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Degree Received: Doctor of Nursing Practice

Project Title: Primary Care Provider Adherence to ADA Guidelines for Microalbuminuria Screening

Date Submitted: December 14, 2018

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Executive Summary

Primary Care Provider Adherence to ADA Guidelines for Microalbuminuria Screening

Jennifer Ebert

Washburn University
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Introduction

Chronic kidney disease (CKD) is on the rise, and its leading cause is diabetes. The American Diabetes Association (2015) estimates that 1.4 million Americans will be newly diagnosed with diabetes each year. Evidence shows that early detection and management of CKD can slow the progression of renal failure, improve quality of life, increase longevity, and reduce healthcare costs. Numerous national guidelines have been created to assist in the prevention of declining kidney function in patients with diabetes through early microalbuminuria screening. However, according to research, primary care providers are not adhering to these guidelines.

Literature Review

The Problem

Researchers have demonstrated poor primary care provider adherence with microalbuminuria screening guidelines. For example:

- Awareness of CKD is low among both patients and providers (Jha, et al, 2013).
- Only 14-49% of providers meet standards (Anabtawi & Mathew, 2013).
- Appropriate referral to nephrology is low (Jha, et al., 2013).
- There are low rates of entering a diagnosis of CKD into the electronic health record (Jolly, et al., 2014).
- There is a high rate of prescribing of nephrotoxic drugs in patients with CKD (Jha, et al, 2013).
- More than two million people worldwide receive treatment with renal transplant or dialysis to stay alive, however, this may only represent about 10% of the people worldwide in need of these treatments (National Kidney Foundation, 2015).
- The National Kidney Foundation (2017) estimates that the U.S. spends over $48 billion per year for treatment of CKD, and this rate is expected to rise to 63 billion dollars by the year 2030.
- Individuals with CKD undertake significant economic burden, with a loss of income for families, which in turn leads to; decreased spending, increased expenditures for government benefits, and a significant drain on Medicare and other third-party payers (Jha, et al., 2013).

Recommendations

In 2014 an estimated 10% of U.S. adults were living with CKD (CDC, 2014). The ADA Diabetes Care guidelines (2015) support screening of diabetic nephropathy with the following criteria:

- An annual estimated glomerular filtration rate (eGFR);
- An annual urine albumin creatinine ratio (UACR);
- If the first annual UACR test is positive, the test should be repeated twice more over a three to six-month period to confirm a diagnosis of microalbuminuria;
- Treatment of microalbuminuria in patients with diabetes should be focused on prevention of end stage renal disease (ESRD) and cardiovascular events;
Treatment should include the avoidance of nephrotoxic drugs, initiation of medications to prevent cardiovascular events, early referral to nephrology when indicated, and the encouragement of lifestyle improvements such as healthy diet and exercise.

Project Purpose

The purpose was to examine microalbuminuria screening and treatment of patients with type II diabetes at two Federally Qualified Health Care Centers (FQHCs) in the Midwest. The objectives included the following:

- Determined staff and provider adherence with the ADA guidelines;
- Identified barriers and facilitators to increase guideline adherence;
- Increased staff and provider knowledge of screening;
- Implemented the American Diabetes Association guideline for microalbuminuria screening.

The short-term impacts of this project were to change and evaluate the knowledge, behavior, and attitudes of providers regarding early detection and management of microalbuminuria in patients with type II diabetes. The long-term impacts of the project could lead to a decrease in the progression of CKD, reduction of cardiovascular events, and prevention of dialysis; all which carry significant health care costs and decrease quality of life for those affected (Anabtawi & Mathew, 2013).

Methods

The project was reviewed and approved by the Institutional Review Boards (IRB) at Washburn University as well as by the FQHC board members prior to conducting the project. This was a quality improvement project which evaluated guideline adherence, then identified and implemented tools to increase adherence to ADA guidelines.

Following an extensive review of the literature, two FQHCs in the Midwest were selected for the project. The plan was to evaluate provider screening trends, evaluate staff and provider knowledge, and to identify barriers and facilitators to microalbuminuria screening guidelines. Information was collected via the following methods:

- Four data collection reports from IT,
- Pre-group session provider survey,
- Group session (educational session followed by fishbone exercise), and
- Post-group provider session survey.

The four data collection reports from electronic health records (EHRs) were conducted by IT staff using a series of electronic health record filters (which can be found in the appendix). All data was collected in aggregate and no individual patient identifiers were reviewed or recorded. Results of the data collection findings were shared with each provider individually to help them understand their own practice patterns. The second data point was an online provider survey which was used to identify screening trends and beliefs as well as barriers and facilitators to screening.

