Chronic Kidney Disease:
Building a Business Case for Change

March 3, 2025

Elizabeth Montgomery
National VP, Clinical Practice Innovation and Population Health
National Kidney Foundation

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Demographics of CKD in the United States

- Affects 14% of adult population (1 in 7) – 35.5 million Americans
- 28.9% of Medicare population have CKD with or without DM and/or HTN
- Associated with 57.8% of spend for these conditions annually ($187.1B)
- 90% of patients remain undetected in Primary Care
  - Including 40% of patients with ESRD
- 80% of undiagnosed have diagnostic information in their medical record

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PloS One, 2014. 9(11):e110535, N Engl J Med. 2004;351(13):1296-1305.
NIDDK United States Renal Data System. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2015 (2024 Annual Data Report).

Causes of CKD

- Type 2 Diabetes
- Hypertension

2 out of every 3 cases

- Other renal diseases
  - Primary glomerulonephritis
  - Chronic tubulointerstitial nephritis
  - Hereditary diseases
  - Others

Most CKD is Caused by Controllable Health Conditions

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Chronic Kidney Disease. StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan.2024 Jul 31.
Photo: Stages of Chronic Kidney Disease (CKD) | National Kidney Foundation

Health Implications of CKD

- Heart disease / heart failure
- Stroke
- Early death
- Renal failure
- End stage renal disease / dialysis

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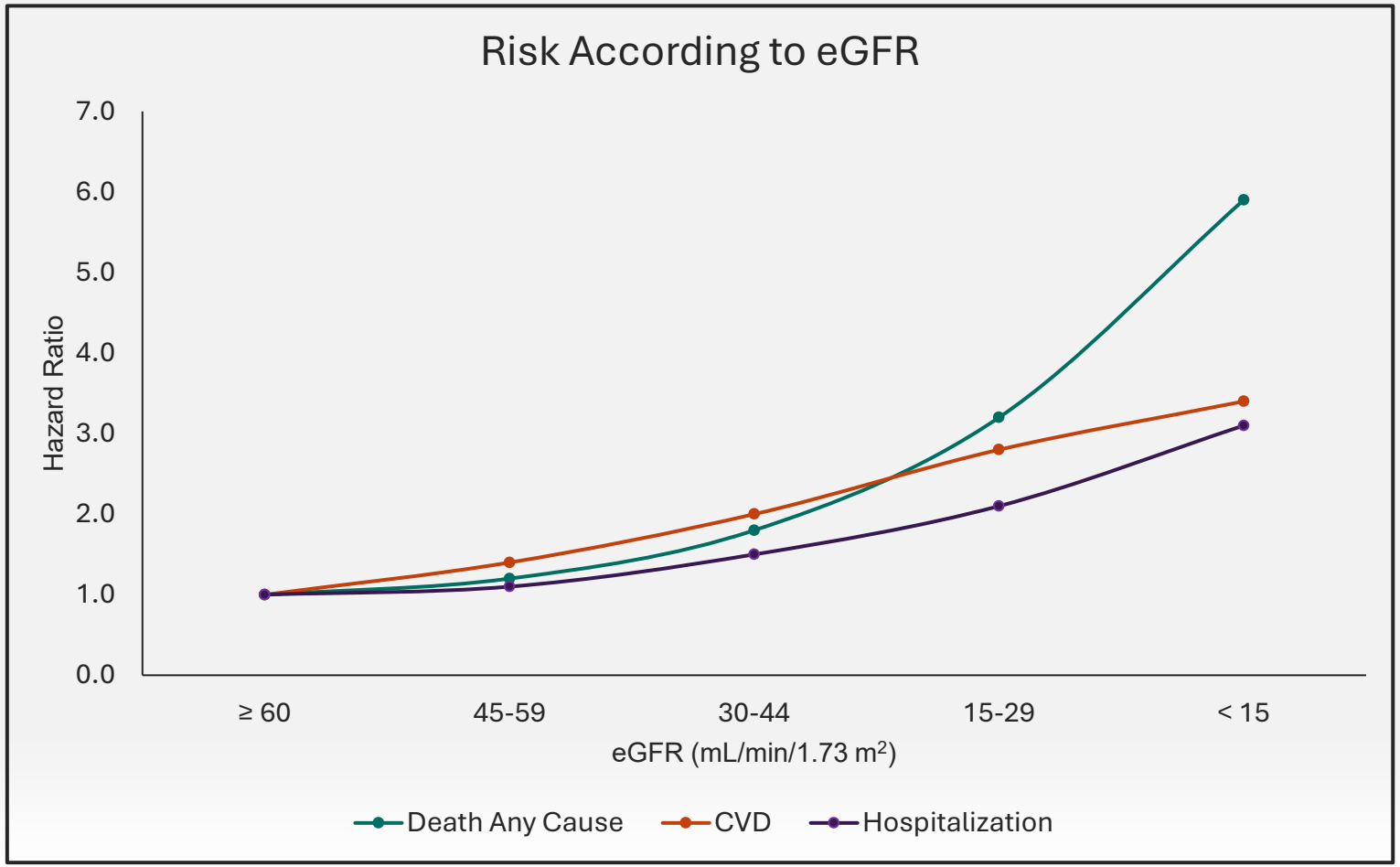
Circulation. 2021;143(11):1157-1172, J Am Soc Nephrol. 2002;13(7):1918-1927, Indian J Nephrol. 2017;27(3):167-171.
Chronic Kidney Disease: Common, Serious, and Costly | Chronic Kidney Disease | CDC.
Photo: Dialysis: Types, How It Works, Procedure & Side Effects

Individuals with CKD have Higher Risk of Illness & Death



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Modified from: N Engl J Med. 2004;351(13):1296-1305.

