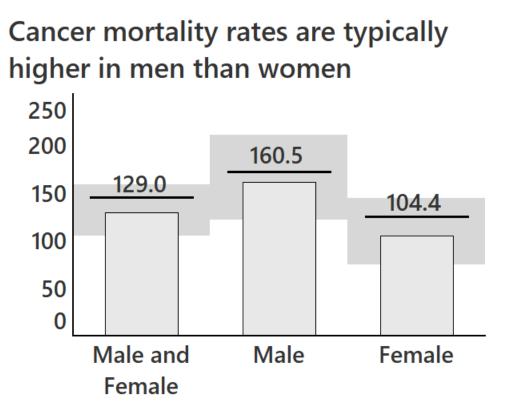


Cancer deaths in Humboldt County

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



Ranks #88 of 99 counties





#36 134.6 #1 **Prostate cancer** of 99 counties **Female Breast** #80 #2 111.8 of 98 counties cancer **Top cancers in** Humboldt #52 59.9 #3 Lung cancer of 99 counties County Colorectal #7 53.8 #4 of 96 counties cancer #52 29.0 #5 Melanoma of 80 counties

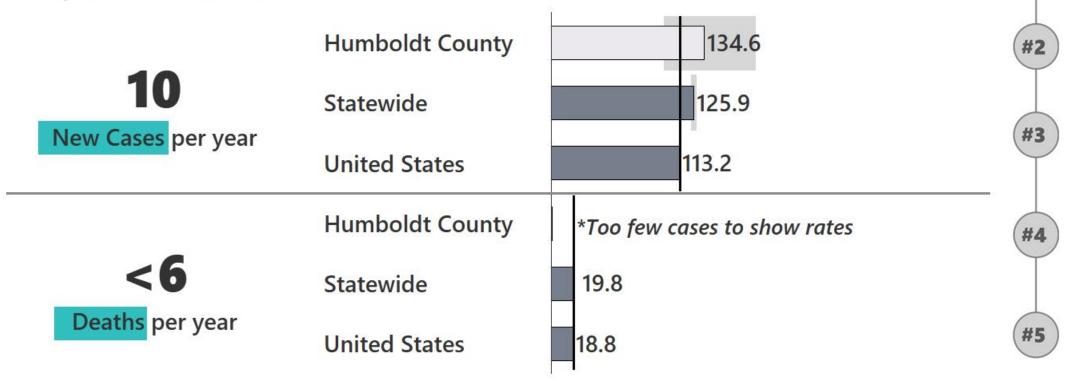
Age-Adjusted rate per 100k, 2017-2021 Rank compared to other

counties, where #1 is highest in the state



#1 | Prostate cancer

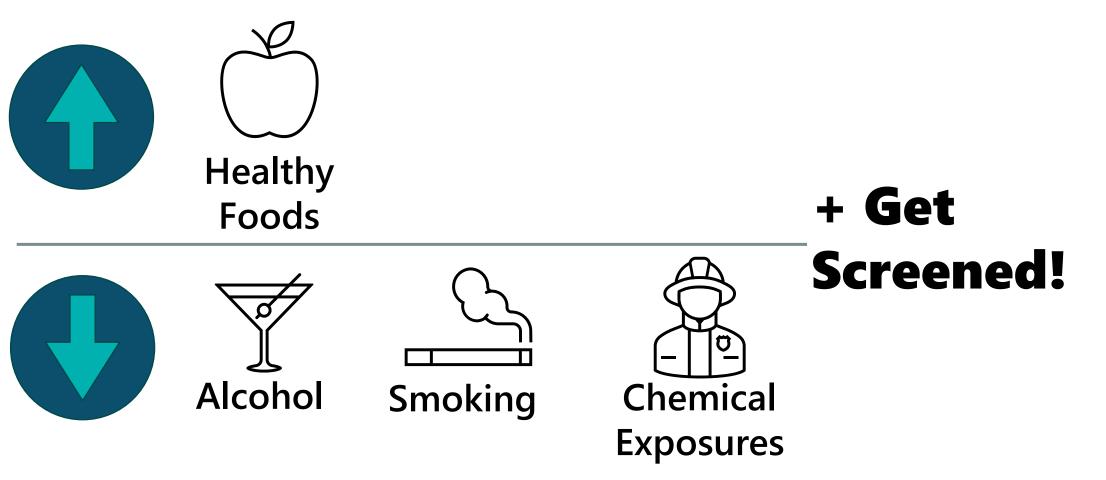
Each year in Humboldt County, there are about...



Age-Adjusted Rate per 100,000 Incidence (2017-2021); Mortality (2018-2022) #1



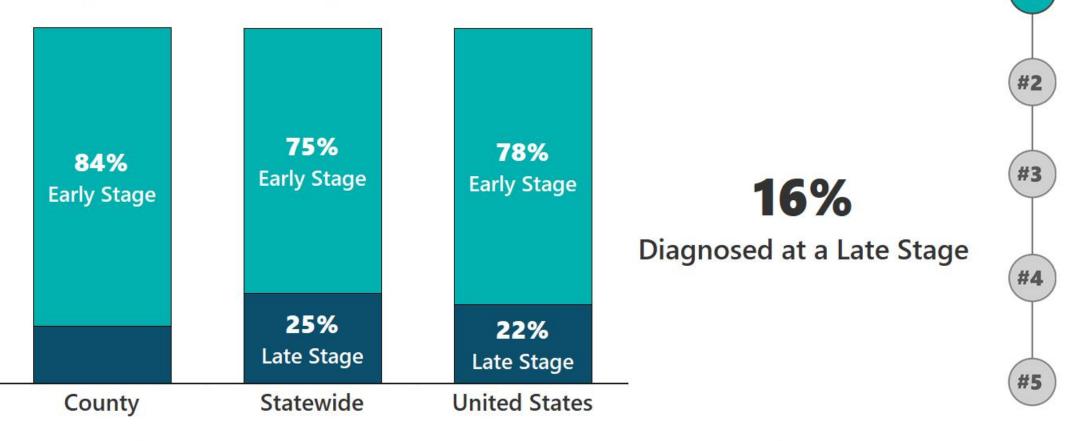
What can you do to prevent prostate cancer?