Based on the data collected, an educational session was offered to providers and staff that included an overview of the ADA guidelines and an algorithm for screening and management of
the condition. Following the educational portion, a fishbone exercise was completed with the
group to identify barriers and facilitators to screening and to identify solutions to improve
screening (October 25, 2017). A follow-up survey was conducted following the group session to
evaluate changes in knowledge and attitudes toward microalbuminuria screening.

Data Analysis

There are 4 levels of results which are outlined below and can be found in the appendix:

1. **Four data collection reports from IT**
   - Of the 313 patients with diabetes, a total of 66% (N=207) of patients had a UACR
     ordered within the 12-month timeframe. Of these 207 patients, 4 had an order but did
     not have the test performed.
   - 110 patients did not have a UACR performed.
   - 96 did not have a UACR ordered.
   - Microalbumin testing without UACR was performed in 4 patients.
   - Of the UACRs ordered, 55 results met criteria of repeat testing due to high or abnormal
     results.
   - The total percentage of patients who did not have a normal UACR result documented
     was 52% (N= 165). With only 48 percent of patients having a normal UACR
     documented, further evaluation of practice trends and barriers to UACR screenings was
     indicated.
   - According to the report, 165 patients should have had an initial yearly UACR or a
     follow up appointment for a UACR due to an elevated level.
   - Lab results findings were often not evaluated correctly by providers (e.g., labs were
     marked normal according to the albumin result with an elevated UACR).

2. **Pre-group session provider survey**
   - All providers reported that they screen patients with type II diabetes yearly.
   - Sixty percent of the providers reported that they screen using UACR, 40% reported using
     only the urine microalbumin for screening.
   - Only one provider reported that they diagnose microalbuminuria according to guidelines
     with a confirmation of two out of three UACRs within a 3-6-month period.
   - The others diagnosed microalbuminuria with one result of either UACR or microalbumin
     alone.
   - Three of the providers rated the importance of screening for microalbuminuria a 10 out of
     10, with the other two providers rating a 7 and an 8 out of 10.
   - The greatest barrier to screening was reported as lack of time given for patient
     appointments. Other barriers included; lack of user-ease with the EHR, expenses for
     patients including costs, clinic expenses, and lack of knowledge by the provider.
   - 100% of the providers thought providers would benefit from an educational or group in-
     service regarding current guidelines.
   - The providers rated an improved template in their EHR as the most preferred
     intervention. Providers reported an alert in their EHR, patient educational hand-outs, an
educational in-service, and a clinic policy as possible interventions to improve screening rates.

3. Fishbone exercise (also known as a cause and effect diagram used to identify multiple causes for a problem)

- Providers identified 5 causes for concern; lack of time, lack of provider knowledge, lack of patient knowledge, problems with the EHR, and lack of assistance from nursing staff with order entry.
- IT noted that there was an updated version of the EHR available to staff which would allow for improved use. However, providers were not aware of the updated version.
- All staff expressed the need for clinic-wide policies regarding front-office scheduling, training of all staff for proper use of the EHR, work flow, and general policies and protocols that would allow for a more team-based approach to providing care.
- Suggestions by staff to improve screening included;
  - an improved scheduling template
  - a protocol allowing for order-entry by nurses
  - a template in the EHR
  - a check-list for patients regarding routine DM testing and care

4. Post-group session provider survey:

- All providers stated they would still screen for microalbuminuria annually for patients with diabetes. However, they reported that they would screen more patients including those at high risk for CKD.
- The survey indicated improvement in screening knowledge; all stated they would use the UACR for screening. All reported that they would diagnose microalbuminuria when a patient has two out of three elevated UACRs over a 3-6-month period.
- Attitudes regarding barriers did not change significantly, with lack of time still being the greatest barrier to proper screening.
- Provider attitudes toward importance of screening improved with all providers rating this question as a 10 out of 10.

**Interventions**

Interventions were created based upon suggestions by staff during the educational session and post education survey and included:

- A scheduling template was created and has been reviewed by the medical director and administration. By scheduling patients more efficiently, time should be better managed by providers.
- A policy and protocol allowing for standing-order by nurses was created which allowed medical assistants to order lab tests for patients with diabetes. The goal was to improve appropriate lab testing.
- A diabetes template was created in the EHR. This was achieved with the assistance from IT staff. The template also included an order set which included an order for the correct UACR test. The template also included a referral to nephrology, common medications prescribed for patients with diabetes, and a patient handout. The patient
handout included recommended annual screenings for patients with diabetes. The
goal of this intervention is to improve time management as well as prevention of
ordering the wrong test for microalbumin screening.