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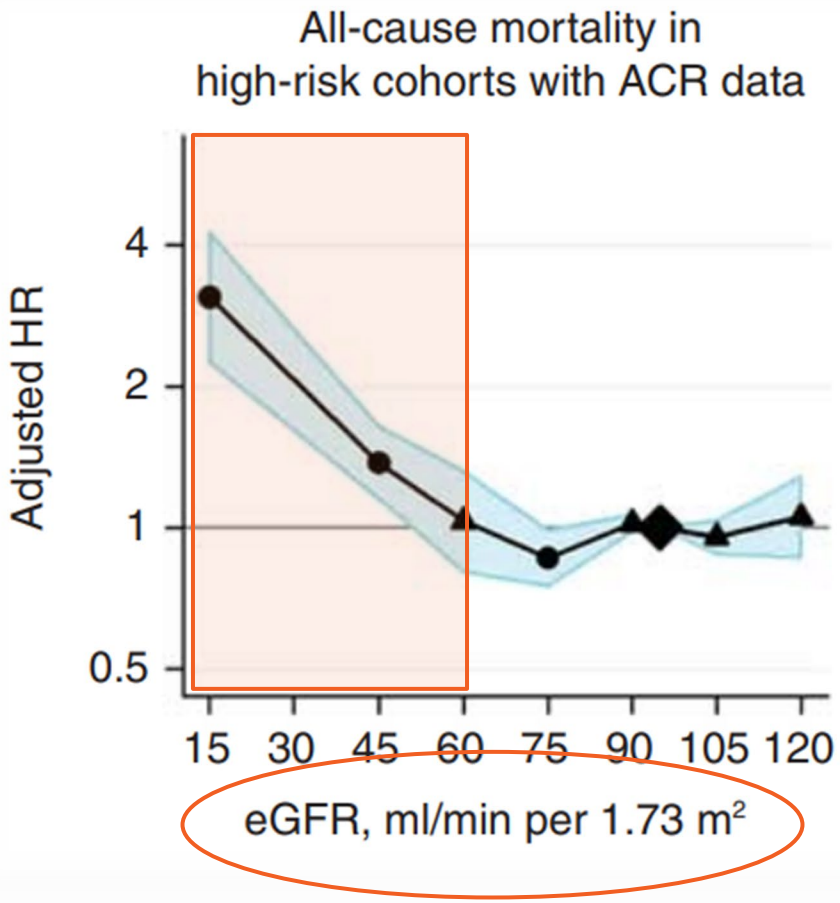
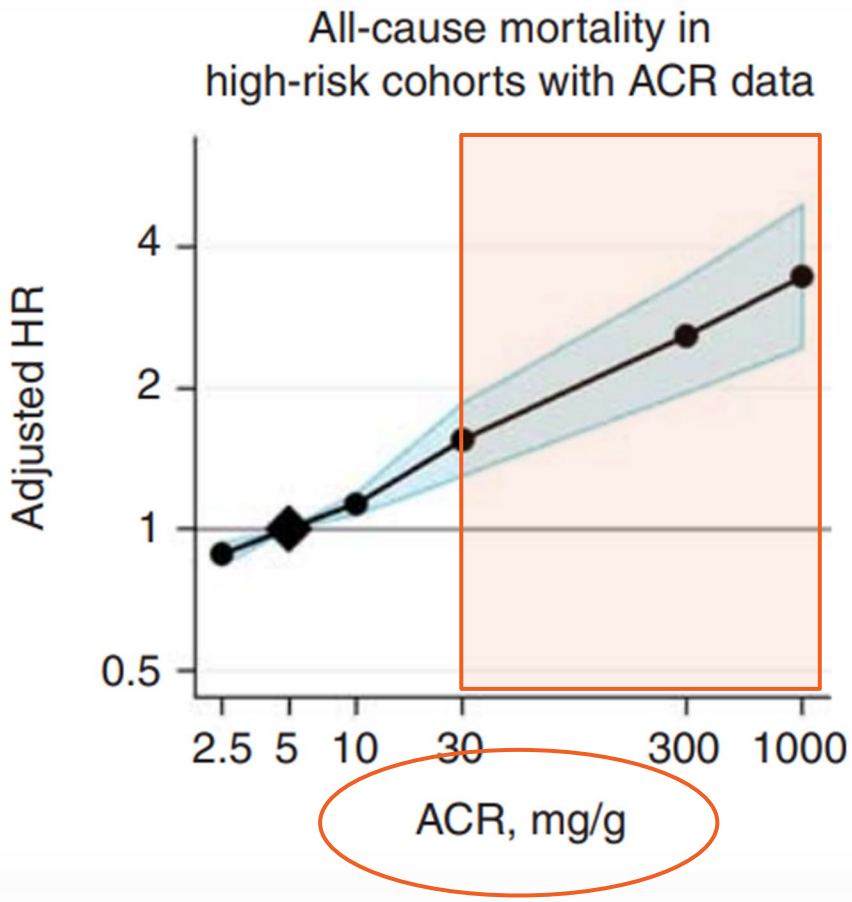


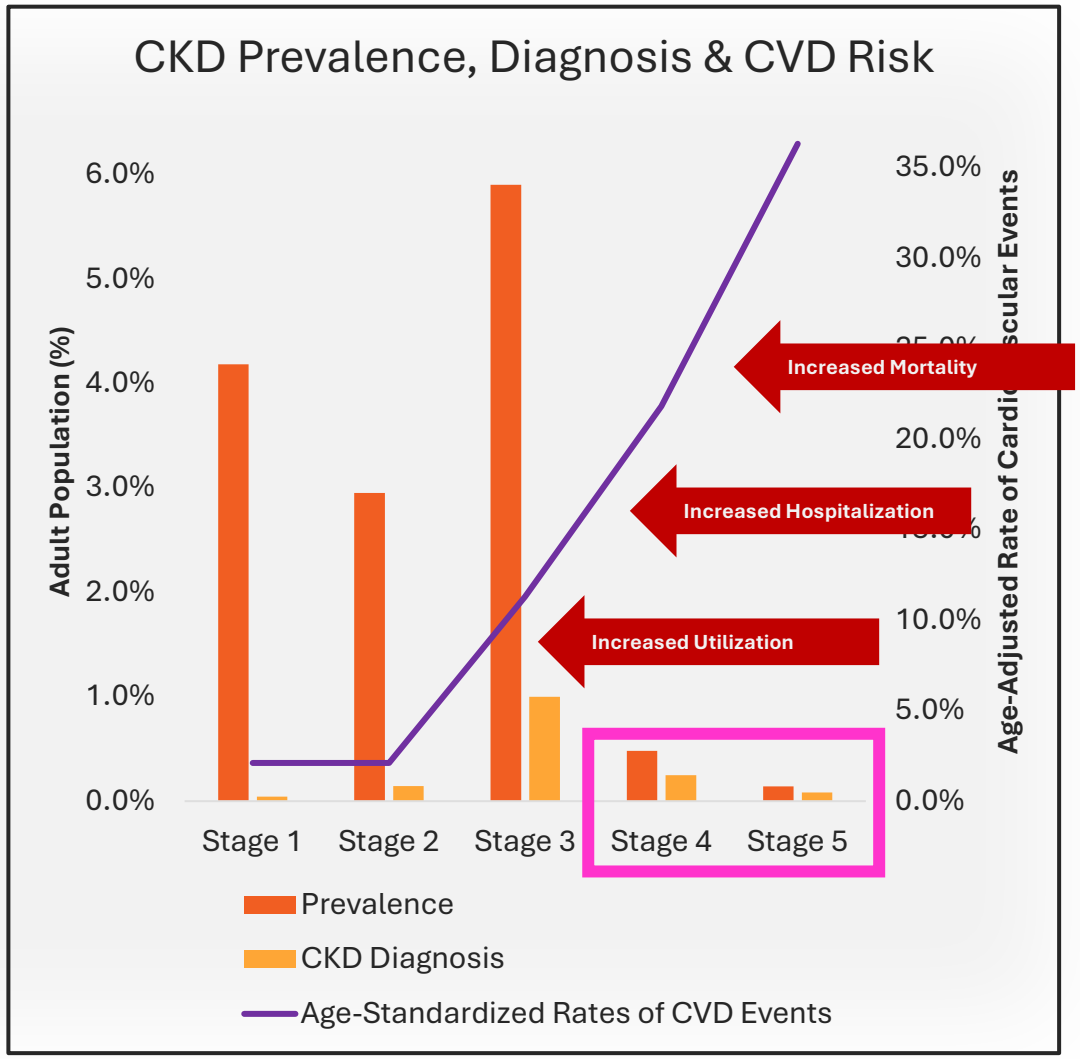


Diagnostic Criteria for CKD

Kidney Int. 2011;79(12):1341-1352.