#1 | Prostate cancer Stage at Diagnosis

Early stage = Easier to treat, Higher survival rates

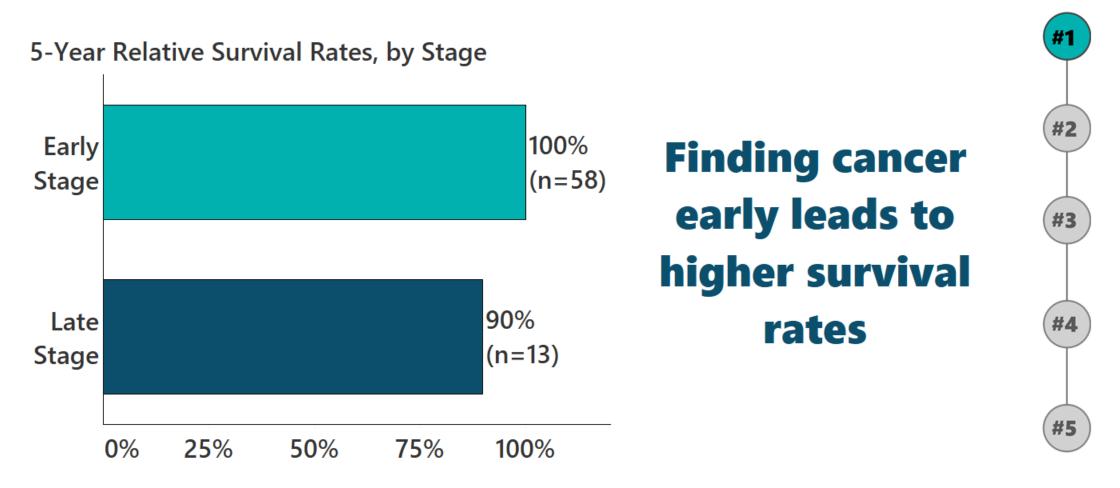




Data from 2012-2021

#1

#1 | Prostate cancer | 5-Year Survival





Data from 2011-2020

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

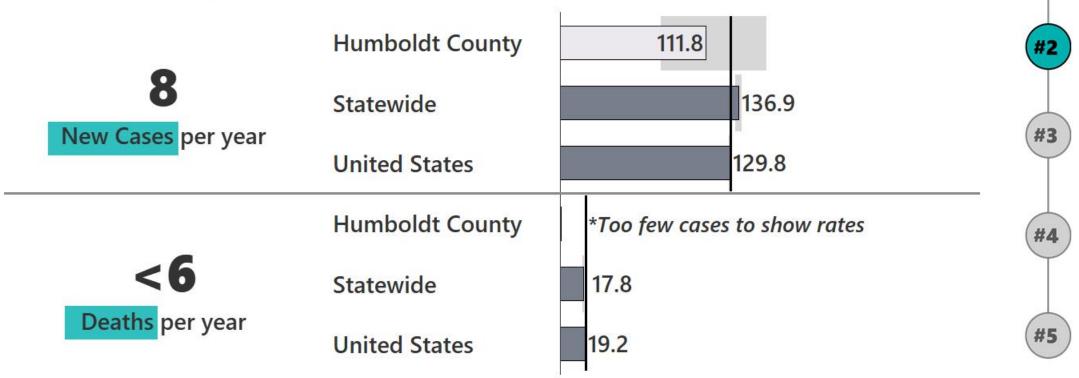
with your doctor if a PSA test is right for you

(U.S. Preventative Services Task Force)



#2 | Female Breast cancer

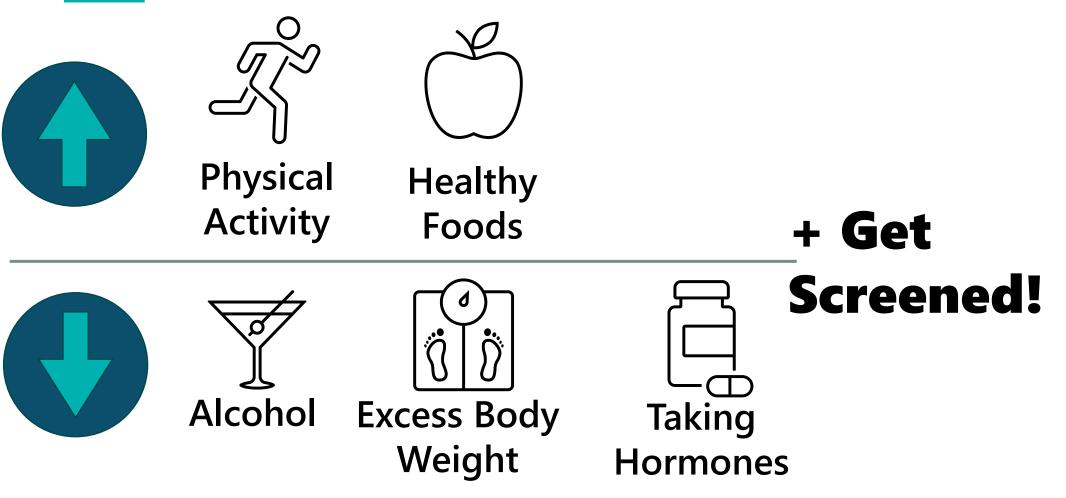
Each year in Humboldt County, there are about...



Age-Adjusted Rate per 100,000 Incidence (2017-2021); Mortality (2018-2022) #1



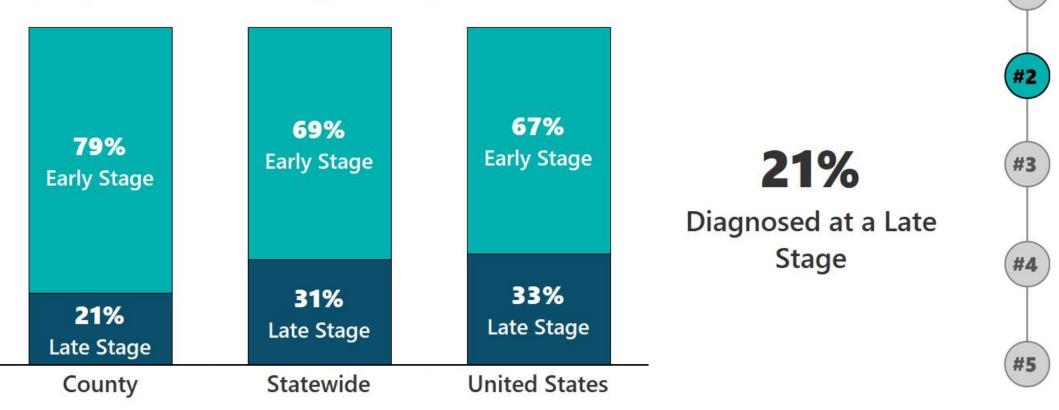
What can you do to prevent breast cancer?





#2 | Female Breast cancer | Stage at Diagnosis

Early stage = Easier to treat, Higher survival rates

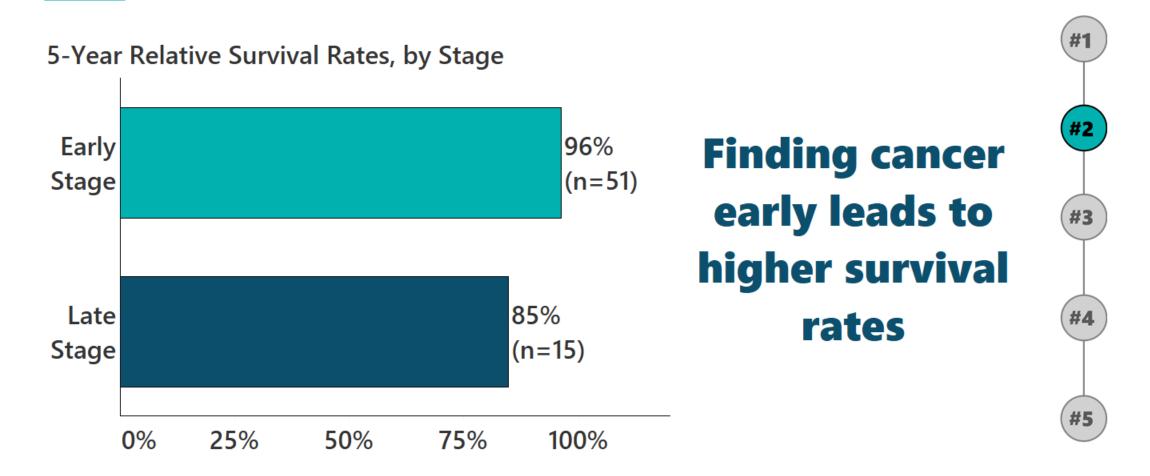




Data from 2012-2021

#1

#2 | Female Breast cancer | 5-Year Survival

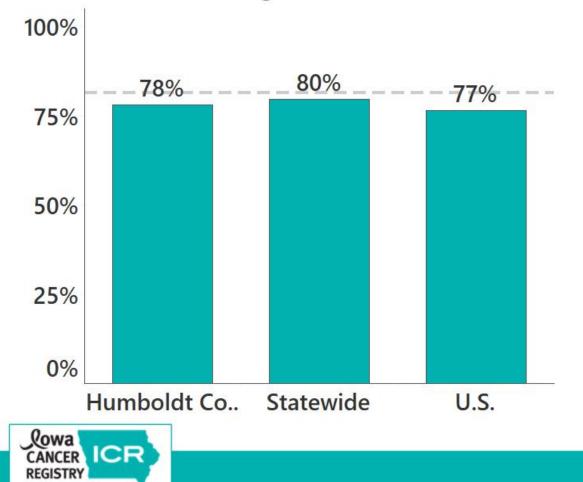




Data from 2011-2020

Breast Cancer Screening

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



STATE HEALTH REGISTRY OF ION

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 lowa.

