



Chronic Kidney Disease: A Hidden Epidemic

Presenters

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The Central Indiana Senior Fund is partnering with The Polis Center on the State of Aging in Central Indiana Report to achieve their vision of providing reliable, up-to-date information about trends and emerging issues related to the older adult population.

The Central Indiana Senior Fund is a fund of the Central Indiana Community Foundation.

State of Aging Website
<https://centralindiana.stateofaging.org/>



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Makers**



Understanding Chronic Kidney Disease (CKD)

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The Most Common Causes of CKD in the U.S.

- Diabetes - Type 1 & Type



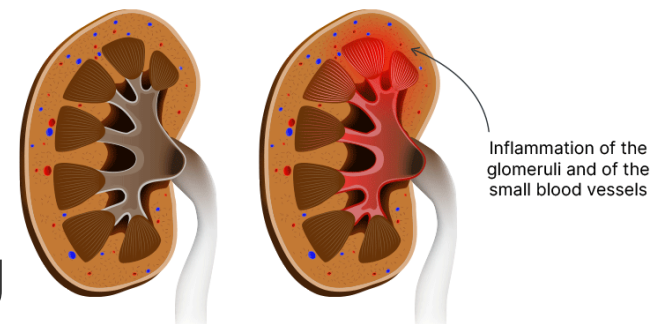
Image source: <https://cdc.gov>



Image source: <https://www.diabetes.co.uk/>

- High blood pressure

- Inflammation of kidney's filtering



Normal Kidney

Glomerulonephritis

Inflammation of the glomeruli and of the small blood vessels

Image source: <https://www.ausmed.com/>



The Most Common Causes of CKD in the U.S. (cont.)

- Genetic disorder (Polycystic Kidney Disease)

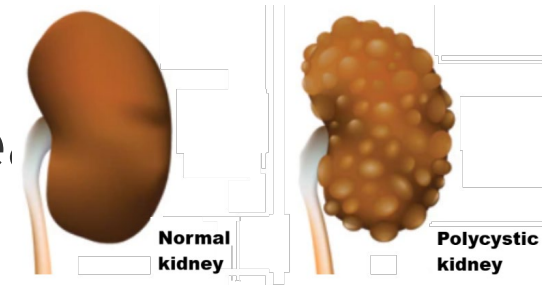


Image source: <https://www.kidney.org/>

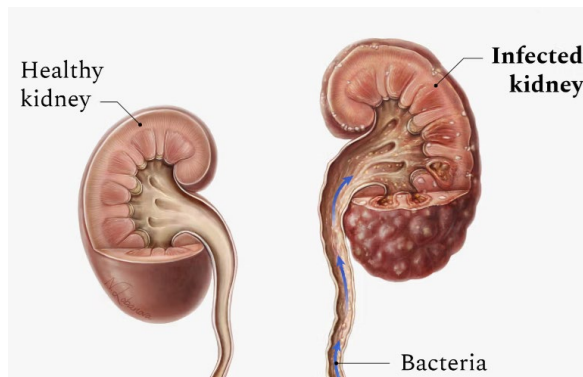


Image source: <https://www.buoyhealth.com/>

- Repeated kidney infections

- Prolonged use of NSAIDs & other drugs



Image source: <https://longevitywellnessclinic.com/>



Common Causes By Age Group

Younger Adults (< 60 years):

- Genetic factors
- Kidney structure defects
- Kidney diseases and systemic diseases like diabetes and lupus
- Inflammation of kidney filtering units

Older Adults (> 60 years):

- Chronic diseases like:
 - Diabetes
 - High blood pressure
 - Heart disease
 - Obesity
- Kidney function decline
- Age-related kidney changes
- Inflammation or swelling of the kidneys



Other Common CKD Causes in Older Adults (> 60 years)

- **Blockage of the bladder** can be due to:
 - Enlarged prostate (men)
 - Bladder stones
 - Bladder cancer
 - Pelvic tumors
 - Urethra stricture
 - Urinary tract infections
- **Kidney cancer**
- **Cancer treatments**
- A bladder blockage can lead to urine backing up into the kidney and causing it to swell.
- **If a blockage is not addressed**, the swelling and pressure can lead to kidney damage and a decline in kidney function, potentially resulting in CKD or kidney failure. If you suspect a blockage, see a urologist!



Recognizing CKD Symptoms

Early Signs (often subtle or silent)

- Fatigue and weakness
- Swelling in feet and ankles
- Foamy or bubbly urine
- Uncontrolled hypertension
- Blood in urine
- Reduced urination

Advanced Symptoms

- Persistent nausea or vomiting
- Shortness of breath
- Muscle cramps and twitching
- Confusion, difficulty concentrating
- Severe swelling (face, hands, legs)



How is CKD Diagnosed?

- Blood Tests
- Urine Tests
- Imaging
- Kidney Biopsy (if needed)





Risk Factors for CKD

- People with diabetes or hypertension
- Family history of CKD
- Obesity or sedentary lifestyle



Ethnic Risk Factors CKD

Ethnic Groups at Higher Risk:

- African Americans
- Hispanic/Latino Americans
- Native Americans



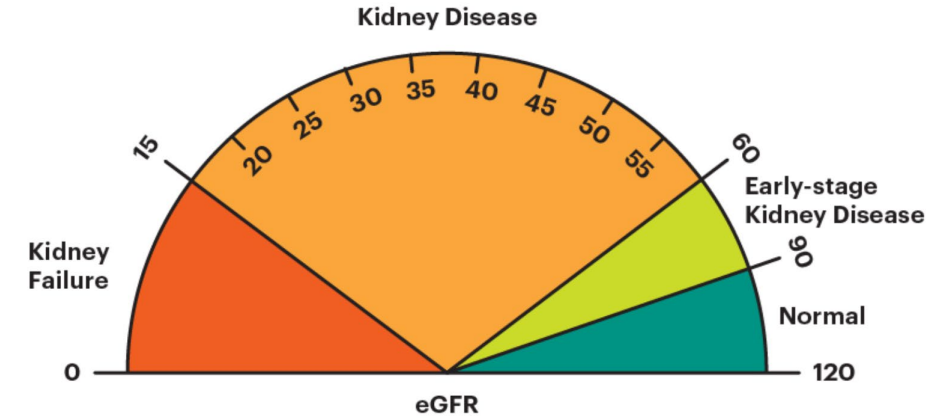
What Happens Over Time?

- CKD progresses gradually
 - Early stages may show no symptoms
- Without treatment
 - Leads to kidney failure - called “Stage 5”
 - Also called End-Stage Renal Disease or “ESRD”
- Can it be reversed?
 - **Early-stage** (Stages 1 - 3)
 - Can be slowed with treatment
 - **Late-stage** (Stages 4 -5)
 - Often irreversible, requiring dialysis or transplant



When to See a Kidney Specialist (Nephrologist)

- eGFR below 60 mL/min for more than 3 months
- Protein in the urine
- Uncontrolled high blood pressure despite medications
- Diabetes with worsening kidney function
- Swelling and persistent symptoms of CKD
- Family history of kidney disease



eGFR =
estimated Glomerular
Filtration Rate



Managing Early-Stage CKD (Stages 1-3)

- **Blood pressure control:** Target is < 130/80 mmHg
- **Diabetes control:** A1C goal is < 7%
- **Dietary changes:**
 - Reduce sodium, processed foods, protein
 - Increase fruits, vegetables, whole grains
- **Exercise regularly**
- **Avoid nephrotoxic drugs (NSAIDs, some antibiotics, contrast dyes)**



Treatment for Late-Stage CKD (Stages 4-5)

- **Medications for symptom control** (anemia, bone disease, acidosis)
- **Strict fluid & diet management**
- **Blood pressure & glucose control remain essential**
- **Prepare for dialysis or kidney transplant**



What Happens in End Stage Renal Disease (Stage 5)?

- When kidneys fail (eGFR <15 mL/min), waste & toxins build up
- Dialysis or kidney transplant becomes necessary



What is Dialysis?