Medical Expenditures

- Increased expenditures over time and with case complexity
- As CKD advances:
  - Increased medical service utilization
  - Increased hospitalizations
  - Increased mortality



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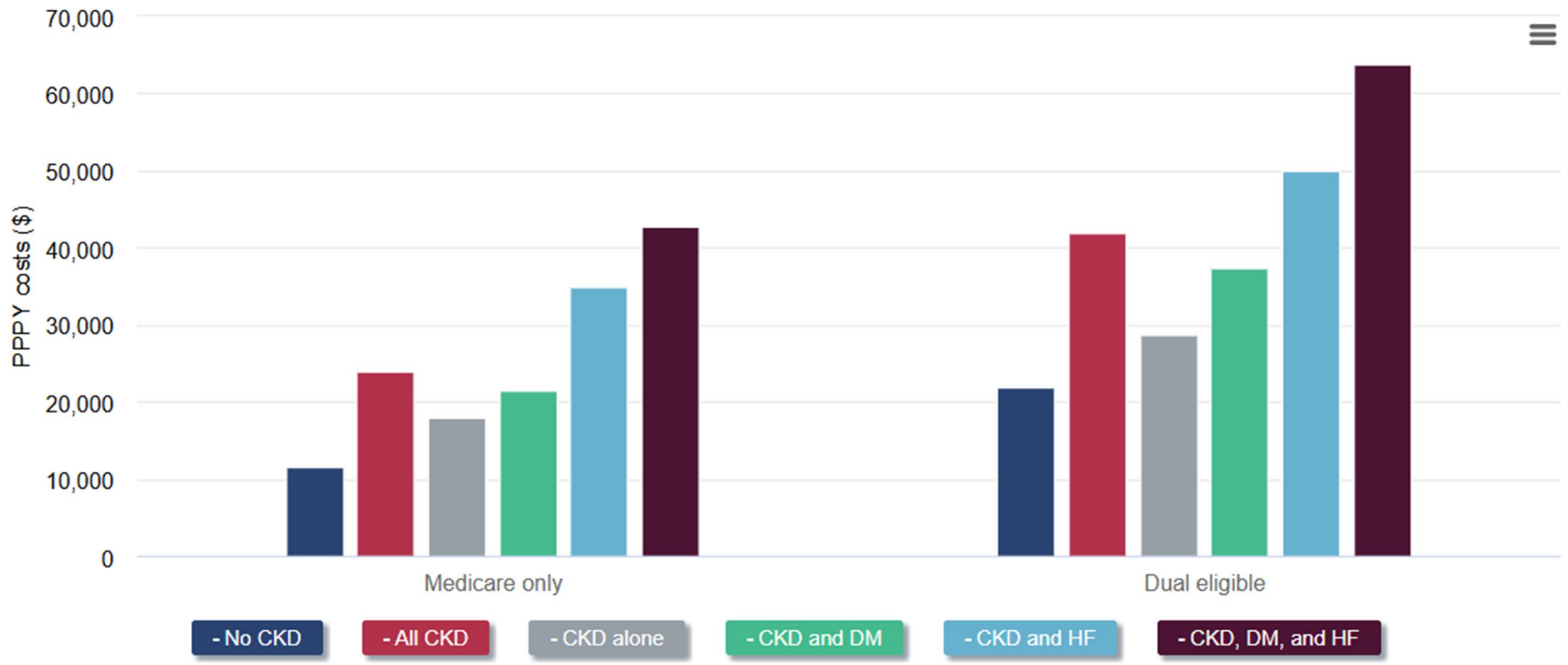
NIDDK United States Renal Data System. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2015 (2024 Annual Data Report).

Medical Expenditures: Medicare / Medicaid

Figure 6.5b Per person per year spending among older adults with CKD, diabetes, and heart failure, by Medicaid eligibility status, 2022



Data Source: Medicare 5% FFS sample. Point prevalent beneficiaries aged ≥66 years on January 1, 2022, with Medicare Parts A and B coverage in the prior year (ESRD excluded). Medicare PPPY paid costs include Parts A, B, and D.

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NIDDK United States Renal Data System. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2015 (2024 Annual Data Report).

Medical Expenditures: Commercial Health Plan

Annual costs for people with CKD supported by employer sponsored health plans are analogous to costs incurred in Medicare/Medicaid

In a study of a commercially insured population, aged 45 – 64, assessing 12-month all cause health care resource utilization (HCRU), people living with any combination of CKD and diabetes generated significantly more HCRU than people affected by diabetes alone.

Population	Mean 12-month all-cause HCRU
Diabetes (n=120,364)	$16,121
CKD (n=7,876)	$25,010
Diabetes AND CKD	$35,649
Diabetes AND CKD Stage 1 – 3a	$29,993 – $41,222
Diabetes AND CKD Stage 3b – 5	$46,796 - $119,944

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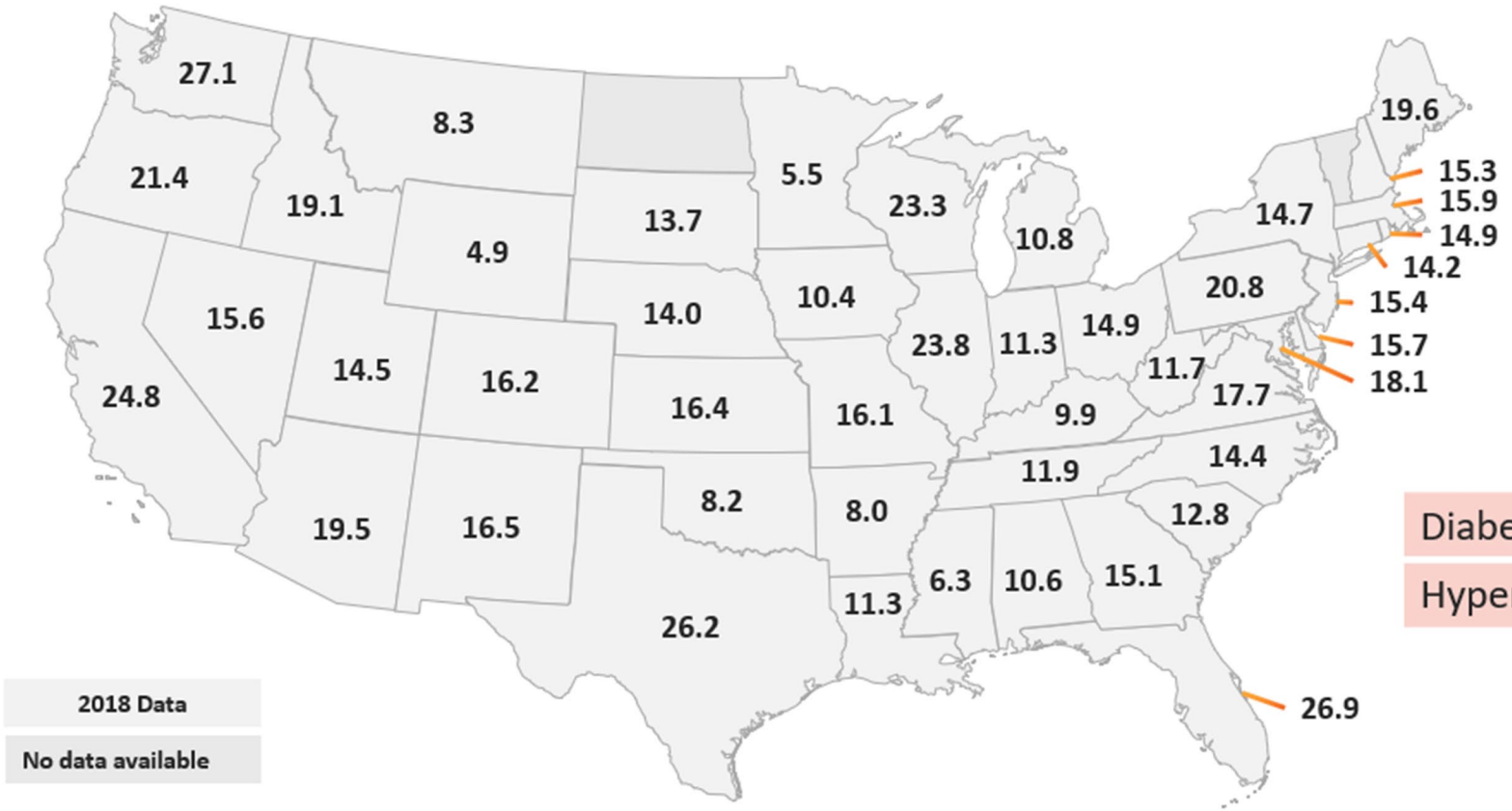
J Manag Care Spec Pharm 2023;29(1):80-89