- ► CFY-BCC is also called the Iowa Breast and Cervical Cancer Early Detection Program.
- ► CFY-BCC serves lowans 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.

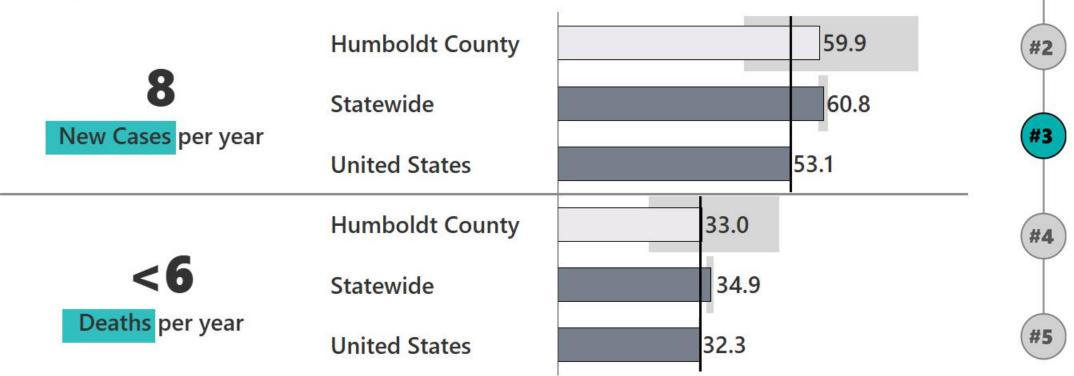
https://hhs.iowa.gov/public-health/cancer/cfy

A Health and Human Services



#3 | Lung cancer

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



Age-Adjusted Rate per 100,000 Incidence (2017-2021); Mortality (2018-2022) #1



What can you do to prevent lung cancer?





for Radon







Smoking



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:

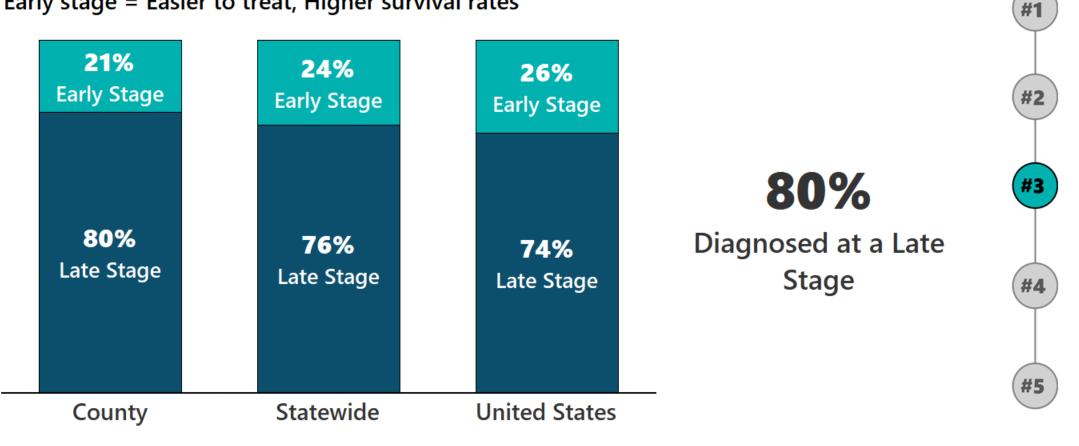
Iowa Health & Human Services <u>hhs.iowa.gov/radiological-</u> <u>health/radon</u>

> Iowa Cancer Consortium <u>canceriowa.org/radon/</u>



#3 | Lung cancer | Stage at Diagnosis

Early stage = Easier to treat, Higher survival rates





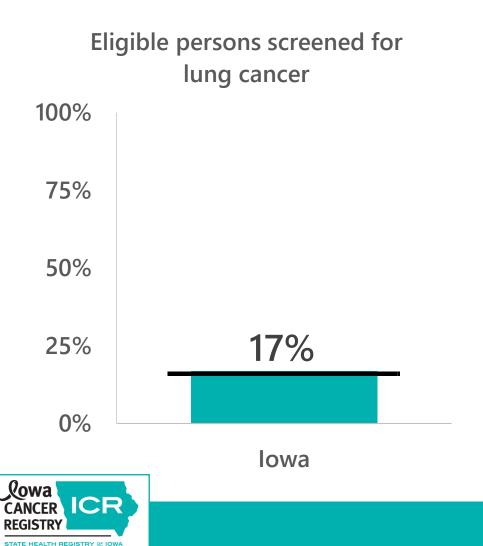
Data from 2012-2021

#3 | Lung cancer | 5-Year Survival

#1 5-Year Relative Survival Rates, by Stage #2 **Finding cancer** Early 50% Stage (n=17) early leads to (#3 higher survival 18% Late #4 rates (n=53)Stage #5 0% 25% 50% 75% 100%



Lung Cancer Screening



Screening Guidelines

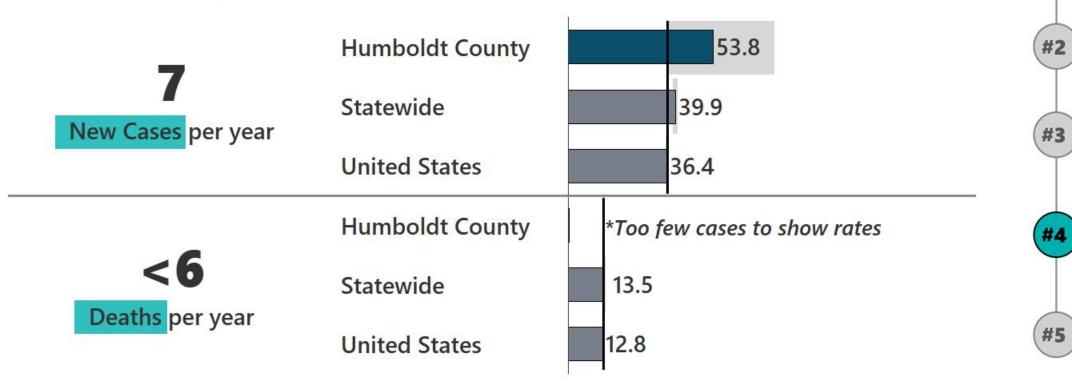
Lung cancer screening is a lowdose CT scan

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 Humboldt County, there are about...



Age-Adjusted Rate per 100,000 Incidence (2017-2021); Mortality (2018-2022) #1



What can you do to prevent colorectal cancer?

