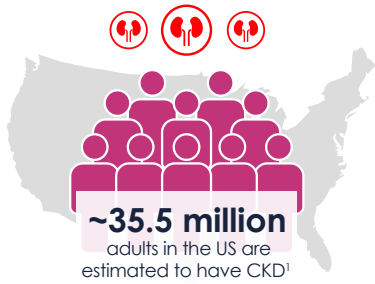


# Chronic Kidney Disease

## Identification, Diagnosis and Management



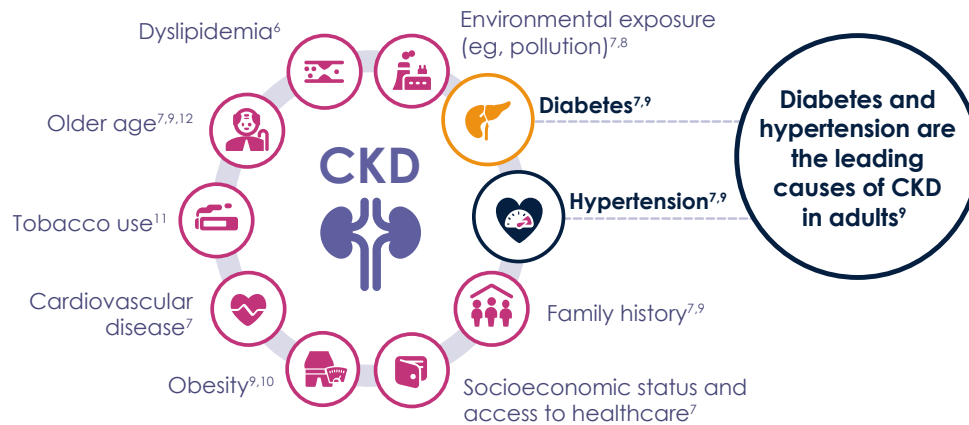
### Chronic Kidney Disease (CKD) is a public health priority<sup>1-3</sup>



**9<sup>th</sup>** leading cause of death in the US<sup>4</sup>

- ~90%** of people with CKD do not know they have it<sup>2</sup>
- CKD increases risk for cardiovascular (CV) events, all-cause mortality, kidney failure, and other adverse outcomes<sup>5</sup>
- Prevalence estimates\* of CKD are 20% among non-Hispanic Black adults, a percentage that is higher than in non-Hispanic Asian adults (14%) or non-Hispanic White adults (12%)<sup>1</sup>
- <20%** of patients at risk for CKD receive guideline-recommended testing<sup>3</sup> despite available treatments and Kidney Health Evaluation HEDIS<sup>®</sup> measure

### Risk factors that are associated with CKD



### Kidney function and damage is assessed based on eGFR and albuminuria<sup>7,13</sup>

**Early-stage kidney disease is usually asymptomatic, requiring laboratory tests for detection<sup>7</sup>**

**eGFR blood test**  
Shows how well the kidneys are filtering waste from blood

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Measures the amount of kidney function remaining

**UACR urine test**  
Measures leakage of albumin (protein) into the urine

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Checks for albumin in the urine, which is one of the earliest indicators of kidney damage

- i** • CKD screening should be implemented at least once per year in all people with type 2 diabetes
- CKD screening is also a high priority in other at-risk individuals, including those with hypertension and CV disease

**CKD**

Abnormalities of kidney structure and/or function for >3 months,<sup>†</sup> including<sup>7</sup>

**Decreased eGFR**  
<60 ml/min/1.73 m<sup>2</sup>

**Albuminuria**  
(UACR ≥30 mg/g)

# Chronic Kidney Disease Identification, Diagnosis and Management



The KDIGO Heat Map outlines criteria for diagnosis, risk stratification, treatment, and referral to a nephrologist using eGFR and UACR values<sup>‡7,14</sup>