80.3% of at-risk patients did not receive guideline concordant assessment

28,295,982 at-risk patients (16.2% diabetes/63.8 % hypertension/20.1% diabetes and hypertension)



Diabetes & Hypertension	41.4%
Hypertension	10.5%

Diabetes Care. 2021;44(9):2025-2032.

CKD spotlight
National Kidney Foundation

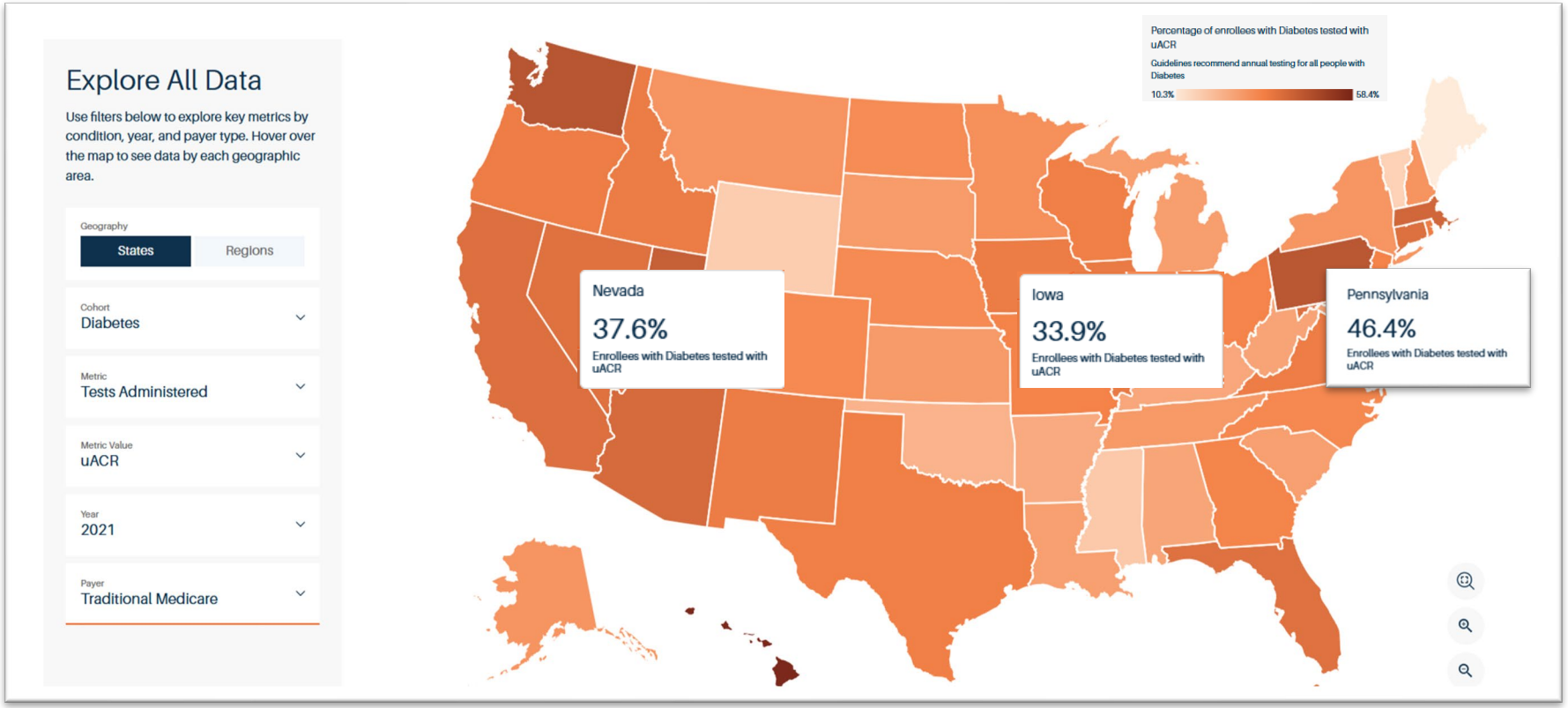
Interested in knowing the testing rates for your community?

Resource accessing CKD care data including:

- 100% Medicare
- 100% Medicaid
- 55 million Commercial lives

Includes information regarding:

- CKD testing
- Rates of diagnosis
- Rx of GDMT



https://ckdspotlight.healthcostinstitute.org/

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CKD spotlight

National Kidney Foundation

Explore All Data

Use filters below to explore key metrics by condition, year, and payer type. Hover over the map to see data by each geographic area.