In a clinic

- Machine filters blood
- Done 3-4 times/week
- Called “Hemodialysis”

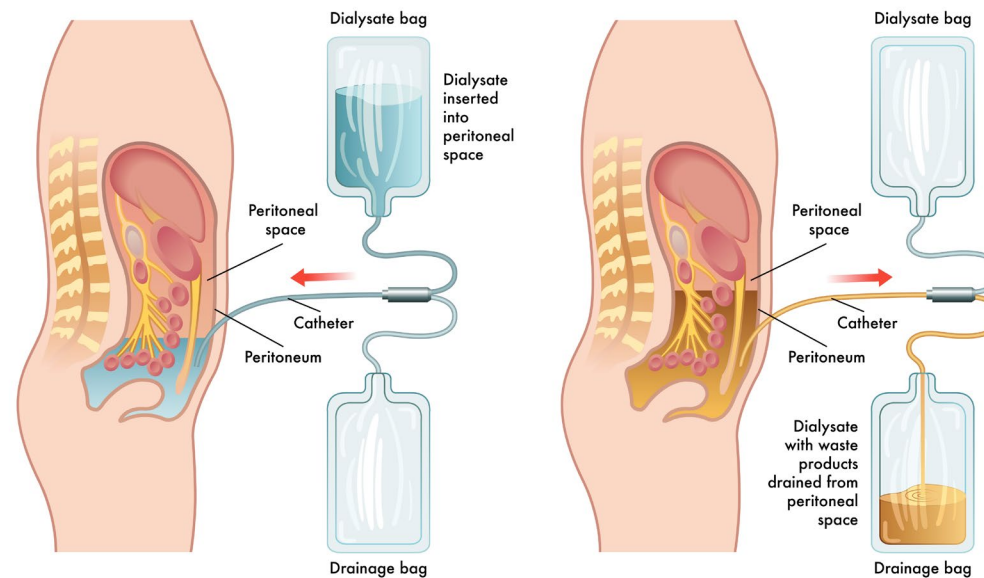


Hemodialysis

At home

- Uses abdominal lining to remove waste
- Called “Peritoneal Dialysis”

Peritoneal Dialysis



Peritoneal Dialysis

Kidney Transplant – The Best Option for ESRD

- **Why Transplant?**
 - Best long-term survival & quality of life
- **Who Can Get a Transplant?**
 - Must meet medical & surgical criteria
- **Living vs. Deceased Donors**
 - Living donors provide better outcomes



Can Individuals Influence Their Outcomes?

YES
!

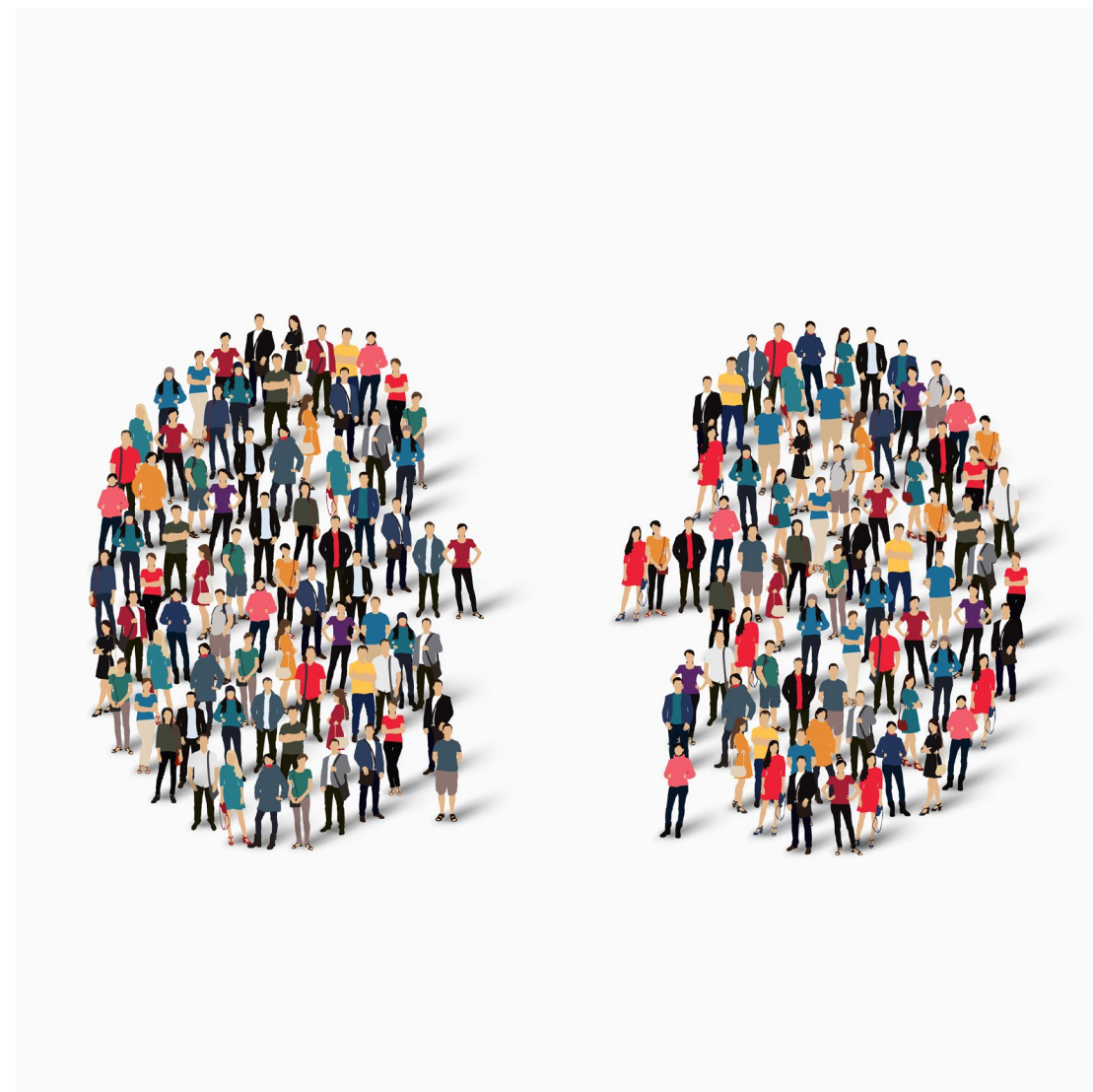
Steps to Prevent or Slow CKD:

- Manage diabetes & hypertension
- Eat a kidney-friendly diet (low salt, less processed foods)
- Maintain a healthy weight & exercise
- Quit smoking & limit alcohol
- Avoid overuse of painkillers (NSAIDs)
- Get regular kidney function tests if at risk



Summary & Call to Action

- CKD is common but preventable.
- Early detection & lifestyle changes can slow progression.
- See a doctor if you have risk factors or symptoms.
- Protect your kidneys—stay proactive about health!



Thank You

Oluwafisayo Adebisi, MD, FAST, FASN

Assistant Professor of Clinical Medicine,
IU School of Medicine/Division of Renal Disease and Hypertension



How Common is Chronic Kidney Disease?

Karen Frederickson Comer

Associate Director, The Polis Center
Luddy School of Informatics, Computing and Engineering, IU
Indianapolis

Jay Colbert, Data Manager; Ted Deitz, GIS Analyst; Alli Kraus, Graphic Designer; Kayla Duncan, Community Analysis Project Coordinator



CKD affects more than 1 in 7 US adults (aged
18+)
= 14% of US adults
= approximately 35.5 million people

And ~9 out of 10 US adults with CKD are unaware they have it!

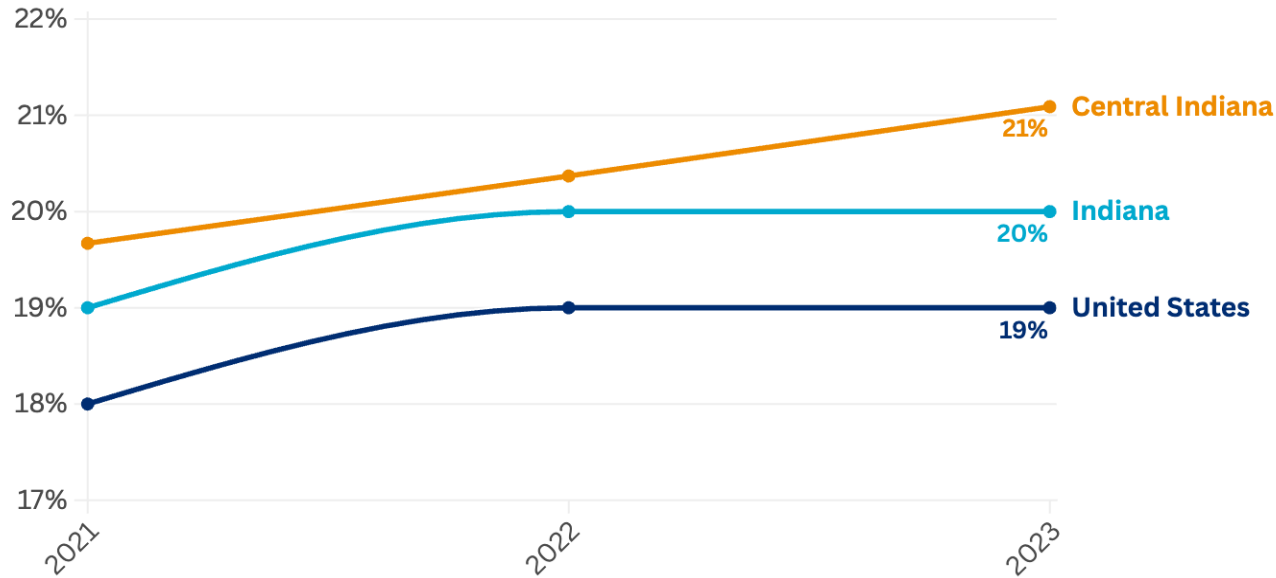
Source: Centers for Disease Control and
Prevention, 2024