- All providers were given step-by-step instructions for using the template and order
  set.
- An algorithm was to be used as a clinic guideline for microalbuminuria screening and
treatment was given to all providers and is under review by the medical director.

**Limitations**

The project had a few limitations. The project only included FQHCs, and may not apply
in other types of primary care settings. Lab tracking was challenging for IT as CPT codes were
not obtainable in the data collection process, so reports had to be generated using the lab name.
A small group was included in the study; however, it could be replicated in larger clinic with a
larger population. There was limited prior research regarding studies to improve screening. The
measure used to collect the data could be improved with the need for future researchers to revise
the survey questions. As in all research, time restrictions may have influenced the project. The
long-term impacts of the practice tools were not evaluated; however, future DNP students would
have the opportunity to evaluate the project over a longer length of time for more complete
evaluation of outcomes and improvement offering.

**Discussion and Implications**

Several gaps exist in the implementation of guidelines. Overcoming barriers often
demands numerous interventions at both the provider and organizational level, which can
improve patient care and outcomes. The benefits of this quality improvement project include:
1.) the opportunity for future research which could add to the body of literature on best
practice for the diagnosis and treatment of microalbuminuria;
2.) opportunity for future DNP students to evaluate the outcomes of this pilot project with
possible replication in other clinics interventions that could lead to improved
microalbuminuria screening by primary care providers; and
3.) potentially improving long term health outcomes of patients with type II diabetes.
The ultimate goal of the project was to decrease the progression of CKD, prevent cardiovascular
events, and prevent the need for dialysis, all of which have significant health care cost and
decrease quality of life for those effected.

The barriers and facilitators for guideline adherence found in this project apply to more
than just proper microalbumin screening. The findings of this project have indicated a need for
improvement at the FQHCs including; interventions to improve clinic flow, improved knowledge
of EHR use, and template and order set creation. Most importantly, the project identified a
significant need for implementation of clinic-wide policies and protocols for the FQHCs.
FQHCs are now required to obtain Patient-Centered Medical Home (PCMH) status and a large
part of obtaining status is having protocols and policies in place for team members. Without
becoming a PCMH, the FQHCs will not be allowed to maintain FQHC status which also
includes being part of an Accountable Care organization (ACO). These FQHCs serve 2 counties
and without the FQHCs, many patients would not be able to obtain affordable care.

The impact of this project could have a positive long-term impact on the overall health
care system including improved health of individuals and reduced healthcare costs. The cost of
microalbumin testing is very inexpensive, and the benefits of early detection with appropriate interventions can improve and lengthen the quality of life for patients with diabetes. The overall goal was to improve quality of care which is part of the Triple Aim.
Filters for Data Collection Reports from IT

**Group 1:** All patients from each facility who had each of the following attributes:

a. Age 18 or older
b. A diagnosis of type II diabetes (ICD-10 code of E11) entered in an office encounter from May 1, 2016 to May 1, of 2017.

c. Patients seen in this time frame by providers who are still practicing at the locations

d. Demographics of this group will also be collected and include:
   a. gender (M/F)
   b. race/ethnicity (White, Black or African American, Asian, Native American/Alaska Native, Hispanic/Latino, Native Hawaiian/Other Pacific Islander, other)
   c. age groups (18-30, 31-50, 51-70, 70+)
   d. provider type (NP, PA, DO, or MD) was excluded to maintain anonymity

**Group 2:** Of all those in Group 1, three independent filters were applied to create 3 more reports including:

a. All patients who had a lab order for microalbumin without UACR
b. All patients who had lab order for microalbumin with UACR
c. All patients who did NOT have a lab order for microalbumin with or without UACR
Survey for primary care providers regarding microalbumin screening in patients with type II diabetes:

1. What are your personal practice habits for microalbuminuria screening in patients with type II diabetes? (Please select all that apply)
   a. I screen ALL patients yearly for microalbuminuria
   b. I screen patients with type II diabetes yearly for microalbuminuria
   c. I do not screen patients with type II diabetes yearly for microalbuminuria
   d. I do not screen any of my patients for microalbuminuria
   e. I screen those at risk for kidney disease for microalbuminuria including those with HTN, diabetes, or other risk factors