Geography

States | Regions

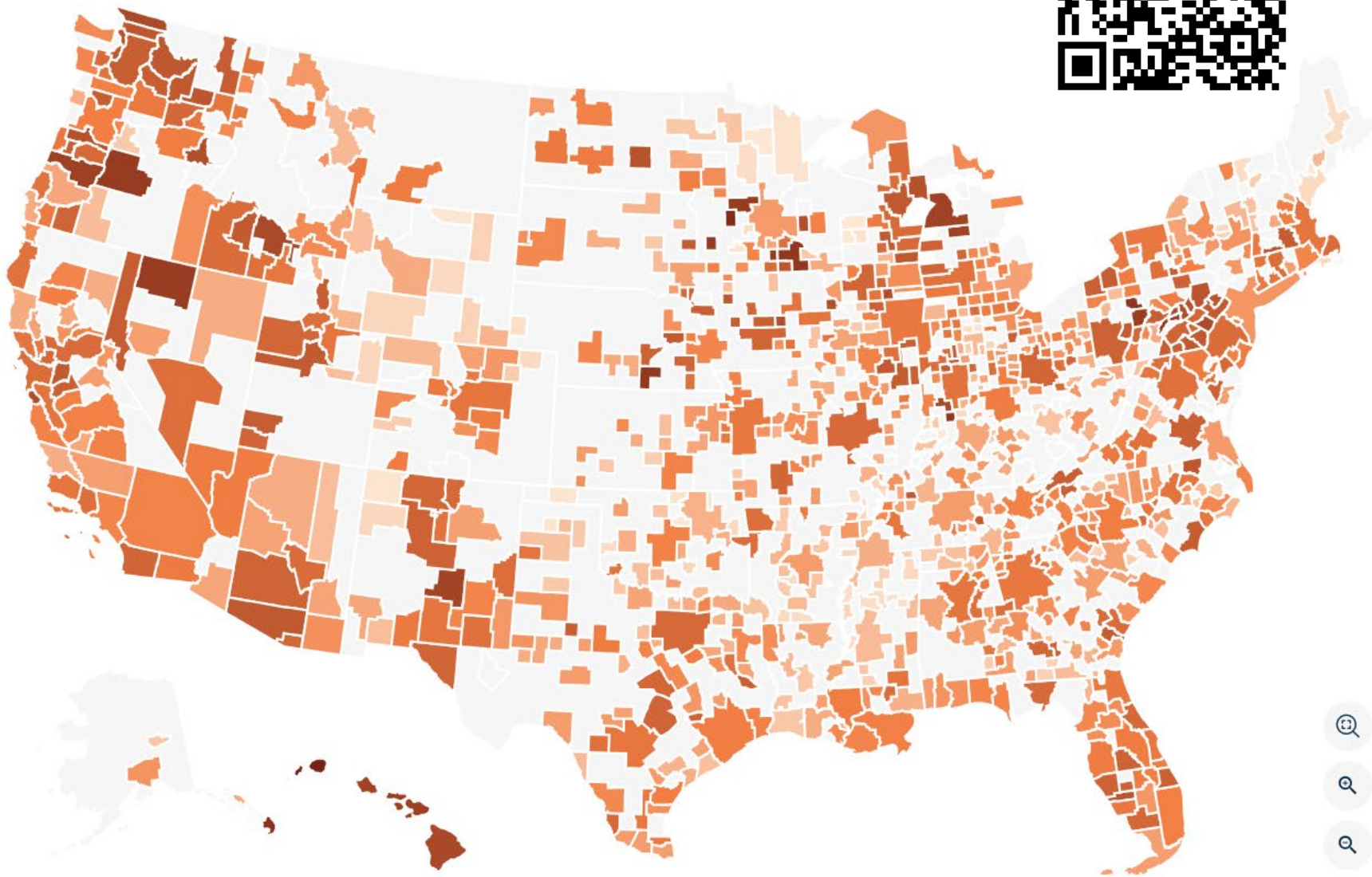
Cohort
Diabetes

Metric
Tests Administered

Metric Value
uACR

Year
2022

Payer
Traditional Medicare



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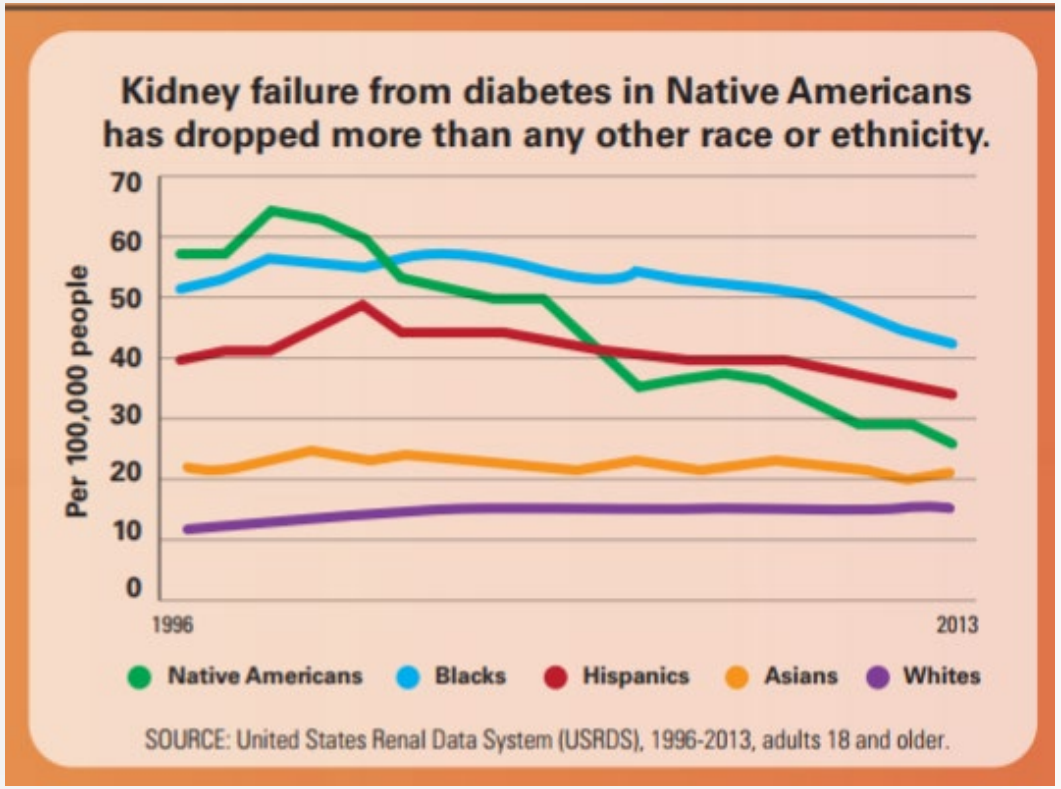
https://ckdspotlight.healthcostinstitute.org/

HIS Model for Population Health in CKD

- **54% decrease** in kidney failure between 1996 and 2013.
- Lessons learned:
  - Diabetes (and CKD) are best engaged through primary care, specialty clinics not needed
  - Educating clinicians about CKD through patient engagement and CE is effective

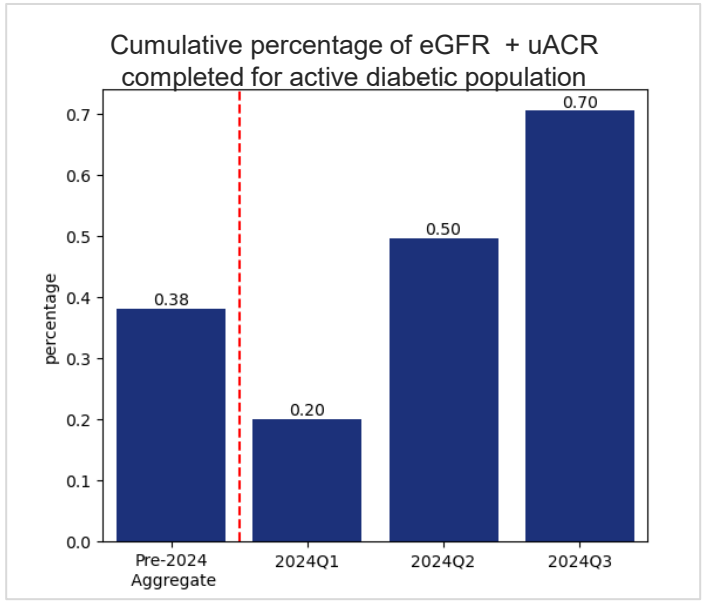


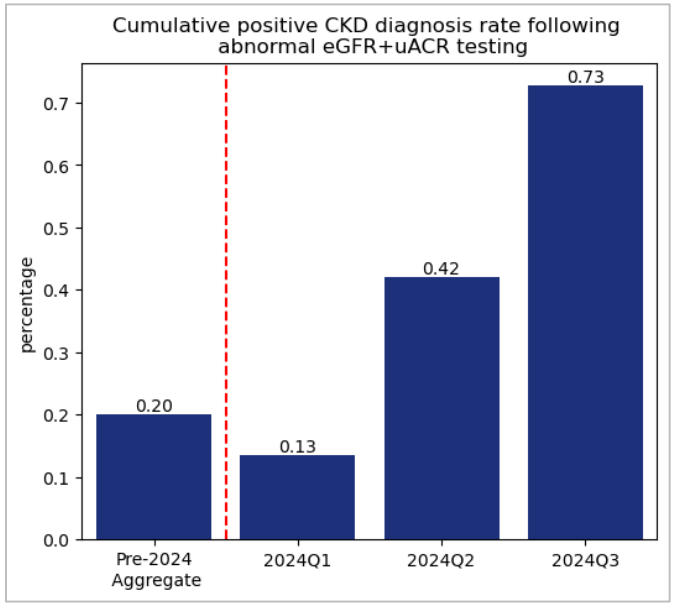
Am J Kidney Dis. 2017;71(3):407-411.

