Workflow Intervention to Increase Urine Microalbumin Screening Rates in Diabetic Patients at Sugarhouse Family Medicine Clinic

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Background

Diabetic nephropathy is a major cause of morbidity and mortality in patients with Type 2 Diabetes (T2DM) that can easily be identified early and treated to prevent poor outcomes including dialysis and death. The objective of our study is to assess the effectiveness of a clinic flow intervention as a means to increase the rate of urine microalbumin screening in patients with T2DM. In line with current 2016 HEDIS guidelines, this will allow earlier nephropathy diagnosis and appropriate intervention/treatment to improve important patient outcomes.

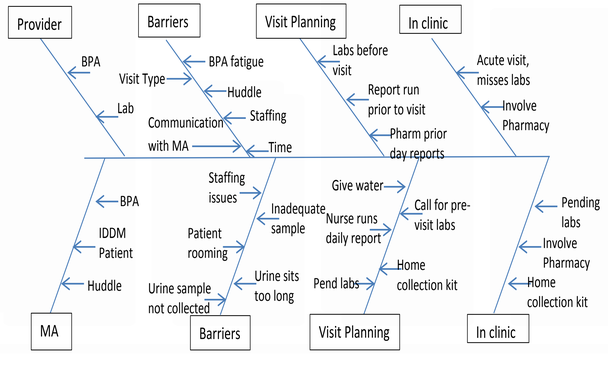
Aim Statement

Increase annual microalbumin screening rates within 12 ± 1 months for patients with T2DM at Sugarhouse clinic from a baseline of 74% to 85% between 11/15/16 to 3/31/17.

Methods

Setting and Participants: This was a single-clinic-based study in a Family Medicine residency clinic as part of a continuous quality improvement curriculum. Participants were all patients receiving primary care at this clinic and all were ≥ 18 years old with a diagnosis of T2DM.

Fishbone Diagram

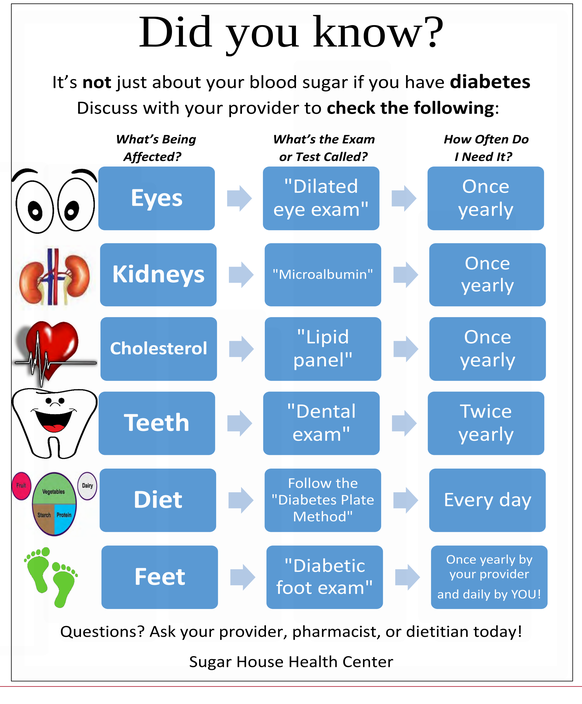


Methods

Design: The team (PGY3 resident, attending physician, pharmacy resident, clinical care manager, MAs and APRNs) used a fishbone diagram to identify potential interventions/barriers in clinic flow. An EMR query was designed to allow rapid identification of all patients with T2DM who were due for urine microalbumin screening. On a daily basis, the clinical nurse would query Epic and flag these patients on each provider's schedule. MAs and providers would plan to collect specimens during pre-visit planning huddle.

Interventions

- **Initial Intervention –** All patients meeting criteria underwent identical clinic flow process as described previously. Additionally, "check-points" during clinic visits allowed patients several opportunities to leave a urine sample. An option was also implemented for home collection.



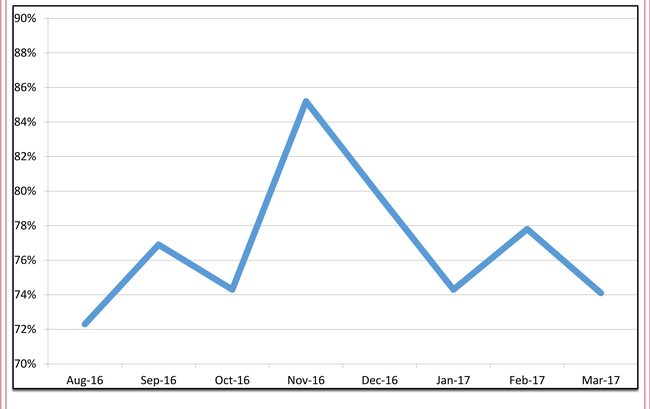
Methods

- **Secondary Interventions** – Midway through the study period, our team used a PDSA cycle process to implement additional interventions. Impact was discussed at monthly meetings.
  - **Diabetic Education Poster –** We placed posters in all exam rooms and encouraged T2DM pts to discuss with their providers.
  - **Waiting Room television –** A television screen in the waiting room with rotating images included a new prompt, "Do you have Diabetes? Ask if you are due for microalbumin screening."

Results

Main Outcomes/Measures: Our primary endpoint was an overall increase in urine microalbumin screening rates in our clinic patients with T2DM.

Percentage of T2DM Patients with Screening Urine Microalbumin in Previous 12 Months



Conclusions

The initial rate of microalbumin screening among patients with T2DM in our clinic was 72.3%. At the end of the study period, the rate of patients who had up-to-date microalbumin was 74.1%

Based on this data, our interventions did not increase the overall rate of microalbumin screening among all T2DM patients at Sugarhouse clinic.

There did not seem to be any major difference between the rates following implementation of the initial intervention compared with the secondary interventions.

Discussion

There were a variety of factors that likely impacted the outcome of our project. These included a relatively high rate of compliance at the start of the study, significant staff turnover during the period of intervention and reliance on a small number of primary staff to pull patient information for all providers daily.

Future implications based on shortcomings of this project include innovative ways to ensure more patients with T2DM are screened for renal disease in order to identify nephropathy at an early stage. Further studies could include an intervention to ensure all patients with positive microalbumin are started on ACE inhibitors and referred to nephrology.

Successes of this project include increased provider awareness for screening as well as patient education materials which remain in our clinics.

References and Acknowledgements

HEDIS 2016 Measures: http://www.ncqa.org/Portals/0/HEDISQM/HEDIS2016/HEDIS%202016%20List%20of%20Measures.pdf

CDC Chronic Kidney Disease Surveillance System: https://www.cdc.gov/diabetes/programs/initiatives/kidney.html

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