CKD is more common in Central Indiana than in Indiana or the US

% of Older Adults (Ages 65+)* with CKD

Central Indiana (CI), Indiana, and the US, 2021-2023



Source: CMS • The Polis Center

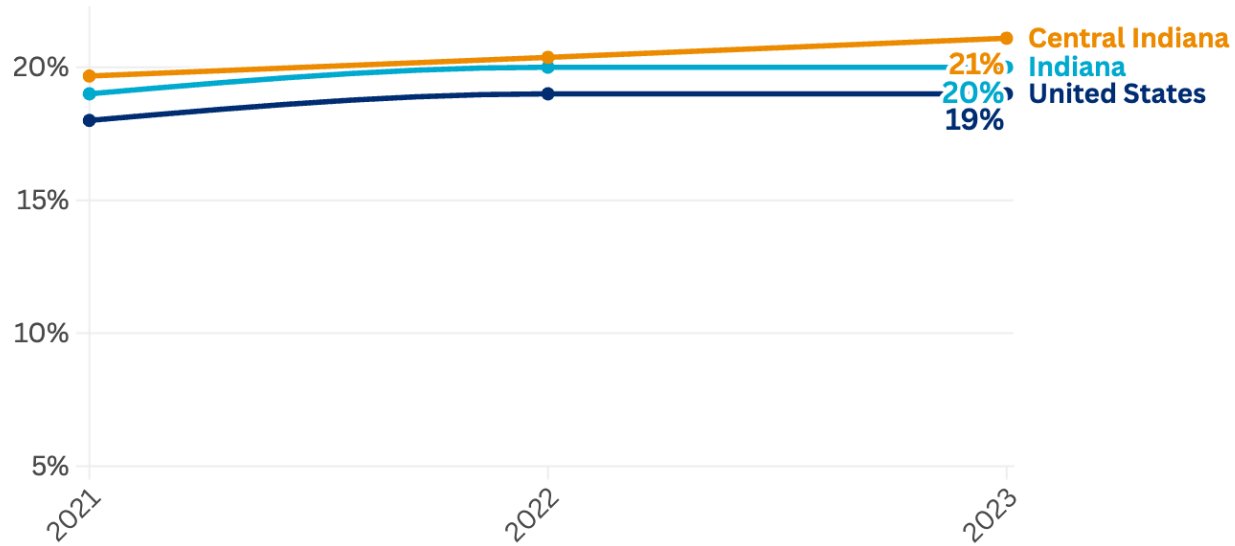
*Medicare beneficiaries



CKD is more common in Central Indiana than in Indiana or the US continued

% of Older Adults (Ages 65+)* with CKD

Central Indiana (CI), Indiana, and the US, 2021-2023



Source: CMS • The Polis Center

*Medicare beneficiaries

% of Older Adults (Age 65+) Self-Reporting CKD

Indiana and the US, 2015-2023

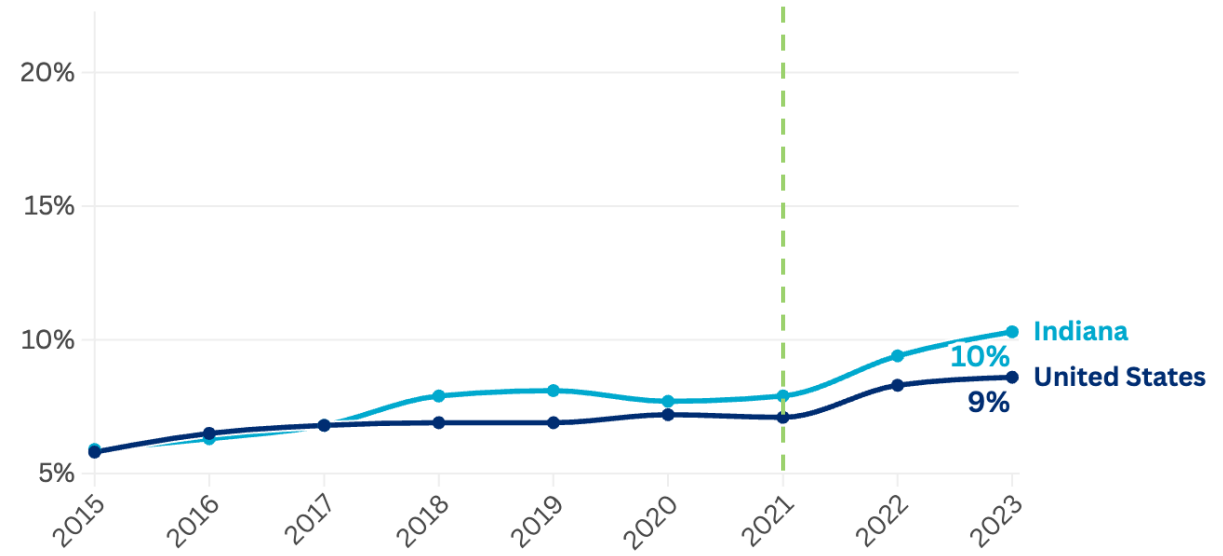


Chart: The Polis Center • Source: America's Health Rankings

Many older adults are not aware they have CKD



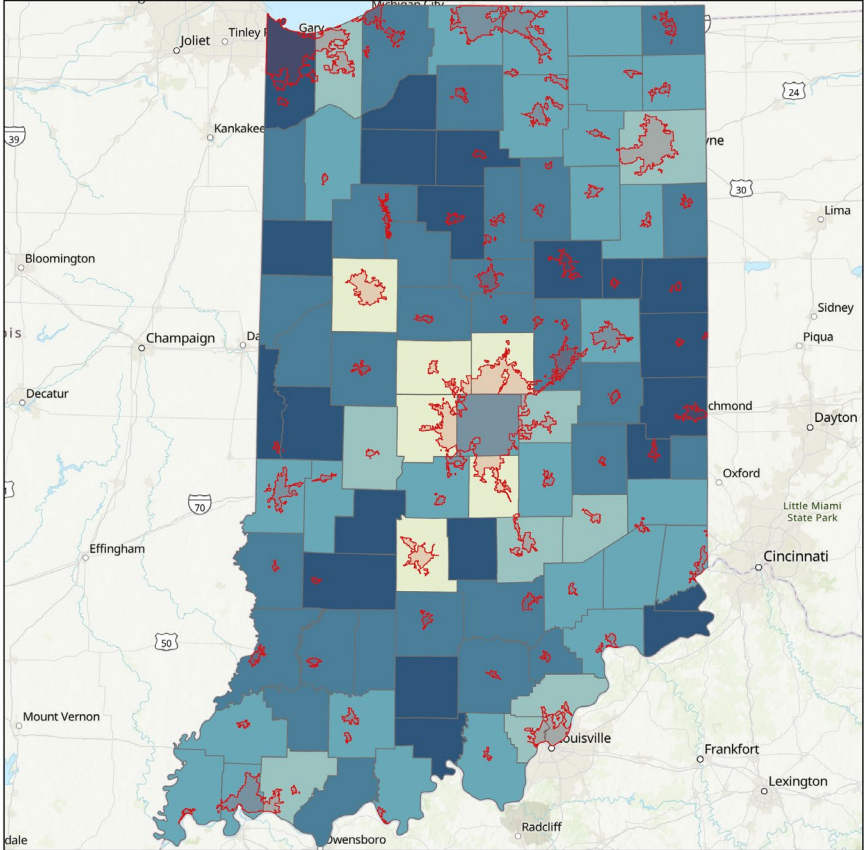
CKD impacts some geographic areas more than others

% Total Population with Chronic Kidney Disease

Indiana Counties 2021

Chronic Kidney Disease
Indiana Counties, 2021

- Legend**
- Urban Area
 - Percent of Adults Reporting CKD
 - 2.5 - 2.8
 - 2.9 - 3.1
 - 3.2 - 3.3
 - 3.4 - 3.5
 - 3.6 - 3.9