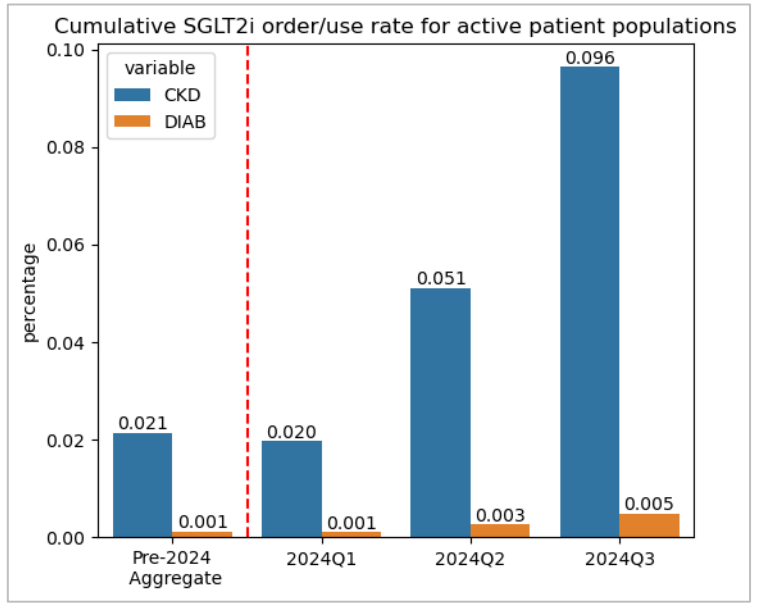
Sanford Health Case Study

NKF was engaged by a large integrated health system serving four states. This system is high performing for DM and HTN management. Less than 2% of DM/HTN population was tested for CKD. SGLT-2i use was >2%.

NKF collaborated to build business case for primary care quality improvement in CKD, convened leadership discussions for institutional alignment (including health plan), developed and implemented clinical decision support to ensure routine testing of people at-risk for CKD, and provided primary care focused CKD education when the program launched in December 2023.







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Project Sante Fe Foundation & NKF Collaboration

- Observational study across 3 healthcare organizations to identify clinical gaps in care for patients with stages 3 and 4 CKD
  - 69% of patients with laboratory evidence of CKD but no ICD-10 or HCC code
  - 68% of patients with laboratory-evidence of diabetes but no guideline-based annual CKD screening
  - Not meeting NCQA HEDIS measures
- Annual lost reimbursement under risk-adjusted payment systems estimated at $2.85M

Unrealized Risk Adjustment Opportunities		
Category	**Lost Reimbursement**	**No Dx/HCC Code**
Medicare Stage 3	$2,051,511	3,531
Medicare, Stage 4	$659,684	332
ACA, Stage 4	$619,898	74

Extrapolates nationally to **nearly $3B** in unrealized risk-adjustment payments within healthcare systems at CKD stage 3 alone

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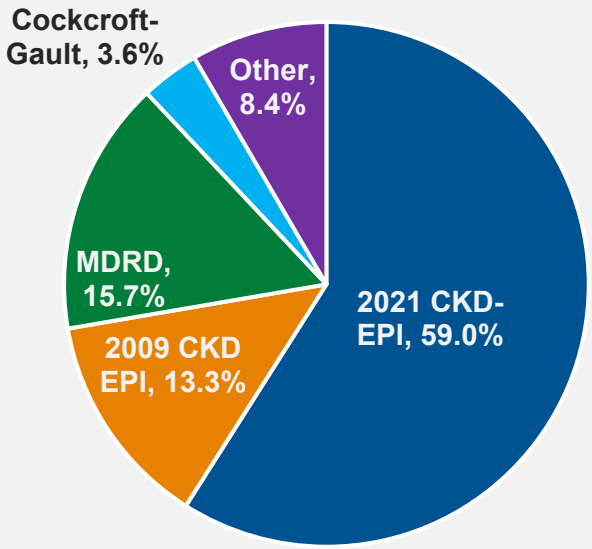
BMC Nephrol **25**, 447 (2024)..

Get Involved: Start Simple

- Get your facility's testing current
  - **Use the most current equation**
  - Make sure its part of every creatinine order
- Implementation guidelines are available
- Offer quantitative urine ALB / CREAT ratio
- Build the "**Kidney Profile**"
  - Both tests, one panel for ease of use



eGFR Equation (n = 83)

- 41% not using recommended equations
- 41% not aware of HEDIS measures
- 97% not offering a "kidney profile"
- Responses suggest knowledge gaps

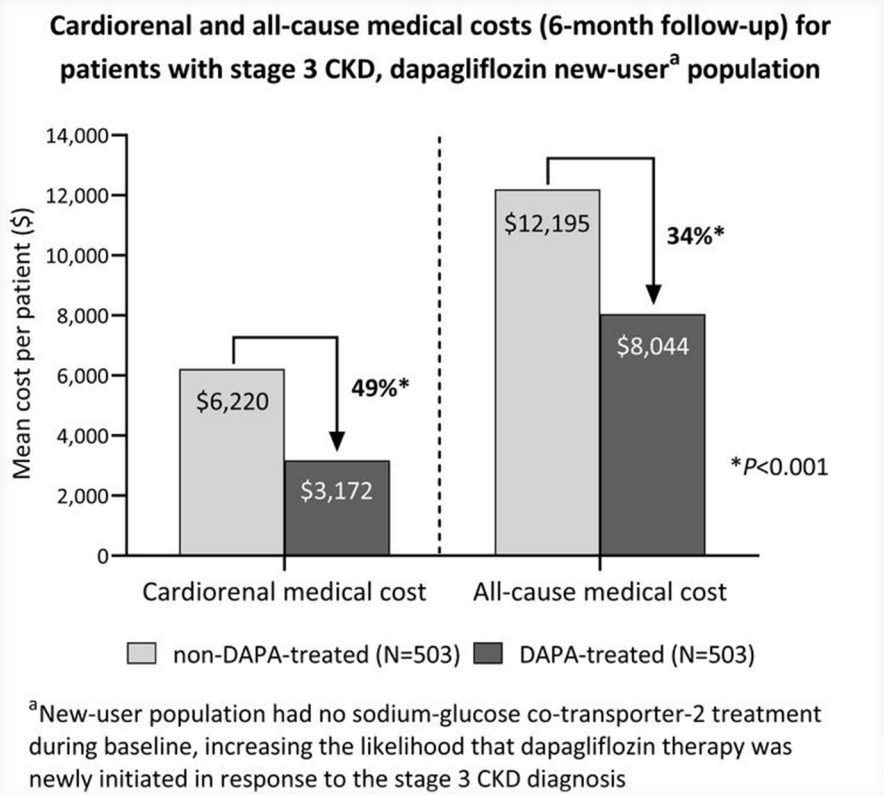
November 2023 Survey of COLA Laboratories