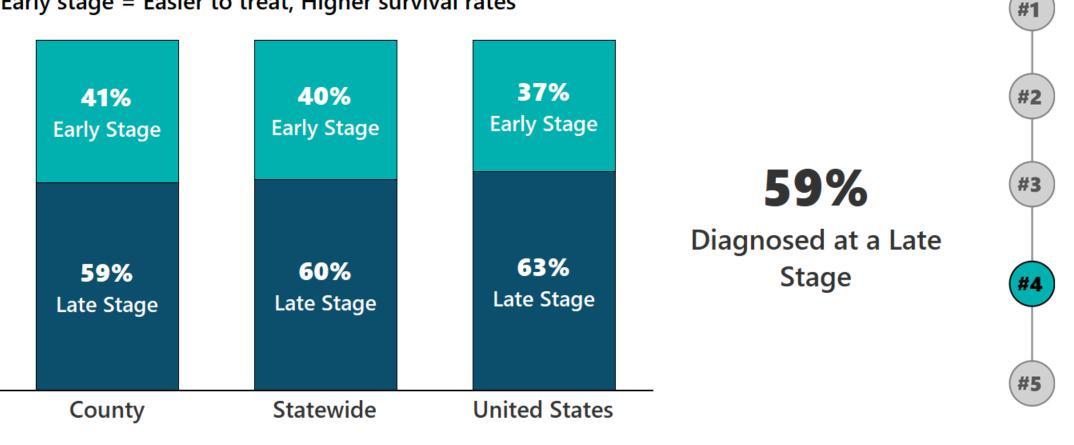


REGISTRY

STATE HEALTH REGISTRY OF IOW

#4 Colorectal cancer | Stage at Diagnosis

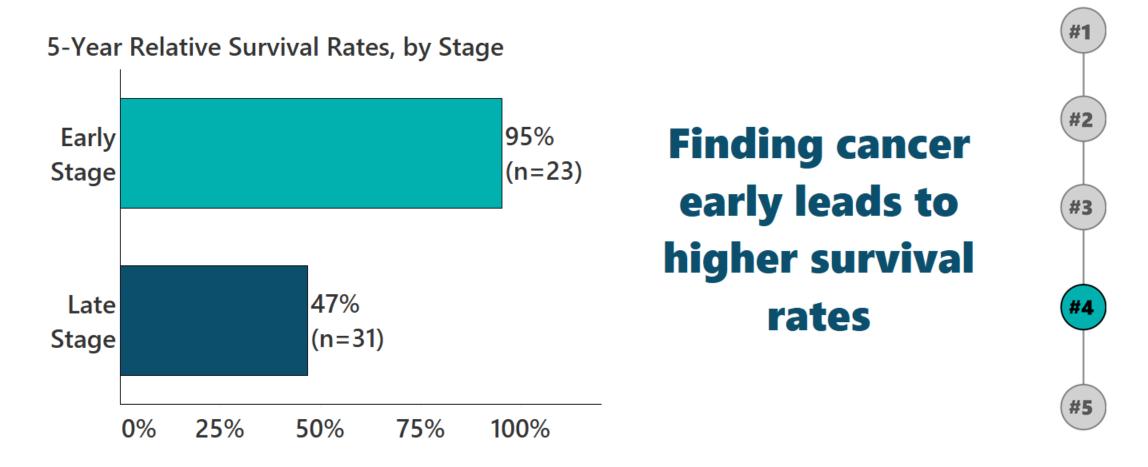
Early stage = Easier to treat, Higher survival rates





Data from 2012-2021

#4 | Colorectal cancer | 5-Year Survival

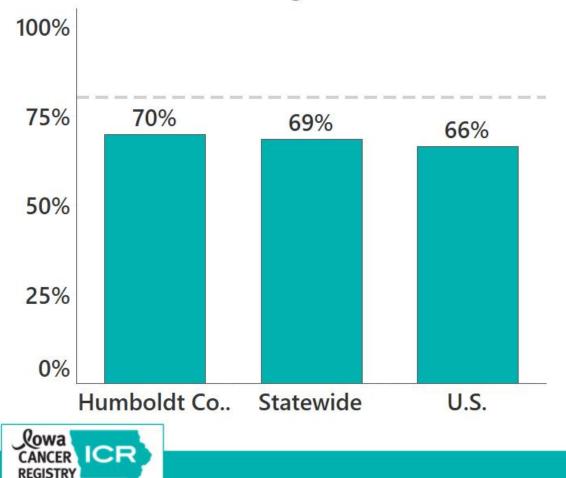




Data from 2011-2020

Colorectal Cancer Screening

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



STATE HEALTH REGISTRY OF ION

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

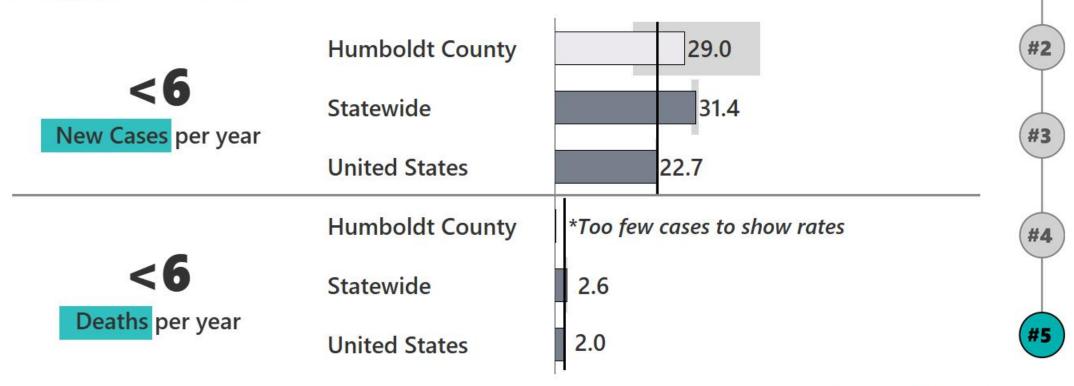


https://hhs.iowa.gov/public-health/cancer/colorectal-cancer-screening-program

A Health and Human Servi

#5 | Melanoma

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



Age-Adjusted Rate per 100,000 Incidence (2017-2021); Mortality (2018-2022) #1



What can you do to prevent melanoma?









Sit in the shade when possible



Avoid being in the sun from 10am – 2pm

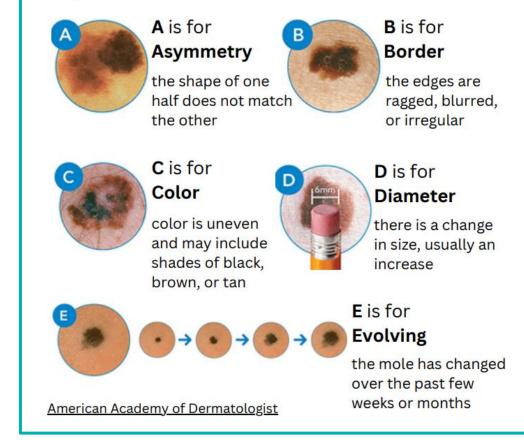
Do not use indoor tanning beds



Melanoma Self-Exams

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

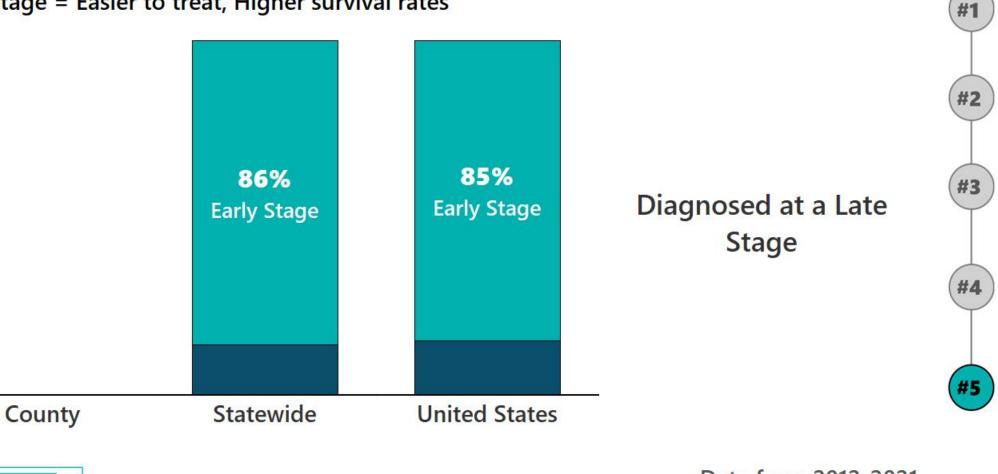
If you are concerned about a spot, talk to your doctor or a dermatologist Most moles and brown spots are harmless, but following the **ABCDE's** can help you detect melanoma early.