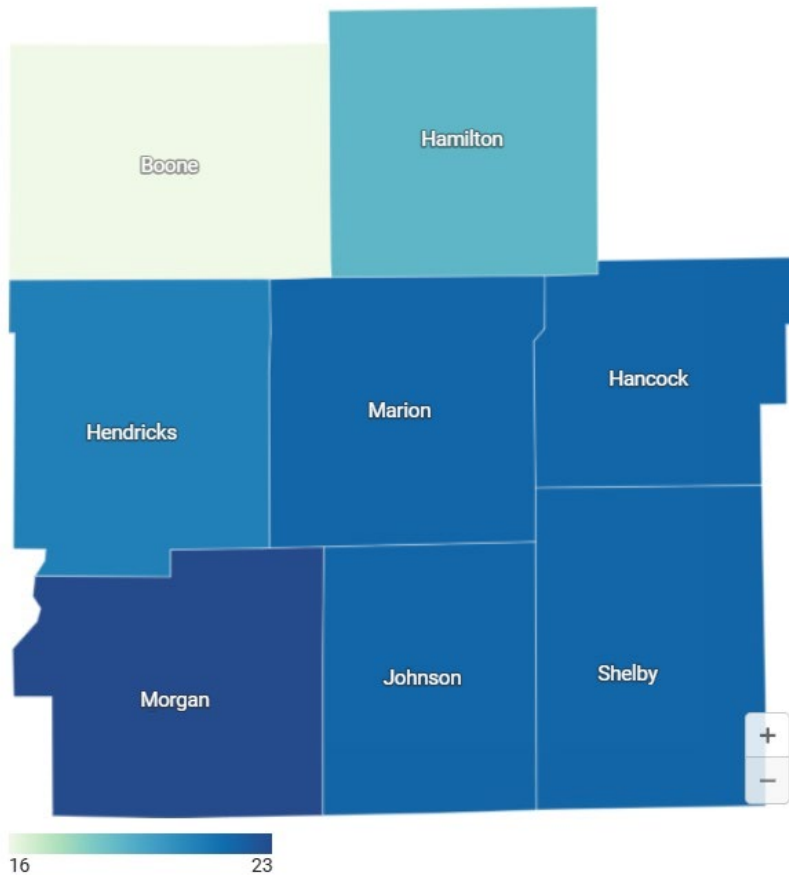
Source: CDC Places

Map created 3/10/2025
by The Polis Center

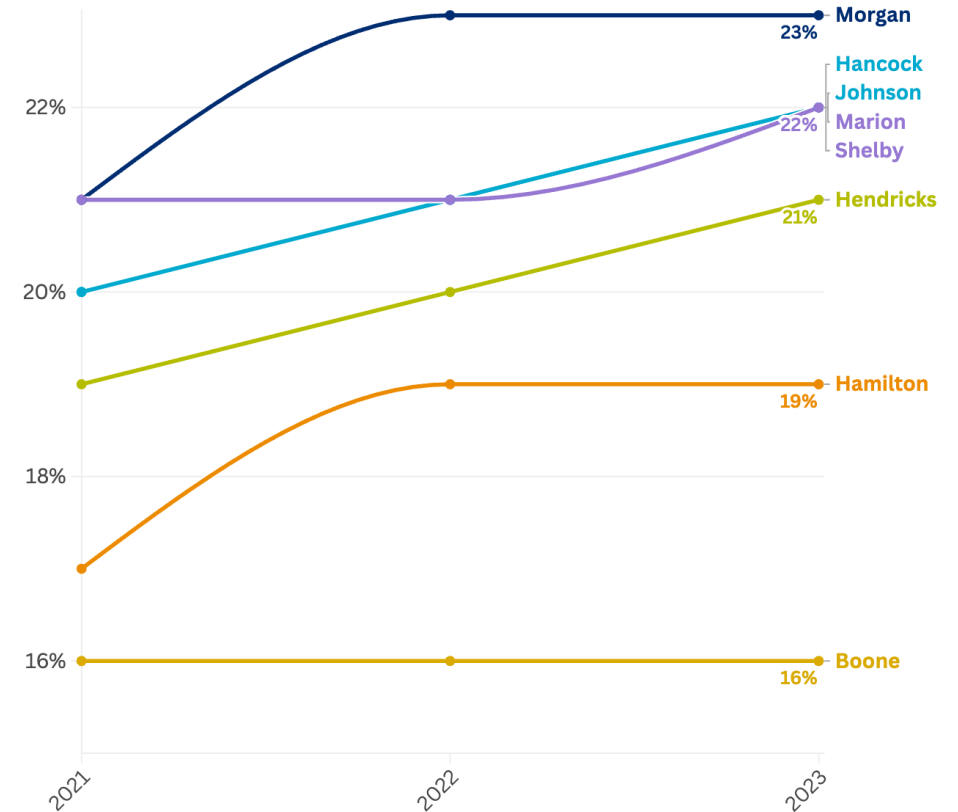


CKD rates for older adults vary across Central Indiana counties

% of Older Adults* with CKD
Central Indiana Counties, 2023



% of Older Adults* with CKD
Central Indiana Counties, 2021-2023



* Medicare beneficiaries
Population is based off Medicare beneficiaries

Map: The Polis Center • Source: Centers for Medicare & Medicaid Services • Get the data • Embed • Download image • Created with Datawrapper

Source: CMS • The Polis Center

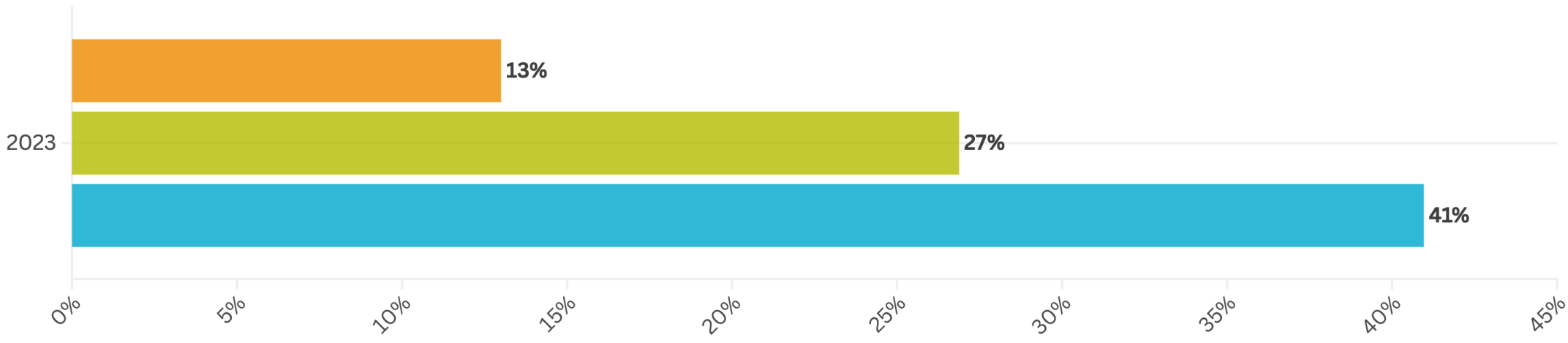


Does CKD impact some populations more than others?

Yes. CKD rates increase with age...

% Older Adults* with CKD, by Age Group
Central Indiana, 2023

65-74 75-84 85+



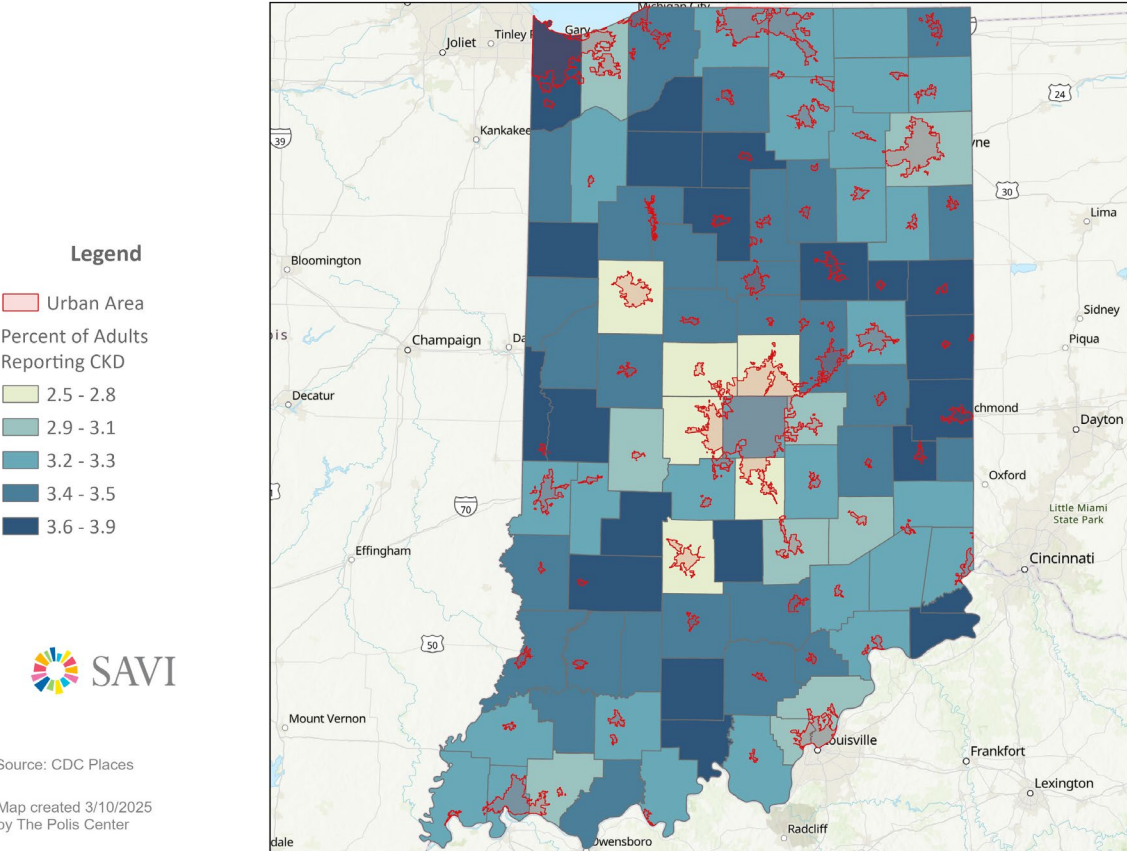
Source: CMS • The Polis Center
*Medicare beneficiaries