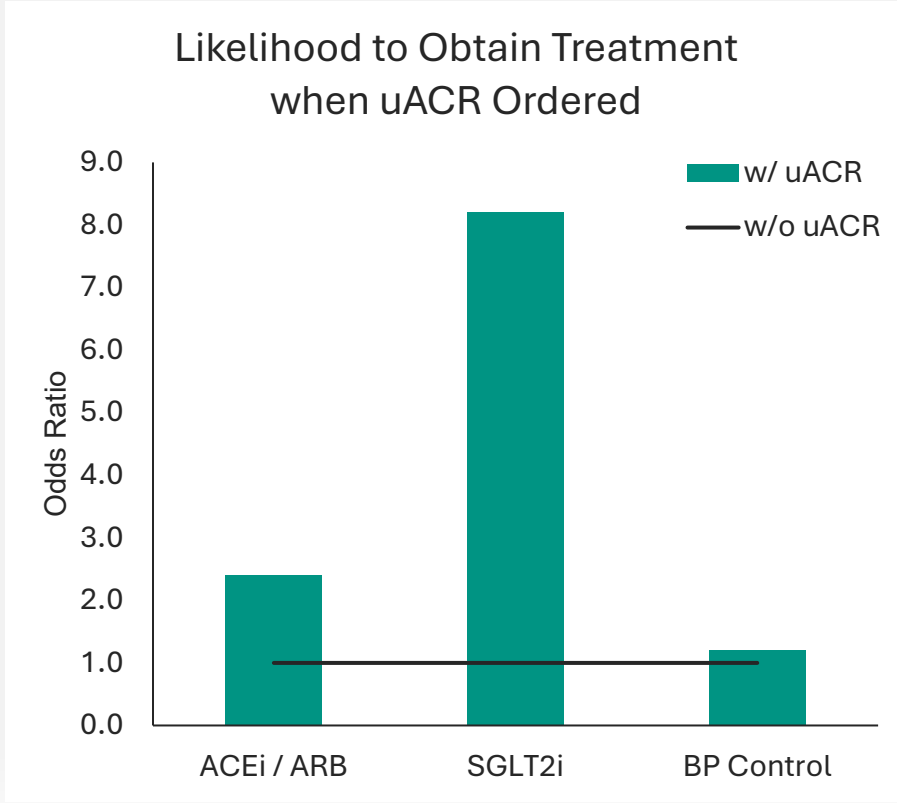
Clin Chem. 2022;68(4):511-520.
Survey of COLA laboratories, November 2023.

Next Step: Look at Your Own Data

- What percentage of patients have CKD diagnosis (ICD-10)?
  - Expected: ~14%, less than this and you might have a gap
- What percentage of patients with DM or HTN are receiving both eGFR and uACR on an annual basis?
- These population gaps:
  - Likely need CKD screening and/or ongoing care
  - Are likely to have a major cost impact on the health system long-term
  - Are eligible for cost-effective, reimbursable testing to drive early intervention
  - Opportunity for closing risk-adjustment gaps for eligible patients with diabetes and CKD

Increased Access to Pharmacological Interventions Reduces CKD-Related Morbidity & Mortality





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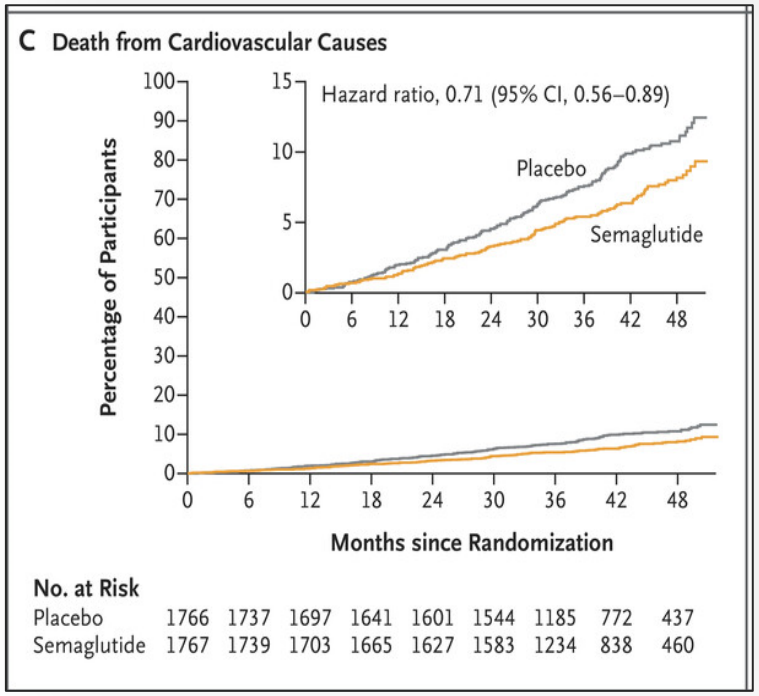
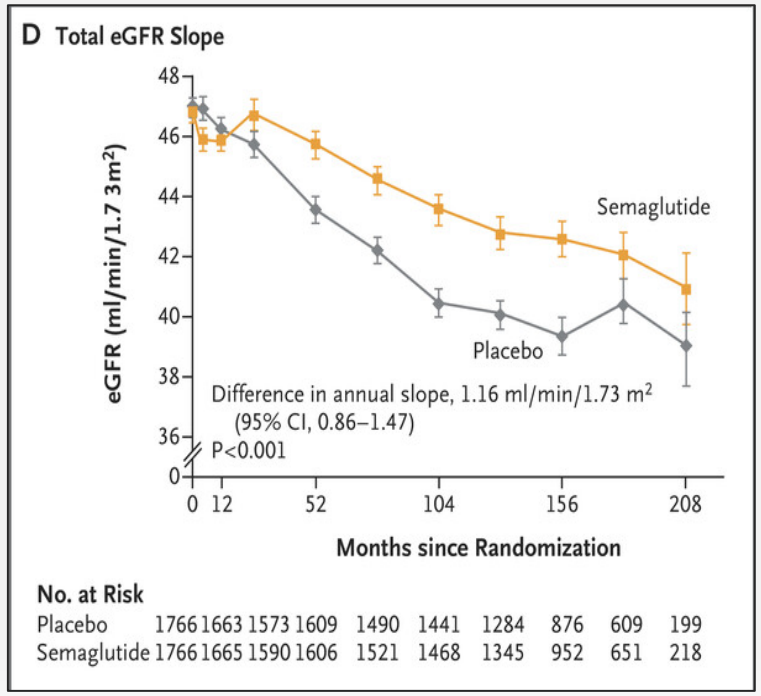
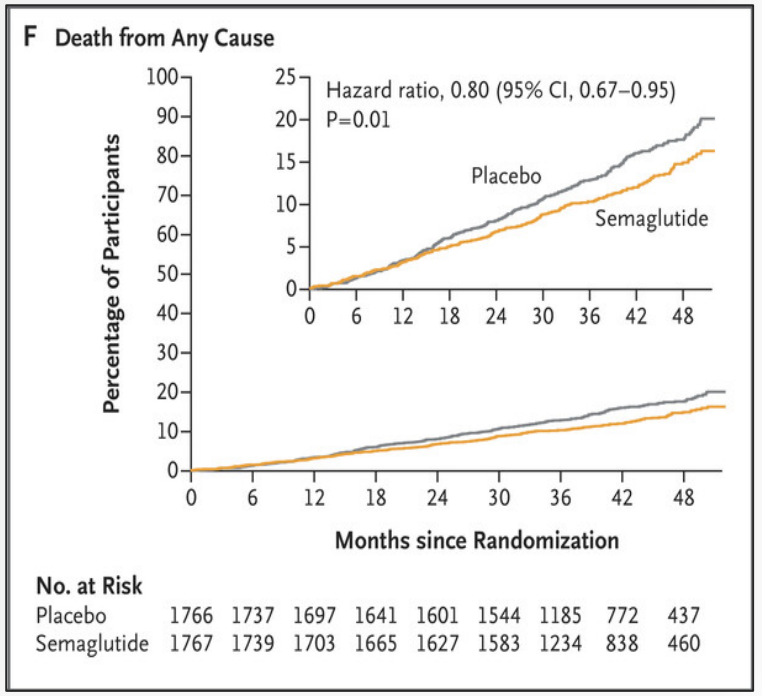
Expert Rev Pharmacoencon Outcomes Res. 2023;23(9):1057-1066.
JAMA Netw Open. 2023;6(7):e2326230.