CANCER ICR REGISTRY Check out the Iowa Cancer Registry Melanoma Spotlight

#5 | Melanoma | Stage at Diagnosis

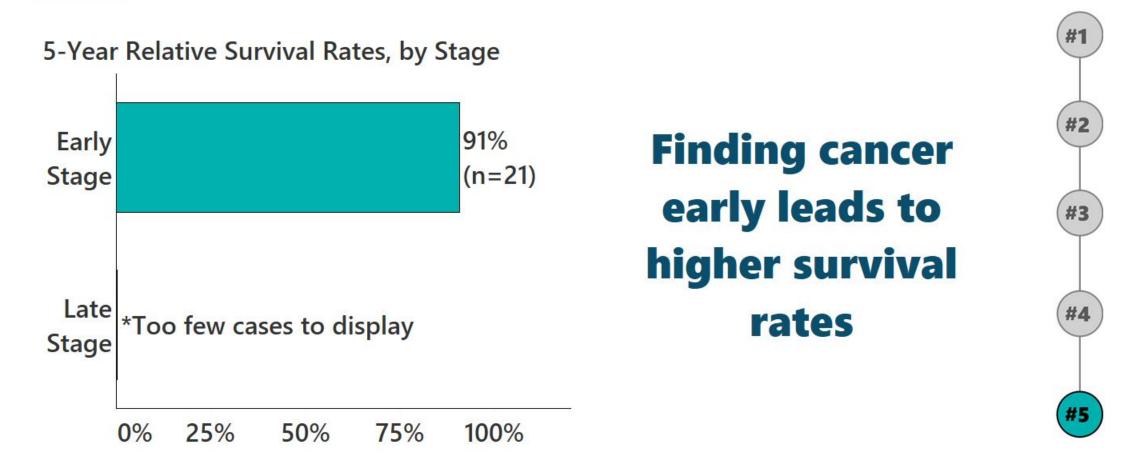
Early stage = Easier to treat, Higher survival rates





Data from 2012-2021

#5 | Melanoma | 5-Year Survival

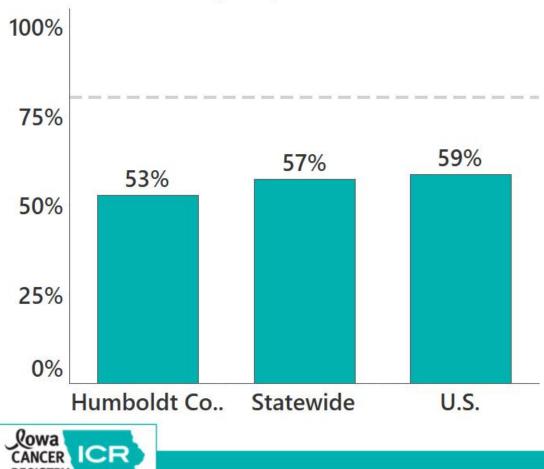




Data from 2011-2020

A vaccine that prevents cancer: HPV

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

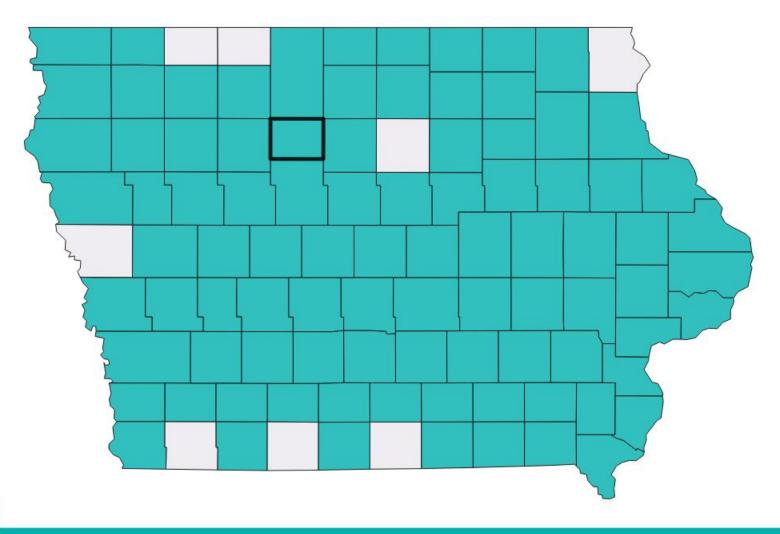


STATE HEALTH REGISTRY OF ION

- 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

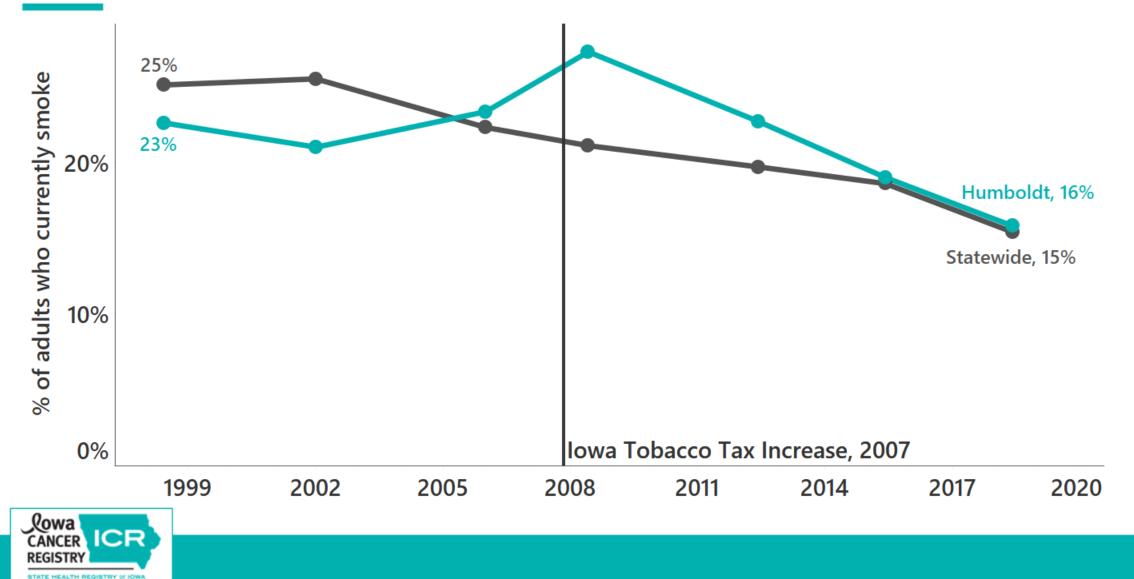
After the last tobacco tax was passed in 2007, smoking rates decreased in **92%** of Iowa counties