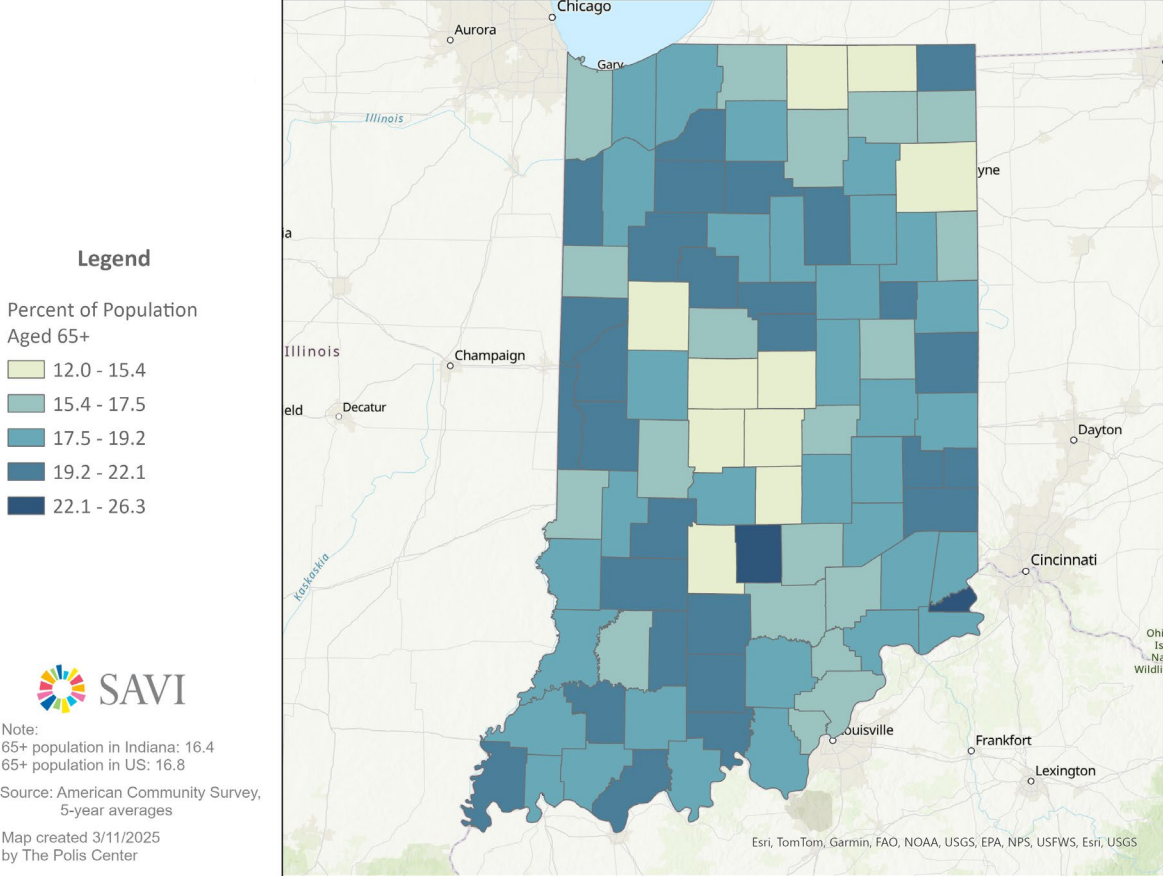
CKD impacts some geographic areas more than others in the Older Adult population

