Frequency of urinary albumin monitoring among US veterans with type 2 diabetes and albuminuria

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Introduction

- Albuminuria in persons with T2DM is a risk factor for CVD events, CKD progression and mortality
- Screening for and monitoring albuminuria may guide the use of medications to prevent these outcomes
- However, the frequency of urine albumin monitoring in practice and the factors associated with more frequent monitoring have not been well-studied among persons with diabetes and albuminuria

Objective

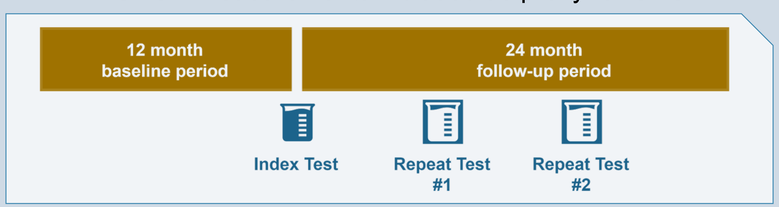
- To evaluate the frequency of UACR testing in a real-world setting among adults with type 2 diabetes following at least one elevated UACR result
- To identify individual- and facility-related factors associated with more frequent albuminuria monitoring

Methods

Population & Setting
- U.S. veterans receiving primary care within VA facilities from 2022-2025
- Type 2 diabetes
- UACR ≥30 mg/g and eGFR ≥20 ml/min/1.73 m^2

Exposures
- Individual-level sociodemographics, clinical characteristics, and health care utilization
- Facility complexity and quality metrics

Outcomes
- Repeat UACR within 24 months
- UPCR measurements included as proxy for UACR



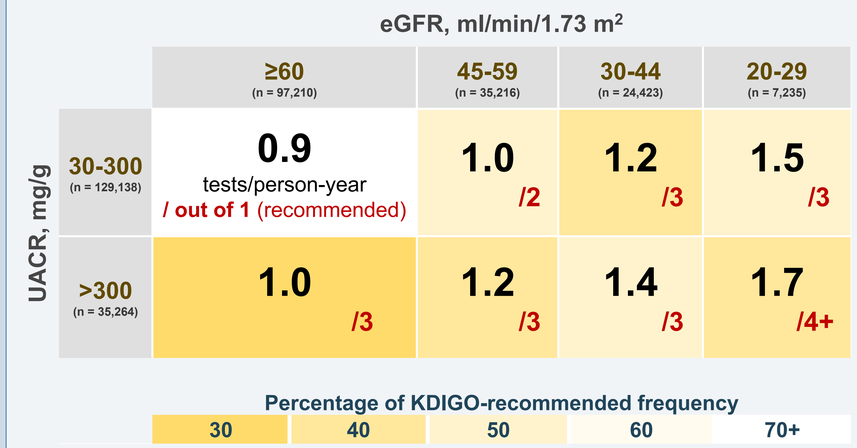
Analysis
- Mixed-effects negative binomial regression
- Rate ratios for individual & facility characteristics

Results

Baseline characteristics (n=164,402)

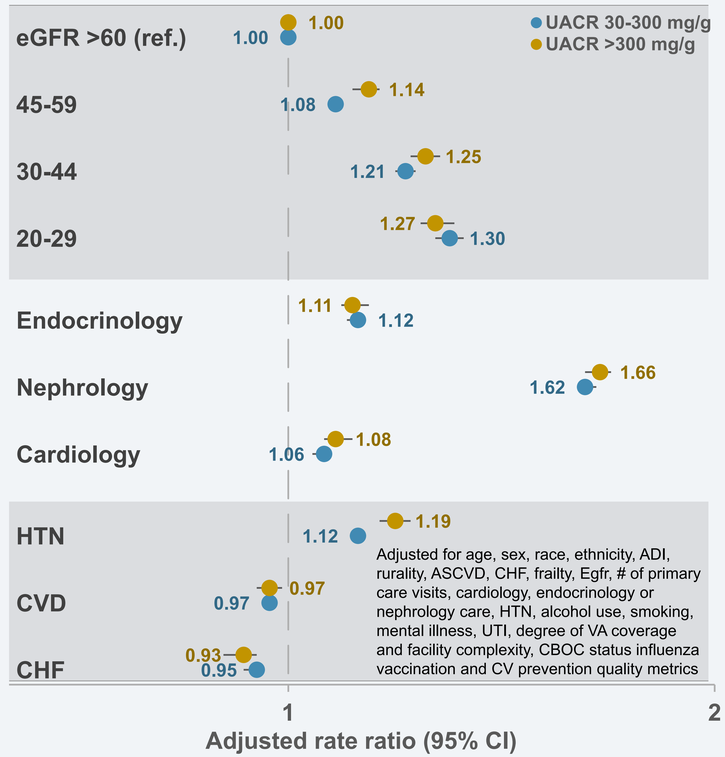
- Mean age 72 years
- Median eGFR 66 ml/min/1.73 m^2
- Median UACR 95 mg/g
- 96% male
- 41% eGFR <60 ml/min/1.73 m^2
- 11% seen by a nephrologist

Observed rate of UACR testing by baseline eGFR and UACR



- Mean 1.01 UACR tests per person-year
- 83% with repeat tests during follow-up
- Median 334 days until first repeat test

Association of select characteristics with UACR re-testing frequency, by baseline albuminuria



Facility-level characteristics

- Higher UACR monitoring rates were observed among those receiving primary care in facilities with:
  - The VA lowest complexity rating (RR 1.15; 95% CI 1.06-1.25)
  - Higher rate of influenza vaccination (RR 1.11; 95% CI 1.04-1.18 per 10% higher vaccination rate)
- The median difference in UACR monitoring between pairs of individuals from different facilities was 27% after adjustment for individual characteristics
- Between-facility differences accounted for 8% of total variation in UACR monitoring among individuals

Conclusions

- UACR testing falls below recommended frequencies, especially for those with severe albuminuria.
- Nephrology consultation and lower eGFR are associated with more frequent albuminuria monitoring
- UACR monitoring rates vary across VA facilities; though this only modestly contributes to total variation

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