			Persistent albuminuria categories			
			Description and range			
			A1	A2	A3	
			Normal to mildly increased	Moderately increased	Severely increased	
			<30 mg/g <3 mg/mmol	30–300 mg/g 3–30 mg/mmol	>300 mg/g >30 mg/mmol	
KDIGO: Classification and prognosis of CKD						
eGFR categories (ml/min/1.73 m <sup>2</sup> ) Description and range	G1	Normal or high	≥90	Screen 1	Treat 1	Treat and refer 2
	G2	Mildly decreased	60–89	Screen 1	Treat 1	Treat and refer 2
	G3a	Mildly to moderately decreased	45–59	Treat 1	Treat 2	Treat and refer 3
	G3b	Moderately to severely decreased	30–44	Treat 2	Treat and refer 3	Treat and refer 3
	G4	Severely decreased	15–29	Treat and refer 3	Treat and refer 3	Treat and refer 4+
	G5	Kidney failure	<15	Treat and refer 4+	Treat and refer 4+	Treat and refer 4+

**Refer:**  
Indicates that nephrology referral and services are recommended

**Numbers:**  
A guide for the number of times per year a patient should be monitored

**Colors:**  
Represents the risk of CKD progression

- Low risk (if no other markers of kidney disease, no CKD)
- Moderately increased risk
- High risk
- Very high risk

## For your patients who may be at risk for CKD:



**Screen early** for eGFR and UACR and at the recommended frequency



**Treat early** and appropriately



**Diagnose, stratify risk, and monitor** using the KDIGO Heat Map



**Refer** when necessary

Follow the link for additional resources



\*Estimates were calculated using CKD stages 1–4 using data from the 2017–March 2020 National Health and Nutrition Examination Survey based on 2021 CKD Epidemiology Collaboration GFR estimating equation, including serum creatinine, age, and sex.<sup>1</sup> With implications for health. Two abnormal readings, taken >3 months apart, are needed for a diagnosis of CKD.<sup>2</sup> American Diabetes Association Standards of Care in Diabetes, American Diabetes Association, 2024. Copyright and all rights reserved. Material from this publication has been used with the permission of American Diabetes Association.

CKD, chronic kidney disease; CV, cardiovascular; eGFR, estimated glomerular filtration rate; GFR, glomerular filtration rate; KDIGO, Kidney Disease: Improving Global Outcomes; UACR, urine albumin-to-creatinine ratio.

1. Centers for Disease Control and Prevention. Chronic Kidney Disease in the United States, 2023. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention; 2023. 2. Francis A, et al. *Nat Rev Nephrol.* 2024;20:473–485. 3. Alfego D, et al. *Diabetes Care.* 2021;44:2025–2032. 4. Centers for Disease Control and Prevention. Deaths and Mortality. <https://www.cdc.gov/nchs/fastats/deaths.htm>. Accessed September 18, 2024. 5. Grams M, et al. *Am J Kidney Dis.* 2017;70:337–346. 6. Theofilis P, et al. *J Am Soc Nephrol.* 2021;52:693–701. 7. Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. *Kidney Int Suppl.* 2024;105(4):S117–S314. 8. Bowe B, et al. *J Am Soc Nephrol.* 2018;29(1):218–230. 9. Centers for Disease Control and Prevention. Chronic Kidney Disease in the United States, 2023. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention; 2023. 10. Centers for Disease Control and Prevention. Risk Factors for Chronic Kidney Disease. <https://www.cdc.gov/kidney-disease/risk-factors/index.html> (accessed Sept 2024). 11. Jo W, et al. *PLoS One.* 2020;15:e0238111. 12. National Kidney Foundation. Aging and kidney disease. [https://www.kidney.org/news/monthly/wkd\\_aging](https://www.kidney.org/news/monthly/wkd_aging) (accessed Sept 2024). 13. Polkinghorne KR, et al. *Clin Biochem Rev.* 2014;35:67–73. 14. American Diabetes Association Professional Practice Committee. *Diabetes Care* 2024;47(Suppl. 1):S1–S321.