% Total Population with Chronic Kidney Disease

Indiana Counties 2021

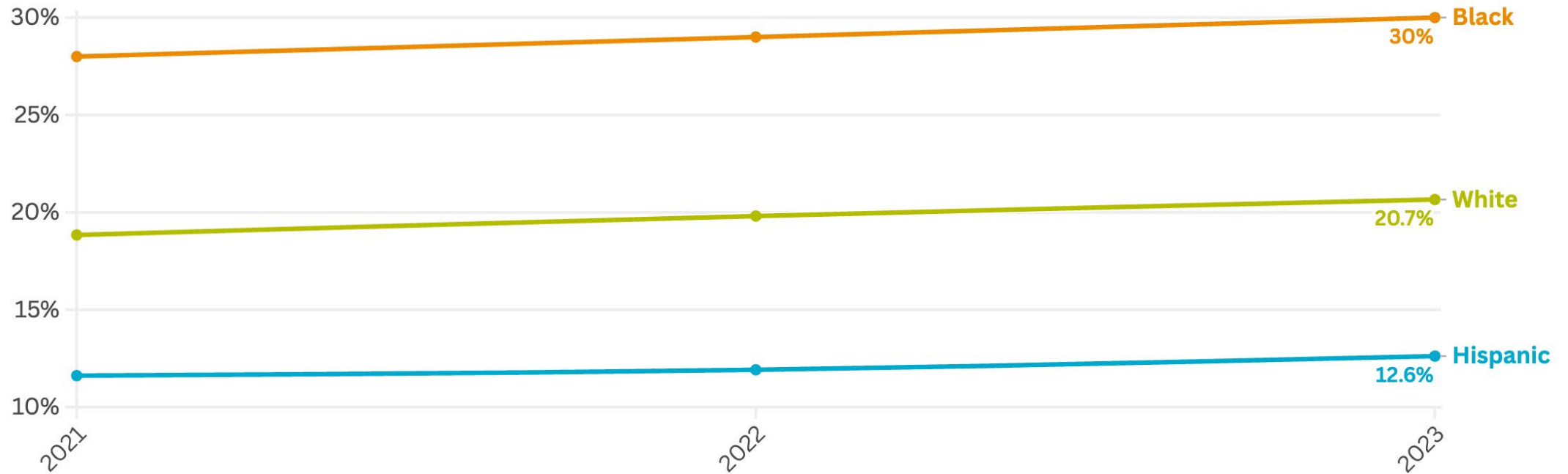


% Older Adults



CKD is more common among Black versus White or Hispanic older adults

% of Older Adults with CKD by Race/Ethnicity
Central Indiana, 2021-2023*



Source: CMS • The Polis Center

*Medicare beneficiaries



Social factors are associated with differences in CKD rates

% of Older Adults with CKD by Household Income
Central Indiana, 2012-2023*

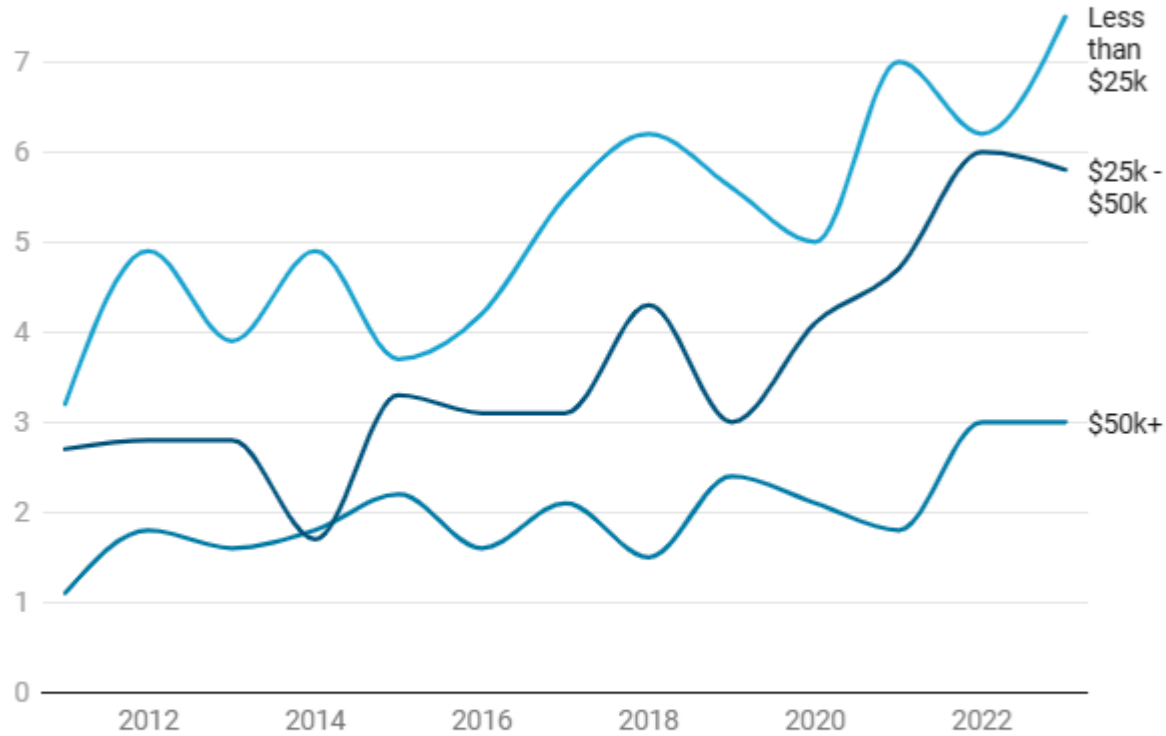
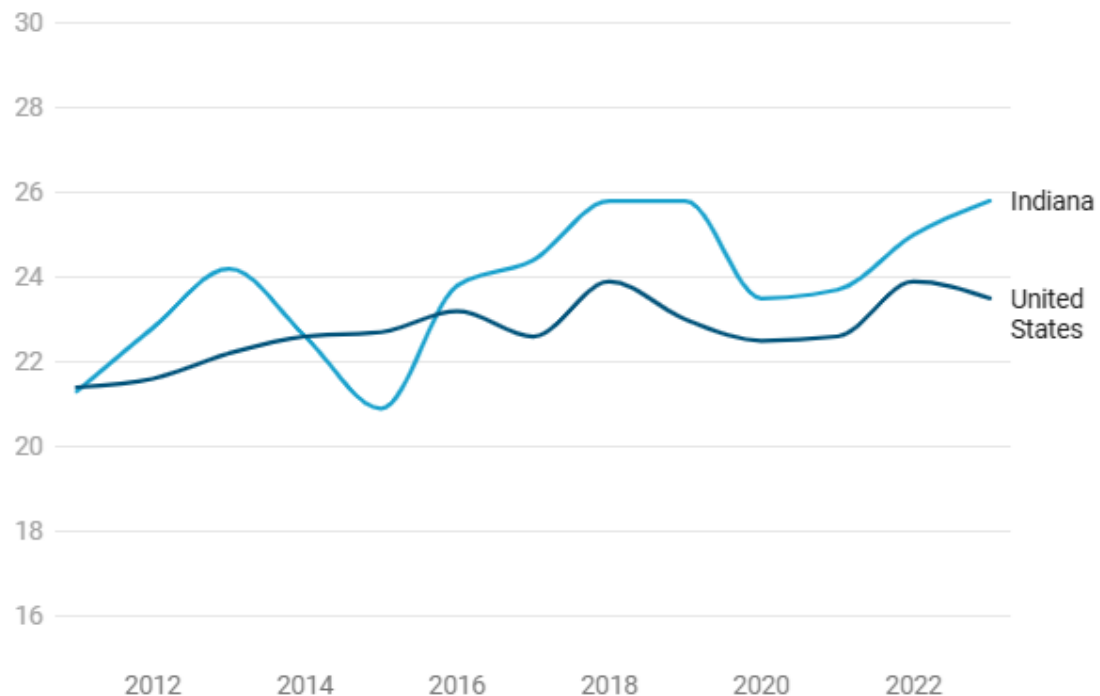


Chart: The Polis Center • Source: BRFSS • [Get the data](#) • Created with [Datawrapper](#)



Chronic disease and physical inactivity increase one's risk of CKD

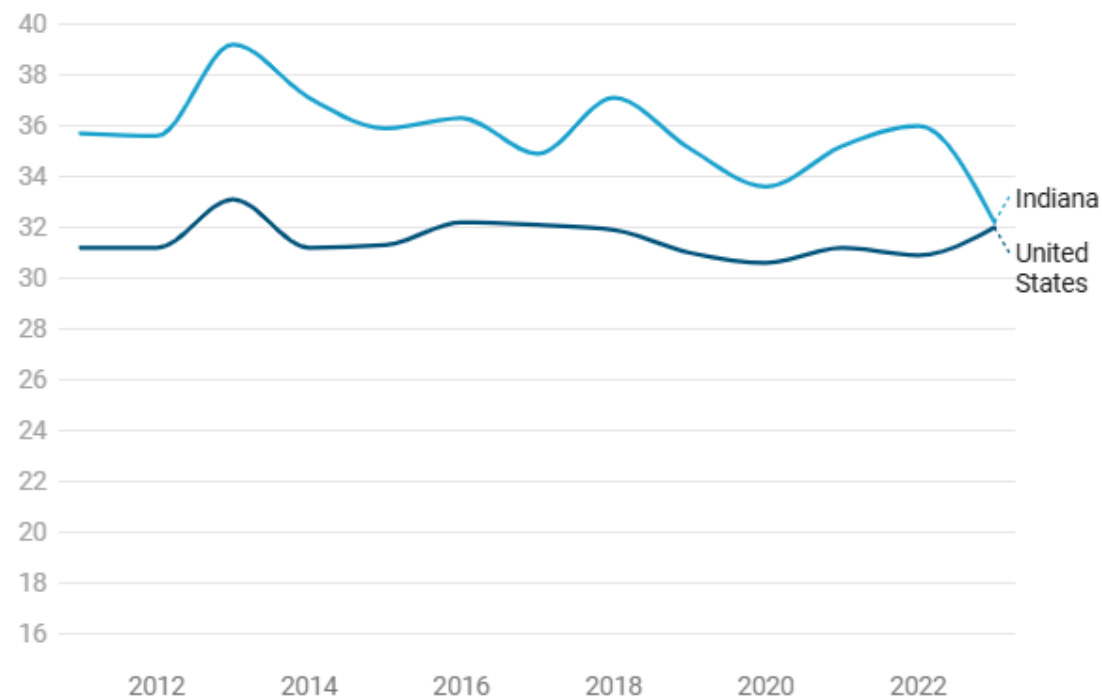
Percent of Adults 65+ Reporting Diabetes in Indiana and the United States 2011-2023



Percentage of adults who reported ever being told by a health professional that they had diabetes (excluding prediabetes and gestational diabetes)

Chart: The Polis Center • Source: [America's Health Rankings](#) • [Get the data](#) • Created with [Datawrapper](#)

Percent of Adults 65+ Reporting Physical Inactivity in Indiana and in the United States 2011-2023



Percentage of adults in fair or better health who reported doing no physical activity or exercise other than their regular job in the past 30 days