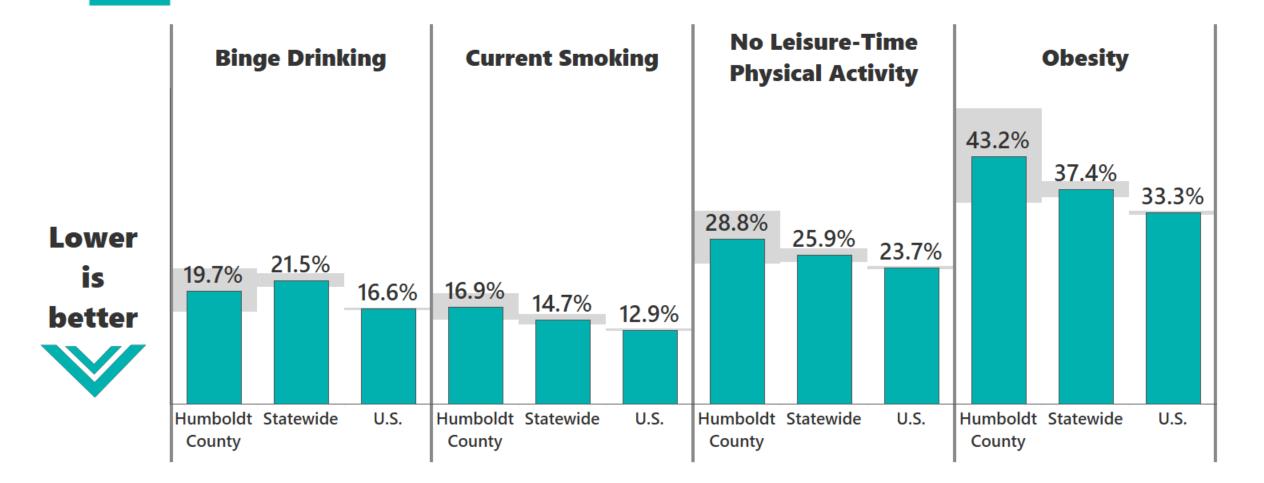


After the last increase to the tobacco tax was passed in 2007, smoking rates **decreased*** in Humboldt County

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



Other Cancer Risk Factors





2022 model-based county-level estimates

PLACES. Centers for Disease Control and Prevention. Access 11/01/2024. http://www.cdc.gov/places

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 lowa.

- 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.



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

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

Health and Human Services

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
- 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

www.canceriowa.org



Mission: To advance cancer prevention and control through advocacy, equity, and collaboration. **Vision**: An Iowa where cancer is not a burden.



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.



2023-2027



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 meeting will be held to discuss the results of the analysis and a written copy of the report will be sent to you

Guidelines for Examining Unusual Patterns of Cancer and Environmental Concerns



https://www.cdc.gov/cancer-environment/media/pdfs/Guidelines-for-Examining-Unusual-Patterns-of-Cancer-and-Environmental-Concerns-h.pdf

This is only the first step.

Recommended Actions



Iowa Cancer Plan

Use to identify strategies aligned with communityspecific 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





What can you do next?

Reduce Lung Cancer

We know tobacco- and nicotine-free policies, reducing out-of-pocket costs for cessation treatments, and mass communications can help reduce lung cancer

Breast Cancer

We know engaging community health workers, developing clinic-specific interventions, and supporting care navigation are effective in addressing breast cancer.

Prevent Skin Cancer

We know providing sunscreen and UV-safety education in outdoor occupational, recreation/tourism, and childcare settings can help prevent skin cancer.

Prostate Cancer

We know educating about the link between

- tobacco, alcohol, and obesity and prostate cancer;
- chemical exposures and prostate cancer; as well as promoting shared decision-making between individuals and providers helps reduce the burden of prostate cancer.



Every community is different

Your expertise is key

- Your expertise as community members and leaders and local policy makers is key to answering the question of what to do next. You know best what your community needs and what will work.
- **Cancer control partners** like the Iowa Cancer Registry, the Iowa Cancer Consortium, Iowa HHS, and your local public health department can provide ideas, advise, and help find data, evidence, and other resources, but ultimately you are the experts.
- A good place to start is by taking stock of the information presented today and where the opportunities for change might be within your county, town, or organization. Use the Iowa Cancer Plan for inspiration and reach out to the Iowa Cancer Consortium for partnership in moving forward.



Humboldt County Resources

Radon Test Kits

 Radon test kits are available at the Auditor's Office in the Humboldt County Court House

Private Well Testing

- Available through Wright County Environmental Health
- Call 515-532-3461 and ask for Sandy or Jane

Screening

Available at Humboldt County Memorial Hospital

- Mammography
- Low-dose lung CT
- Colon cancer screening
- Contact Dr. Adams, Dr. Croo, and Dr. Worple

Humboldt County Resources

Rehabilitation Services

- Physical therapy, occupational therapy, lymphedema
- Services available at Humboldt County Memorial Hospital

Outpatient Specialty Services at Humbolt County Memorial Hospital

- Urology- Dr. Olsen
- Medical Oncology- Dr. Tofilon
- ENT- Dr. Wellendorf
- OB/Gyn- Dr.llceski
- Gastroenterology- Dr. Adams
- General Surgery- Dr. Croo & Dr. Worple
- Dermatology- Kathryn Foy, ARNP

Palliative Care and Social Work Services

- Palliative care- UnityPoint Clinic-Humboldt
- Social Work- Nicole Hoag at Humboldt County Memorial Hospital

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
 - Radon
- Iowa Rural Health Association

In the next slides we will highlight the...

- Agricultural Health Study
- Environmental Exposures and Health Risks Fact Sheets
- Center for Health Effects of Environmental Contamination
- Iowa Private Well Grants Program





Agricultural Health Study



The Agricultural Health Study (AHS) has been working for more than 30 years to understand factors that impact the health of farmers and their families.

- Includes over 50,000 pesticide applicators from Iowa
 - Study is also following applicator's spouses and children
- Linked with Iowa Cancer Registry data to study risk of developing cancer among pesticide applicators

The aim of this study is to understand what risks there are to farmers and how they can protect themselves.

aghealth.nih.gov

Visit the Ag Health website to read their annual study updates related to pesticides and other agricultural exposures and cancer.