Increased Access to Pharmacological Interventions Reduces CKD-Related Morbidity & Mortality







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N Engl J Med. 2024;391(2):109-121.

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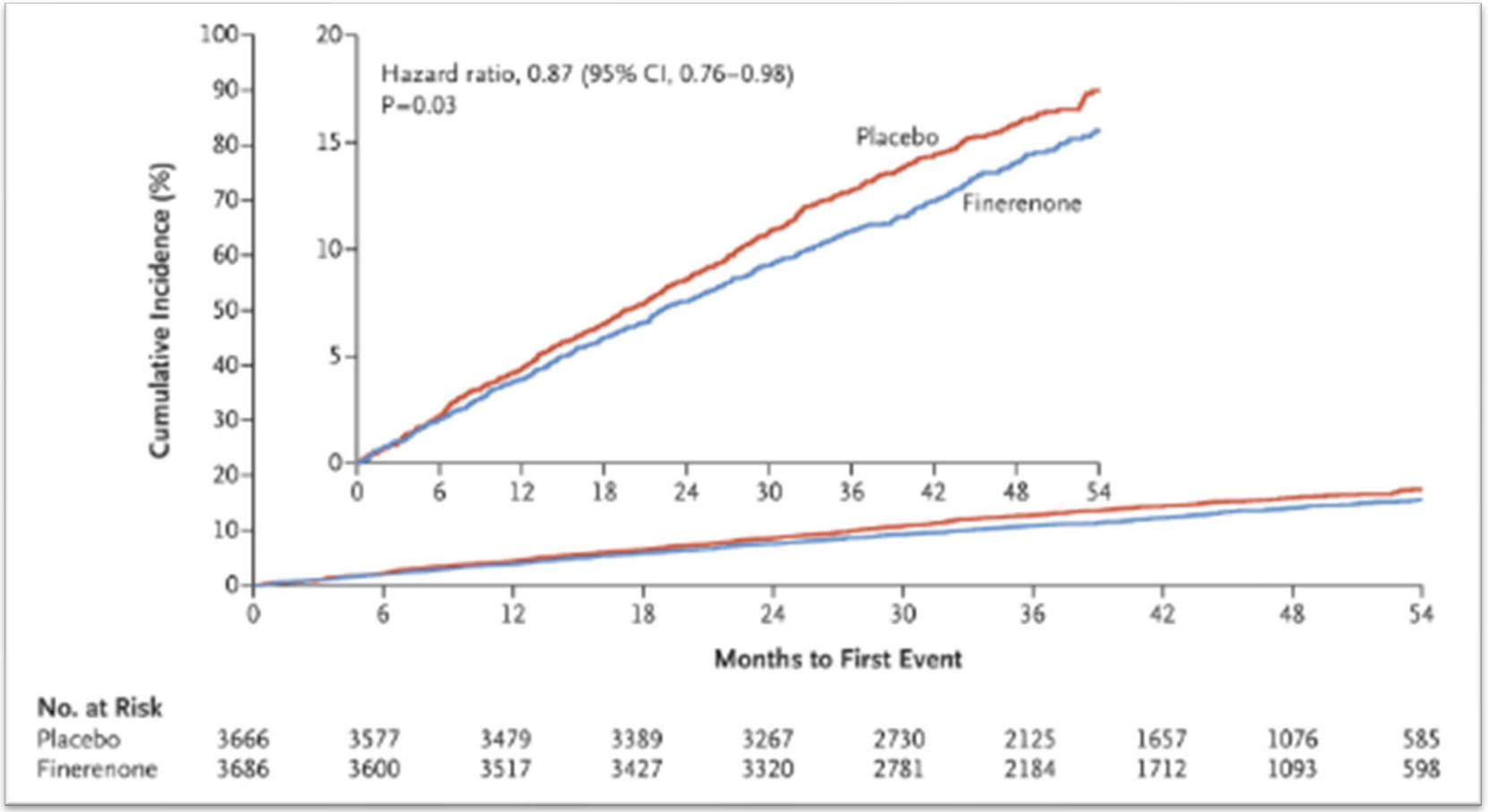

New England Journal of Medicine 2021;385(24):2252-2263.

Quality Metrics

- Kidney health in diabetes quality measure established by NCQA in 2020
- Compliance is low, between 34.5 and 47.5%.
- Star Ratings Measure - anticipated 2026

Kidney Health Evaluation for Patients With Diabetes (KED)

Kidney Health Evaluation for Patients With Diabetes assesses whether adults 18–85 years of age with diabetes (type 1 and type 2) received an annual kidney health evaluation, including a blood test for kidney function (estimated glomerular filtration rate [eGFR]) ***and*** a urine test for kidney damage (urine albumin-creatinine ratio [uACR]).

WHY IT MATTERS

Diabetes is the leading cause of chronic kidney disease (CKD)—approximately 1 in 3 adults with diabetes has CKD.[1,2] CKD happens when an individual's kidneys are damaged and unable to filter blood as well as usual.[3] As many as 90% of people with CKD do not know they have it, because it often has no symptoms.[3] CKD gets worse over time and can lead to heart disease, stroke and kidney failure.[3] For these reasons, annual monitoring of kidney health is crucial for people with diabetes. Primary detection (kidney health evaluation) and management of kidney disease can prevent these complications and can stop or slow further kidney damage.[3]

NATIONAL KIDNEY FOUNDATION® Kidney Health Evaluation for Patients With Diabetes - NCQA

Thank you

- Kidney disease is widespread but underdiagnosed
- The laboratory is in a unique position to help close this gap in care
  - Improved short- and long-term healthcare
  - Risk-adjusted reimbursements for health systems, reduced long-term costs
- The NKF is available help your organization improve kidney care

- Contact Information

Elizabeth Montgomery
Email: elizabeth.montgomery@kidney.org

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Photo: National Kidney Foundation