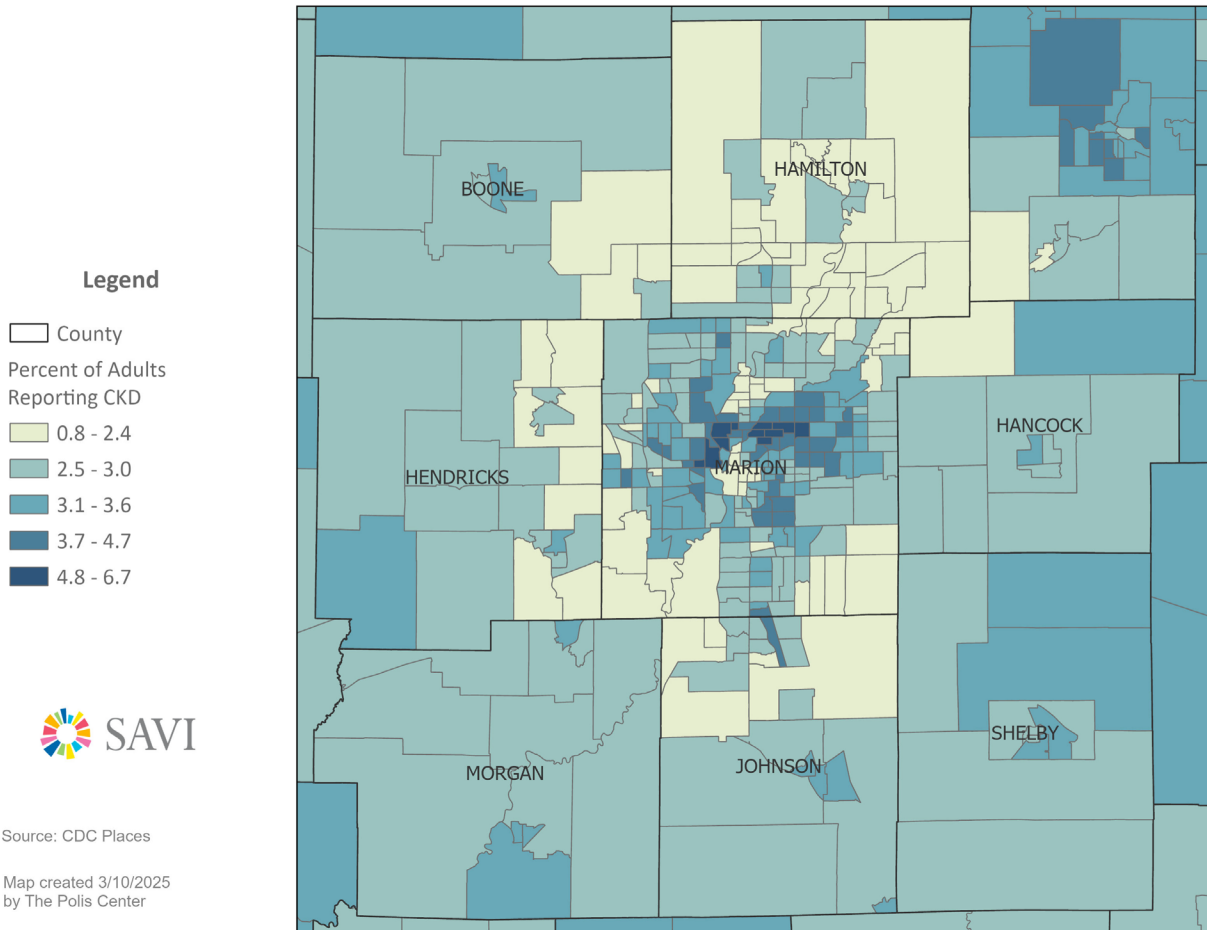
Chart: The Polis Center • Source: [America's Health Rankings](#) • [Get the data](#) • Created with [Datawrapper](#)