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

- <u>Arsenic</u>
- <u>Atrazine</u>
- Glyphoste
- <u>Nitrate</u>
- <u>Radon</u>



NEW Environmental Exposures & Health Risks Fact Sheets

Cancer comp Health sinh, Risks kin, prov dritt Non-Cancer The Health size picks effe	To reason, more than a support of team, and or preservative, and subative to the consumption of the consumption of the consumption of the team of tea	Exposure People are prin nitrate-contain public health or shallow wells b nitrogen enteri downstream co	Registion health offects (1,5). Sources and ys appointed to initize through contain fig foods, like proceeds mease (1, 4, 6) concern in losa due to the annuar of rei ing most at risk all high initizes access transmission of drinking water. As Associated within Nite The International Agency for Name and water as "probably controller and source access 113. Some short and tome, access 113.	Exposure Radon decays longs. Many pe measured in pe cracia to the fo structure (2). B Radon Javels val Radon Javels val Readon Javels val	The second secon	bet foor the breakdown of unreliant and its present as a foor the breakdown of unreliant and its present as called designed registering and the second second the static second and the second second second the second second second second second the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon
Exposure Sourcess Exposure Sourcess bits, and bits are as a paction that are not approximately and the ground source of the source of the source of the source of the source of the Health Risks and Risks and Non-Concer Teal Health Concer Teal Health Risks and Sourcess and Health Risks an	In standards with noising accord preservative, will insolve the consumption to the consumption to the consumption to the constant state to the constant state to the constant state state the state state state state to the state to the state state to the	People are prim nitrate-contain public health or shallow wells b sitrogen enteri downstream or Health Ris Cancer Health	any approval to instruct through contain gradow, ike procession reases 11, 45, 40 contain its loak also to the annual of its important at its in the pin instruct contain g lows attravers because of the stability intramination of drinking water. Its Associated with Nith The intervational Agency for Rea- and water as "probably carritogies and source as "probably carritogies and source as "probably carritogies and source as the source on half the mad- tion stability of the source on half the mad-	Radion decays lungs, Marry pe measured in pl oracks. In the CD, B Radion levels with rear the Kounds depicates, Jones & home because o determine index	Into nationative products that can oppin any appoint to sation by brea 24. (account any appoint of the sation ordation provides any appointing an analysis in Access and the satisfiest of the satisfiest internative internative satisfiest of the satisfiest the nation in inducer radion can be added the nation in inducer radion can be added the nation in inducer radion of values.	The shaked (1). These realizations are been as the term of the shaked (1). These realizations are determined in status are the shaked (1). These realizations of the shaked (1). These realizations of the shaked (1) and the
Spectra to torogene a veloci- ties, will this use an entrie of the torogene and the torogen	Initial table where High of proofs of integratic acressics of than 100 free have the control of the have the control as carcinogenic to bladder, and large there integrated workshow have sho bladder, and large three the workshow of a signific the workshow of the signific the significant the significant the significa	nitrate-contain public health o shallow wells b nitrogen enteri downstream o Health Ris Cancer Health	Ing foods, like processed meats D.4. 0: income in loave due to the amount of nei ming most at risk of high nistate concess in the because of its stability ntamination of drinking water. In the international Agency for Rese and water as "probably carritoge have shown a posible correlation and some cancers ID.3 Some stud or above levels one-half the maak	Interaction and the second sec	who indiffuentive phoducts that can optimize amposed to radion by burs- photometers approach and the photometers will be approximately a mount photometers increases in homes with photometers increases in homes with photometers increases in homes with photometers bon, ladoon favels of radion can build the number of the statemeters of radios of the numbers and biotrabutions of radios.	I be inheaded (3). These radioactive products can dare stating in instance apr. The annount of radion in the ability one gas can initiate thromes from sold through the stating of an and in the state hornes. From sold through the state of an and in the state sources of radion in the horne. Balation and in the state sources of radion in the horne. Balation and in the balanement of notes: to will all the hornes balations and in the Adoo hornes can of galaction of the nutrementation (15). Readon horde is can ware from sources the products of the state of galaction ware from sources the state of the hornes.
atel, and an exposure is attributed and an exposure is attributed	Initial table where High of proofs of integratic acressics of than 100 free have the control of the have the control as carcinogenic to bladder, and large there integrated workshow have sho bladder, and large three the workshow of a signific the workshow of the signific the significant the significant the significa	shallow wells b sitrogen enteri downstream co Health Ris Cancer Health	ening most at risk of high initiate concest in giones atramars because of its atability intamination of drinking water. SkS Associated with Nit The International Agency for Rese and water as "probably carcingge have shown a positive correlation and some cancers (D). Some stud	measured in pl cracks in the dist Afructure (2). Bi Rection tevels with measure for the dist deposits, lower to home because or determine indoor	opin are exposed to radion by brain and the exposed to radion by brain ALL (piccounties per liber of air). But obtained on openings around pipe whiting materials, water supply, and increase in homes with promises whiting materials, water supply, and both the materials of addors are welds the nation in indeper radion con- tent on the superior of radion of the unexent discribution of radion of the unexent discribution of radion.	be included (3). These radioactive products can dare thing in indice all. The amount of radio in the all in the gas can influenze horses from some space and influenze horses from some in sump pumps, crack spaces, chasis, and other factoria gas are also sources of radio in the home. Radio and is the basement of radio in the home factorian and is the basement of radio in the home factorian and is the basement of radio in the home factorian and is the basement of radio in the home factorian and is the basement of radio in the home factorian and is the basement of radio in the home factorian and is the basement of gas in the interview of gas in the space of gas in the interview of gas in the space of gas in the space of the interview of gas in the space of gas in the space of gas in the interview of gas in the space of gas in the space of gas in the interview of gas in the space of gas in the space of gas in the interview of gas in the space of gas in the space of gas in the interview of gas in the space of gas in the space of gas in the interview of gas in the space of gas in the space of gas in the interview of gas in the space of gas in the space of gas in the interview of gas in the space of gas in the space of gas in the space of gas in the interview of gas in the space of gas in the
What is the total of the second of the secon	binking incogaria aurenia r for than 1000 Teet have the Scitted with Arse 	Health Ris	g lose streams because of its atabilit ntamination of drinking water. sks Associated with Nite The international Agency for Rese and water as "probably carcinoge have shown a positive correlation and some cancer (I). Some stud or above loves one-half the mask	Radian lavels wi Radian lavels wi Hear the founda depinitis, love s home because o determine indoo	Inding materials, water supply, and increase in homes with poor ver- tion. Indice levels of radios can be add the nation in indicer radios con- late the nation is indicer radios of the uneven distribution of radios vision concentrations.	e, bump pumps, crews spaces, drains, and other directions are also paces, drains, and other directions and in the basement or forecast in the former. Instance and in the basement or forecast invest of the in higher than outdoors (3). Because of glacial rock inclumentation (2), 5, Reddonis Can Yang' from homo- nishing provide the source of glacial rock.
Interference Concentration derking water (D. Wells dere Health Risks Asso Cancer one the Health Risks ask Risks akter pro- Non-Concer The Health exp	toms of invegances with the second se	Health Ri Cancer Health	Intermination of drinking water. Sks Associated with Nite The International Agency for Reso and water as "probably carringed have shown a positive correlation and some cancers (3). Some study or above levels one-half the mask	Radian lavels wi Radian lavels wi Hear the founda depinitis, love s home because o determine indoo	Inding materials, water supply, and increase in homes with poor ver- tion. Indice levels of radios can be add the nation in indicer radios con- late the nation is indicer radios of the uneven distribution of radios vision concentrations.	e, bump pumps, crews spaces, drains, and other directions are also paces, drains, and other directions and in the basement or forecast in the former. Instance and in the basement or forecast invest of the in higher than outdoors (3). Because of glacial rock inclumentation (2), 5, Reddonis Can Yang' from homo- nishing provide the source of glacial rock.
