Cost-Effective CKD Screening for Adults over 55 Addresses Medicaid Policy Misalignment

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BACKGROUND & RATIONALE

- The U.S. population aged 55+ grew from **61.3 million** in 2003 to **99.1 million** in 2023—a **61.7% increase** (American Community Survey).
- CKD real (laboratory–based) prevalence among adults 55+ is substantially higher than diagnosed prevalence captured in administrative claims.

THE DIAGNOSIS GAP

The disparity between real CKD prevalence (measured by NHANES) and diagnosed CKD prevalence (captured by USRDS) represents the magnitude of underdiagnosis.

- CKD often remains undiagnosed until advanced stages, when progression to end–stage renal disease (ESRD) requires dialysis or transplant.
- Medicare covers routine CKD screening, but many Medicaid programs do not—creating a critical policy misalignment.
- Prior economic evaluations support CKD screening cost–effectiveness at a willingness–to–pay threshold of $50,000 per quality–adjusted life year (QALY).

OBJECTIVES

1. Quantify the diagnosis gap of CKD among adults 55+ using NHANES (real prevalence) and USRDS (diagnosed prevalence) from 2003–2023.
2. Estimate the cost–effectiveness of annual CKD screening for Medicaid adults over 55 over the 2003–2023 period.
3. Project 5-, 10-, 15-, and 20–year fiscal impact of adopting CKD screening aligned with Medicare coverage.
4. Identify key policy levers to reduce structural inefficiencies and improve outcomes.

METHODS & DATA

We conducted a parallel longitudinal analysis integrating three complementary national data sources from 2003–2023.

NHANES (Laboratory Prevalence)
Provides laboratory–based estimates of CKD prevalence among U.S. adults aged 55+ (using eGFR <60 mL/min/1.73 m² or UACR ≥30 mg/g).
Continuous 2–year cycles: 2003–2004 through 2021–2023

USRDS (Administrative/ Diagnosed Prevalence)
Provides diagnosed CKD prevalence among U.S. adults 55+ captured in administrative data (Medicare claims & ESRD registry).
Annual estimates: 2003–2023

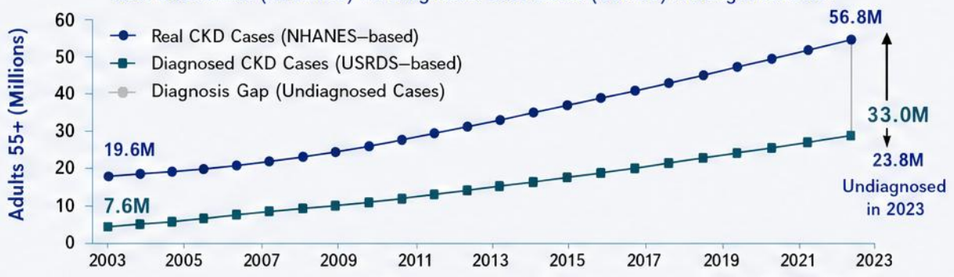
ACS (Demographic Structure)
Provides annual estimates of the U.S. population aged 55+.
Annual estimates: 2003–2023

ANALYSIS APPROACH

We aligned NHANES (real CKD prevalence) and USRDS (diagnosed CKD prevalence) using ACS population estimates to estimate the number of real and diagnosed CKD cases among adults 55+ each year, quantify the Diagnosis Gap, and project the clinical and economic impact of closing this gap through annual CKD screening.

RESULTS: DIAGNOSIS GAP OVER TIME (2003–2023)

Real CKD Cases (NHANES) vs. Diagnosed CKD Cases (USRDS) Among Adults 55+



	2003	2023	CHANGE (2003–2023)
Real CKD Cases (NHANES)	19.6 million	56.8 million	+37.2 million (+189.8%)
Diagnosed CKD Cases (USRDS)	7.6 million	23.8 million	+25.4 million (+334.2%)
Diagnosis Gap (Undiagnosed)	12.0 million	33.8 million	+11.8 million (+98.3%)

In 2023, **41.8%** of real CKD cases among adults 55+ remain undiagnosed.
Diagnosis Gap = (Real − Diagnosed) / Real = **41.8%**

RESULTS: ECONOMIC IMPACT OF CLOSING THE GAP

$562.5 BILLION CUMULATIVE SAVINGS (2003–2023)

Total projected savings to Medicaid from aligning CKD screening for adults >55 with Medicare over the 2003–2023 period.

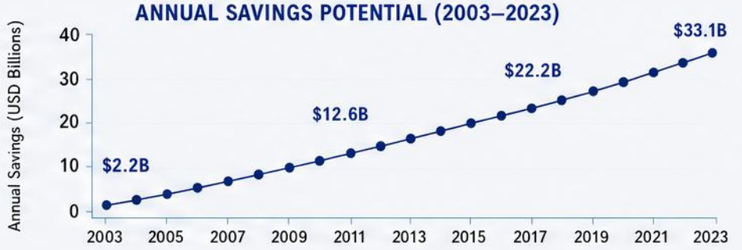
$33.1 BILLION ANNUAL SAVINGS (2023)

Annual savings potential in 2023 if Medicaid adopts annual CKD screening for adults >55 nationwide.

41.8% DIAGNOSIS GAP in 2023

Nearly half of real CKD cases among adults 55+ remain undiagnosed.

ANNUAL SAVINGS POTENTIAL (2003–2023)



Annual savings potential increased 15.0% from $2.2B in 2003 to $33.1B in 2023, reflecting growth in the 55+ population, CKD prevalence, and treatment costs.

CONCLUSIONS

Structural Inefficiency: Medicaid's failure to cover routine CKD screening drives late diagnosis, higher ESRD incidence, and avoidable spending.

High Value: Aligning CKD screening for adults over 55 with Medicare (2003–2023) is highly cost–effective at <$50,000/QALY and yields $562.5 billion in cumulative savings.

Policy Levers: Align Medicaid with Medicare on CKD screening; adopt automated EHR–based identification; and incentivize early intervention to bend the cost curve over the long term.