Beyond Screening: A Multicomponent Quality Improvement Initiative to Improve Albuminuria Management in Youth with Diabetes

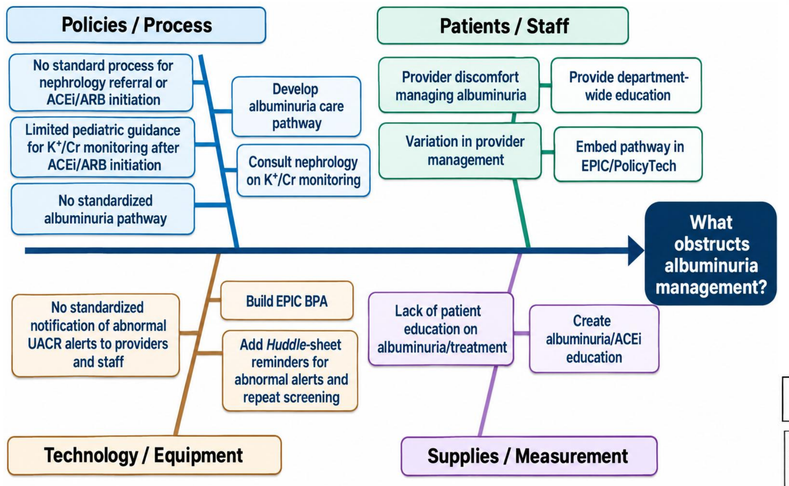
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BACKGROUND

- Albuminuria is an early marker of diabetic kidney disease.
- Guidelines support early recognition and treatment to delay disease progression.
- At our institution, lack of a standardized protocol contributed to practice variability and delays in management of elevated urine albumin-to-creatinine ratio (UACR) levels.

Barriers to Albuminuria Management (*Fishbone Diagram*)



SMART AIM

Increase guideline-concordant **angiotensin converting enzyme inhibitor (ACEi) or angiotensin receptor blocker (ARB) prescriptions among eligible youth with albuminuria from 31.2% to 36.2% over six months** through a standardized albuminuria management pathway, EHR-based decision support, and provider education.

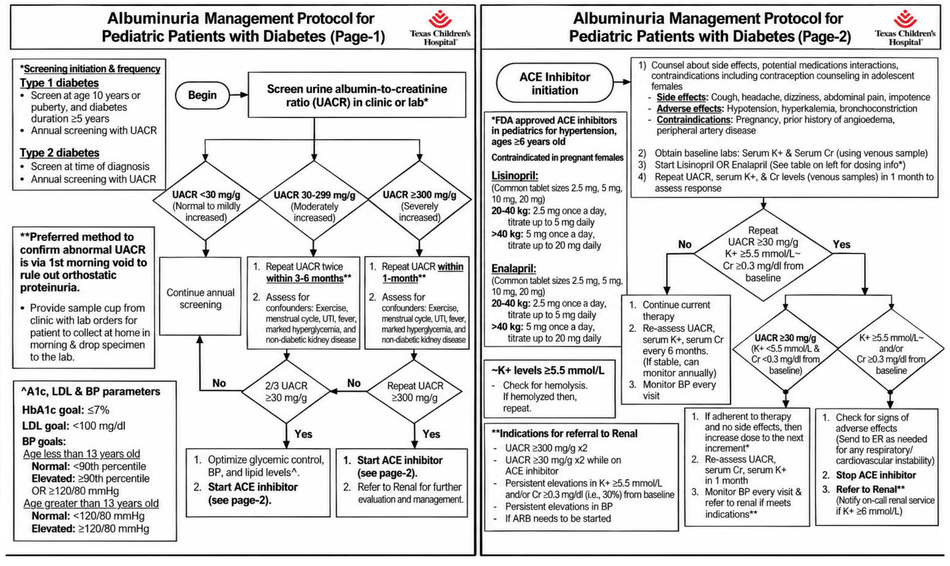
METHODS

- Five sequential Plan-Do-Study-Act (PDSA) cycles guided implementation:

PDSA 1	PDSA 2	PDSA 3	PDSA 4	PDSA 5
Standardized Clinical Pathway	**Provider Education & Workflow**	**Clinical Decision Support**	**Integration & Reinforcement**	**Sustainment**
• Developed evidence-based protocol • Created patient education materials	• Provider training • Weekly UACR reminders • Workflow integration	• Activated Best Practice Advisory (BPAs) for abnormal UACR alerts • Linked protocol in EMR	• Embedded protocol in PolicyTech integration • Reinforced case-based education	• Ongoing reinforcement through meetings and email reminders

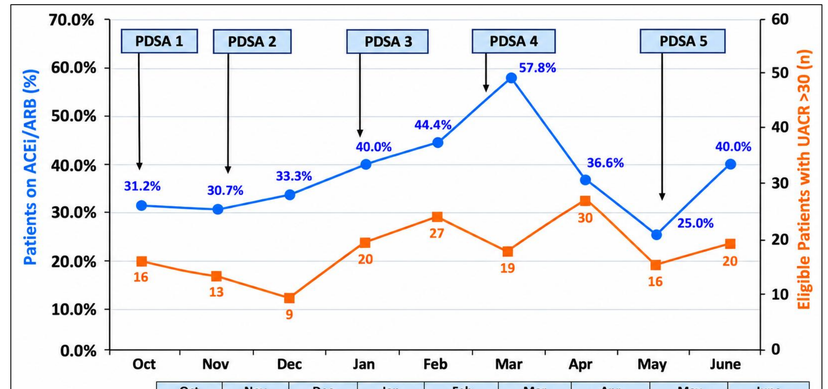
- **Timeline: Baseline**: Oct 2025 | **Intervention**: Nov 2025–Feb 2026 | **Sustainment**: Mar–May 2026
- **Measures**: Annual UACR screening, ACEi/ARB prescriptions (UACR >30 mg/g), and provider confidence scores using a validated C-Scale survey.

Albuminuria Management Protocol (*Developed and Implemented at TCH, 2025*)



RESULTS

Monthly ACEi/ARB Prescription Rates Among Eligible Youth with Diabetes (T1D and T2D) and Albuminuria



	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
% on ACEi/ARB (n)	5	4	3	8	12	11	11	4	8
UACR >30 (n)	16	13	9	20	27	19	30	16	20

****December included only three eligible patients (UACR >30 mg/g)**
Abbreviations: ACEi, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; UACR, urine albumin-to-creatinine ratio; BPA, Best Practice Advisory; CDS, Clinical Decision Support; EMR, electronic medical records

- **ACEi/ARB prescriptions increased from 31.2% at baseline (October 2025) to 57.8% in March 2026.**
- 1,198 eligible screening encounters were completed; **Albuminuria was identified in 170 youth (14.2%)**.
- **Provider confidence improved significantly** following education [n= 18; t(17)= -3.35, p=.004].

CONCLUSION

A standardized clinical pathway, provider education, and EMR decision support improved guideline-concordant management of albuminuria in youth with diabetes.

RESOURCES

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CLINICAL RESOURCES

PUBLISHED DNP PROJECT

- Vakharia, M. (2026). Quality Improvement Project: Protecting Young Kidneys: Optimizing Albuminuria Management in Youth with Diabetes. *Doctor of Nursing Practice Projects*, 296.

FULL DNP PROJECT

References: ADA Standards of Care in Diabetes (2026); ISPAD Clinical Practice Consensus Guidelines (2024).