the groundware (D. Wells deer driving mater (D. Wells deer Health Risks Asso Cancer The U Health and Risks kide Pool Non-Cancer The Health ada Health ada Pool Non-Cancer The	or than 100 refersions of the second of the	Health Ri Cancer Health	sks Associated with Nite The International Agency for Rese and water as "probably conclinege have shown a positive correlation and ionne cancers 13. Some studi or above levels one-half the mask	rear the founda rear the founda depinable, lowe to home because o determine indoo	Lincrease in homes with polar supply, and tion indexer levels of radiant can be last the netion in indexer radian co- lete sterement of radiant of radiant radiant concentrations in a second	d natural gass, created spaces, drains, and other interval gas are also sources of radium in the home. Nation and in the basematics of roadest level of the h higher than outdoors (3). Because of glacial rock instantiation (2, 5), Radium levels can vary from home in the ghound chooses.
Health Risks Asso Cancer The U Health and Risks kidn prov drei Health abb	Science with Arse s. Environmental Protect condula accertologenic to i used workholde have sho bladder, and user, there is naal paragen, liver, as ideal exidence of a ugenic king water safaard of 10 PRA has conducted in kin accerto PRA has conducted in king and the same of the same of the same of the same of the same of the same of the s	Cancer Health	The international Agency for Rese and water as "probably carcinoge have shown a positive correlation and some cancers I3. Some stud or above levels one-half the man	home because o determine indoo	which the nation in indoor radion can be the uneven distribution of radion values concentration of radion	Higher than outdoors (3). Because of glacial rock internation (2.3). Redon texes of glacial rock in the ground on the second rock for a same from both
Cancer comp Health cent Risks kill Non-Cancer Te Health dat Picks eff	5. Environmentations ounds as cercinogenic to i uicited worldwide have sho bladder, and lung. There is ny, nasal passage, liver, at ided evidence of a vignific king water standard of 30 spA has conducted nik ac spA has conducted nik ac	Health	and water as "probably carcinoge have shown a positive correlation and some cancers (1). Some study or above levels one-half the max	determine indoo	the uneven distribution of radios	ntamination (2,5). Redon broels can vary from base
Cancer comp Health cent Risks kill Non-Cancer Te Health dat Picks eff	5. Environmentations ounds as cercinogenic to i uicited worldwide have sho bladder, and lung. There is ny, nasal passage, liver, at ided evidence of a vignific king water standard of 30 spA has conducted nik ac spA has conducted nik ac	Health	and water as "probably carcinoge have shown a positive correlation and some cancers (1). Some study or above levels one-half the max		Tacitory Concentrations (1.9.17)	Sh the ground on the second several can vary from here
Cancer comp Health sinh, Risks kin, prov dritt Non-Cancer The Health size picks effe	ounds as CREVEN when sho bladder, and lung, There is by, nasal passages, luve, a lided evidence of a signific king water standard of 10 RPA has conducted risk as	Health	have shown a positive correlation and some cancers (3). Some study or above levels one-field the max			
Health cond Risks kidn prov Non-Cancer The Health dat	ucted workshows and sing. There is bladder, and sing. There is one and the standard of a signific king water standard of 20 gPA has conducted risk as		and some cancers (1). Some studi or above levels one-half the max			the second descents is the curby were
Risks skin, kidn prov drift Non-Cancer The Health diat picks effe	bladder, so have a signific ided evidence of a signific king water standard of 10 EPA has conducted risk as	Risks		and the second second	ks Associated with	A well to
Non-Cancer The Health dat Pisks effe	ided evidence king water standard of 10 s EPA has conducted risk as				ks Associated with R	adon
Non-Cancer The Health dia Picks effe	king water standard ginA has conducted risk as		colorectal cancer. Cancers at oth	Cancer	Cause of lung cancer in hum	GGON Wis (4,55 and, after smoking, is the second leading ation (3). For example, the loase Rodon Lung Cancer active rador exposure in the residential
Non-Cancer The Health disk	EPA has conducted risk as		associations have been found at	Health	Study concluded that To	ation (3). For example, in the second leading
Health diab	providence arsenic		ovary, and kidney (6).		environment is significantly a	VAS And, after smoking is the second leading ation (3). For example, the loase Rodan Lung Cancer ative radion exposure in the residential secolated with long cancer risk (5). The chances of n increase with the indian lead of national.
Health dat			Methemoglobinemia, or Blue Ba	Risks	Ninte range cancer fripts radio	Dimension which lung carlosy risk " (b) The
picks effe	settes, adverse pregnancy a	Non-Cance	oxygen is transported in the blg		devalipping in the home. People	in increase with long cancer risk" (5). The chances of increase with the indust level of radius and the e who smokers (2). Moreover, with their different lak of eaching rates, children are exponent to increase.
853	ettel, adverse prea etts (7). Evidence demonstr etts (7). Evidence demonstr	Health	can occur when infants are exp		shapes and sizes	on-smokers (1) keys at a 20 to 20 times higher risk of
	ets (7). Evidence vit (80 per 10,000 people wit enic at the 10 micrograms	Risks	prenatal nitrate exposure in low		radon doses than and higher bri	eathing rates, children, with their different kins
2/5	enic at the sol		defects, including spina bifida,	Non-Cancer	reason explosure and a	resultion resultionship has been to be regrand
How is Arsenic	regulatear			Health	1 come	which at other sites.
 The EPA established if 	be MCL to be 30	How is Ni	trate regulated?		exposure to elevated radio	hed adverse health effect associated with Is (2). Some studies are being conducted in lation between radon exposure
 The EPA established to micrograms per litter to micrograms per litter to 	to protect against the	 The EBA scool 	sished the maximum contamina	Risks		b) Some studies are being conducted in action between radon exposure and risk of of indeterminate potential manual risk of
			be 10 mg/L in drinking water, to	How is Rado	scroke and clonal hematopolesis	a us, some studies are being conducted in intion between radon exposure and risk of indeterminate potential (CHIP) (8).
		infants agains	t methemoglobinemia, or Blue	is kado	n regulated?	interestimate potential (CHIP) (6)
shove SI. • Under the Safe brink	ing Water ALC. In suppliers to test for an orgoing basis(1,3).	Syndrame (7,		Variate in the second		
			uppliers must test for nitrate a	individual residence The EPA has divided	al regulations for Acceptable	Because the entire state of knwa is at high risk of calors in homes and other buildings.
enorganic arsenic on Private wells are un	regulated for ansens	confidence re	sumers and the state through			values the entire state of knwa is at high risk of radios in homes and other buildings, the knwa Department of Health and Human Same
			are not required to be tested f		P Invalor (Primeror)	Withham were of Health and Human San-
(5,3). The Food and Drug	Administration Health		h water sourced from a shallo	the risk of developing Radion levels below	g lung cancer in	Wohnnends testing every two years or after enovating your home (3) favore and a far-
			face a disproportionate risk of		POPL STILL CARDING STATE	enovating your home (3). Radion testing is wepensive and reliable.
Administration and	sunes, respectively tor-	exposure (3,1		especially for junction		
Published Septemb	er 2024 -			3 (4) A0(MD)	et or heavily sted areas (1). Sy	the results from radion testing are greater than or pusi to 2 pCids, installing a radion mitigation sitem can range from \$800 to 45 percent.
	e website	THE P			Published Septer	war 2015, instabiling a radion minigation stem can range from \$200 to \$2,500 (3). Index 2014 Questions? Viol our website biolec.org
ENERG AND						the standblana? Walt our website for the
						in the second

https://ehsrc.public-health.uiowa.edu/communityengagement/resources-information/

Center for Health Effects of Environmental Contamination (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.

cheec.uiowa.edu





Email: cheec@uiowa.edu

CHEEC

Iowa Private Well Grants Program Iowa Health & Human Services

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

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

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

County Health Department - contact list

Follow this QR code or the links below to learn more!



https://hhs.iowa.gov/public-health/environmental-health/private-well-grants https://www.iowadnr.gov/environmental-protection/water-quality/private-well-program/well-testing

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!



These slides will be posted

These slides will be posted to the Iowa Cancer Registry website: <u>www.iowacancerregistry.org/99</u>



If you have questions, please email us at ICR-99countiesproject@uiowa.edu

Media

If you are a representative of the media and would like more information on this presentation or to speak with someone from the Iowa Cancer Registry, contact <u>ICR-Media@uiowa.edu</u>.



Thank you for attending!

If you would like to **share your thoughts** on this meeting, please participate in our brief survey. The QR code will direct you to the survey.

This brief survey should take no more than 5-10 minutes of your time.