Lack of access to nutritious food is another social risk factor

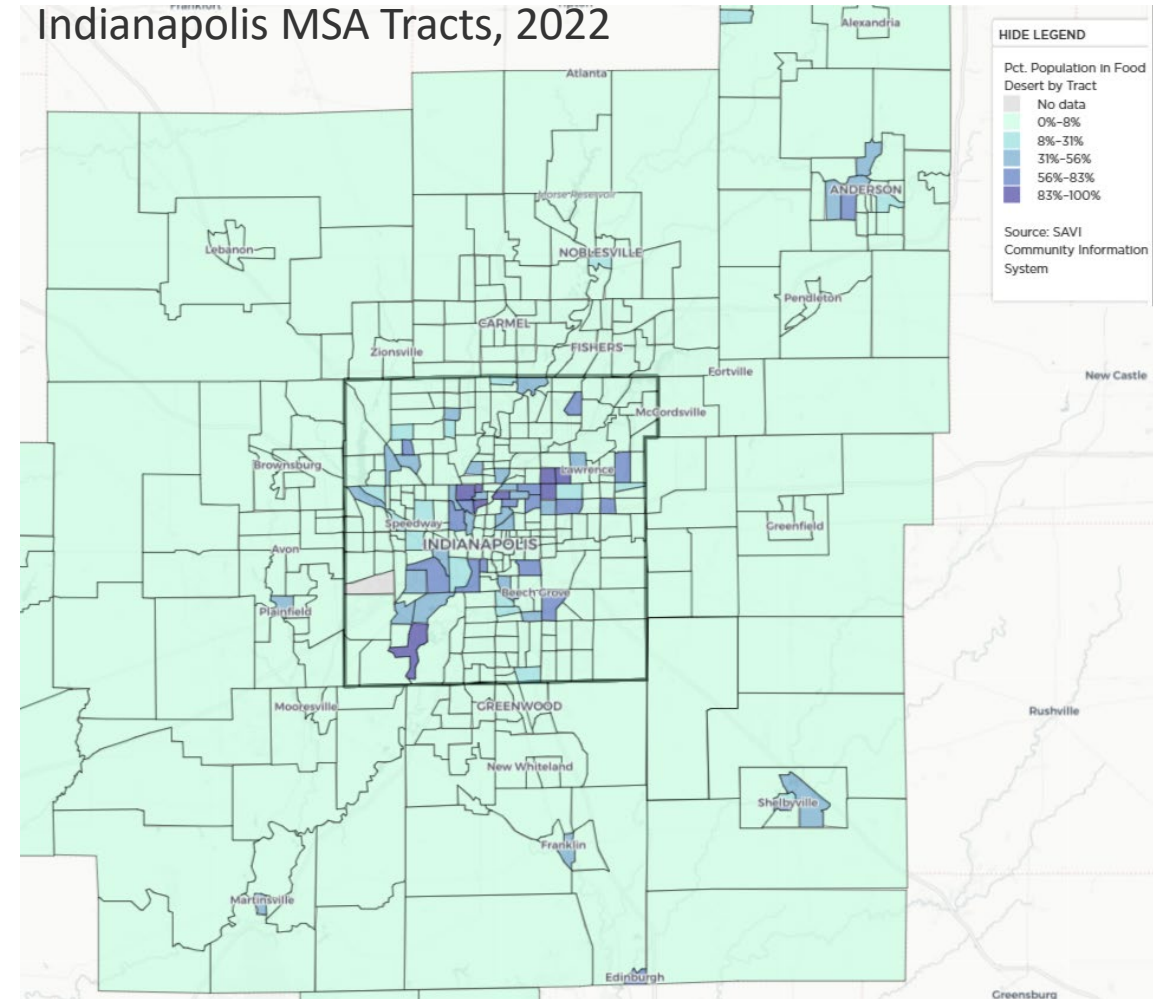
% Adults Reporting CKD

Indianapolis MSA Census Tracts, 2021



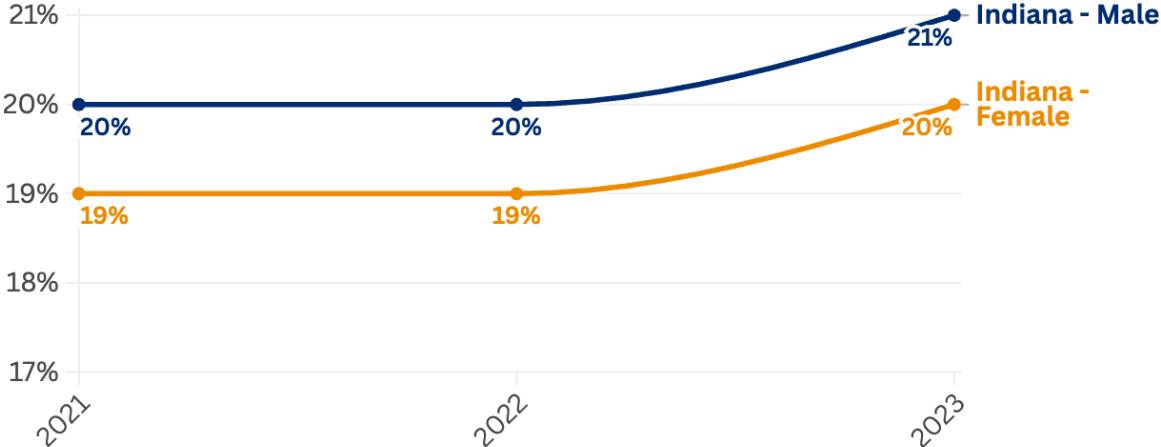
% Population in a Food Desert

Indianapolis MSA Tracts, 2022

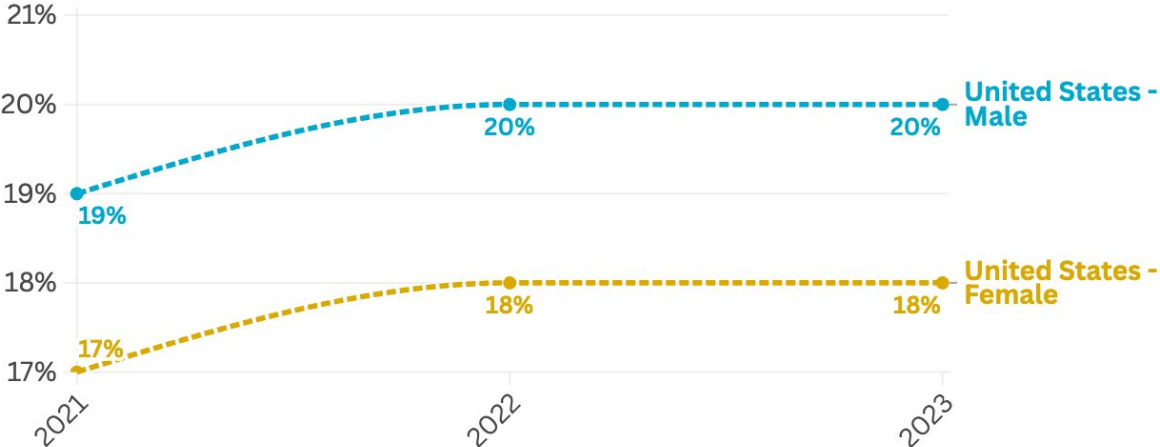


CKD is more common in males than females

**% of Older Adults* with CKD by Sex
Central Indiana, 2021-2023**



Source: CMS • The Polis Center
*Medicare beneficiaries



Source: CMS • The Polis Center



CKD death rates are higher for males than females

Age-adjusted CKD Death Rate per 100,000 Older Adults (Aged 65+), by Sex
Central Indiana, 2000-2020

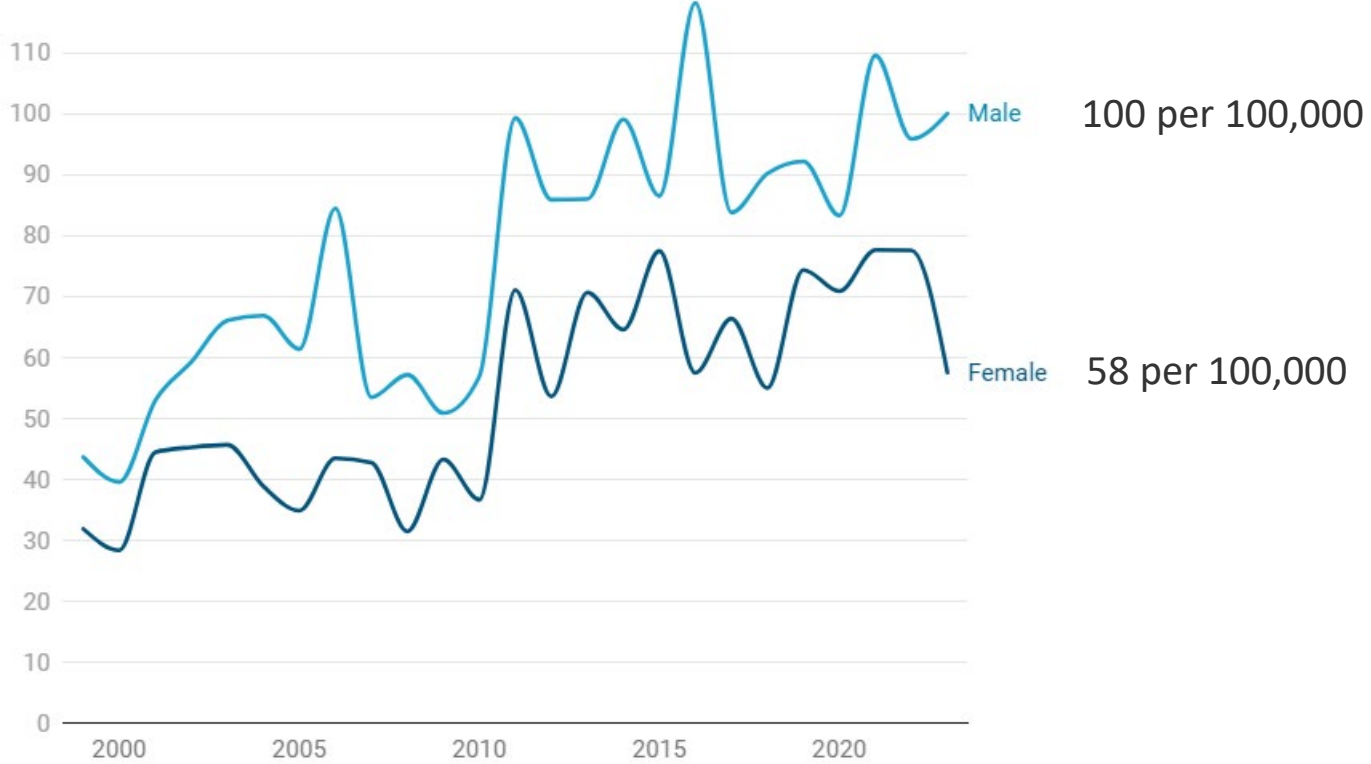


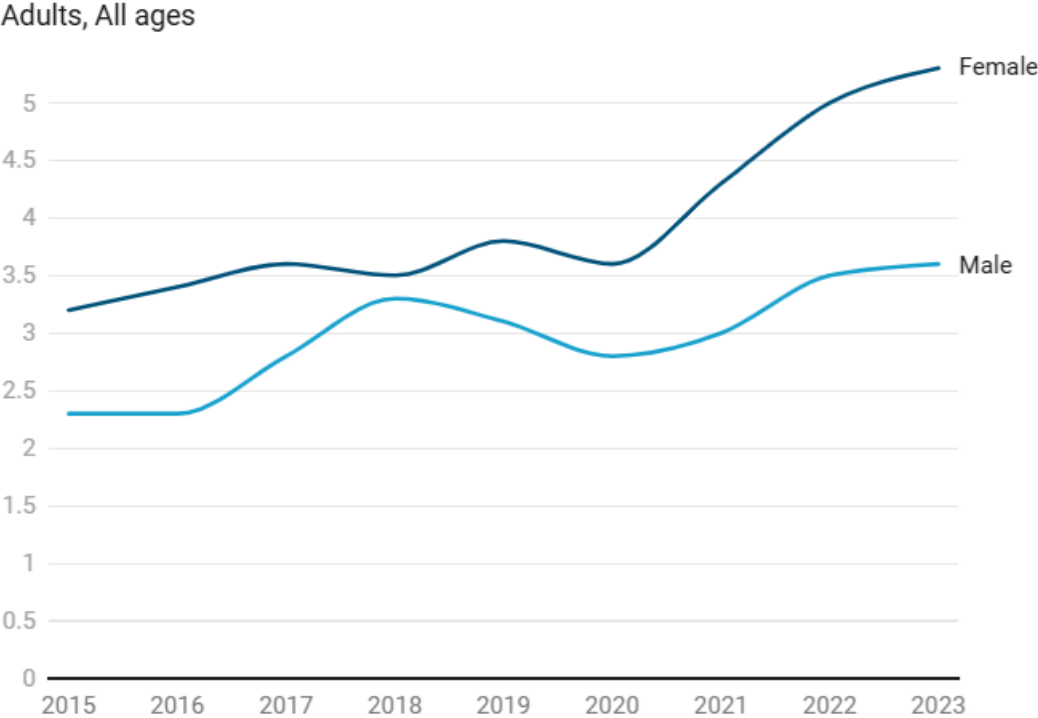
Chart: The Polis Center • Source: CDC Wonder • Get the data • Created with Datawrapper

*Medicare beneficiaries



Females are more aware of their CKD status

% Adults Reporting Kidney Disease, by Sex
Indiana, 2015-2023



Percentage of adults who reported ever being told by a health professional that they had kidney disease (excluding kidney stones, bladder infection and incontinence)

Chart: The Polis Center • Source: [America's Health Rankings](#) • [Get the data](#) • Created with [Datawrapper](#)



Thank You!

Karen Comer, Associate Director

Jay Colbert, Data Manager

Ted Deitz, GIS Analyst

Alli Kraus, Graphic Designer

Kayla Duncan, Community Analysis Project Coordinator



Questions?

Moderator & Panelists

Elizabeth Gabriel



Enterprise Health Reporter,
WFYI Public Media and Side
Effects Public Media

**Dr. Oluwafisayo O.
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Nephrologist, IU Health

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Clinical Dietician, Pediatric
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Curtis Warfield



Peer Mentor, Volunteer,
Transplant Recipient, Chair of
the Kidney Health Initiative
Patient and Family Partnership
Council





Thank you!

The slides and recording from this event will be posted
on the
State of Aging Website:

<https://centralindiana.stateofaging.org/>