2. Which test do you generally order for microalbuminuria screening? (please select one answer)
   a. Urine microalbumin only
   b. Urine microalbumin with creatinine ratio (UACR)
   c. I am certain. I do not know if the microalbumin I order is with or without a creatinine ratio
   d. I do not order screening tests for microalbumin
   e. Other (please list)

3. When do you usually consider a diagnosis of microalbuminuria? (Please select one answer)
   a. One elevated urine microalbumin result (according to our lab reference range)
   b. One urine albumin/creatinine ratio over 30
   c. when a patient has at least two out of three urine albumin/creatinine ratios over 30 within a 6-month period
   d. I do not ever consider a diagnosis of microalbuminuria
   e. Other (please list)

4. Please rate the importance of the following statement: All patients with type II diabetes should be screened at least annually for microalbuminuria. (Please circle one of the following with 0 being not important at all and 10 being extremely important)

   0 1 2 3 4 5 6 7 8 9

   10

5. What barriers do you perceive exist in properly screening and treating microalbuminuria in your patients with type II diabetes? (please select all that apply)
   a. Time (lack of time you are given for each patient appointment)
   b. Electronic Health Record (lack of user-ease with entering orders into your EHR)
c. Expenses for the patient (including costs for tests, medications, and/or referrals)
d. Expenses for our clinic (including costs for tests, medications, and/or referrals)
e. Lack of knowledge by providers regarding proper screening
f. Other (please list)

6. **What types of interventions would you like to see offered that might increase rates of microalbuminuria screening for patients with type II diabetes in your clinic? (Please select all that apply)**
   a. An alert in our EHR system to remind the clinician to order testing for microalbuminuria
   b. An improved template in our EHR for patients with type II diabetes
   c. Patient educational handouts
   d. An educational in-service for providers
   e. Having a clinic policy in place for microalbuminuria screening
   f. I do not see the need for any interventions
   g. Other (please offer your suggestions)

7. **Do you think that you or other providers in your clinic would benefit from having an educational, group in-service regarding current guidelines for microalbuminuria screening? (please select one of the answer)**
   a. Yes
   b. No
   c. Unsure
Data Analysis: 4 Reports from IT

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<th>not performed</th>
<th>not sent</th>
<th>Grand Total</th>
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<td></td>
<td>5</td>
<td>4</td>
<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Provider B</td>
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<td>2</td>
<td></td>
<td>41</td>
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<td>Provider C</td>
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<td>11</td>
<td>25</td>
<td>1</td>
<td>39</td>
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<td>Provider D</td>
<td></td>
<td>5</td>
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<td></td>
<td></td>
<td>31</td>
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<tr>
<td>Provider E</td>
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<td>1</td>
<td>16</td>
<td>49</td>
<td></td>
<td>66</td>
</tr>
<tr>
<td>Provider F</td>
<td></td>
<td>1</td>
<td>4</td>
<td>16</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>3</td>
<td>52</td>
<td>148</td>
<td>3</td>
<td>207</td>
</tr>
</tbody>
</table>

- Total with DM II: 313
- Total ordered with UACR: 207
- Total ordered with UACR not completed: 4
- Total ordered with urine micro only: 4
- Total DM II pts without UACR ordered: 96
- Total DM with UACR not performed: 110
- Total with UACR high or abnormal: 55
- Total DM II without a normal UACR documented: 148
Fishbone Exercise
ADA Algorithm for Microalbuminuria Screening

Test for microalbuminuria

No

+ for albumin

Yes

Condition that may invalidate urine albumin excretion?

Yes

No

Treat and/or wait until resolved. Repeat test. + for protein?

Yes

Repeat microalbuminuria test twice within 3-6 month period.

No

Rescreen in one year

2 of 3 tests positive?

Yes

Microalbuminuria, begin treatment

Diabetes Policy/Protocol

POLICY NUMBER: [insert policy number]
POLICY TITLE: Diabetes Mellitus Standing Orders

PURPOSE: To optimize the care of patients with diabetes by improving workflow processes through the implementation of standing orders.

PRACTICES:
1. Medical Assistants, LPNs, and/or RNs may order laboratory tests based on the protocol outlined below.
2. The provider does not need to be present to order labs
3. Any clarification regarding the protocol should be discussed with the medical director.

PROTOCOL:
1. Hemoglobin A1c
   a. Above target goal (over 6.5): draw every 3 months
   b. At goal (less than 6.5): draw every 6 months
2. Basic metabolic panel
   a. Patient is on an ACE inhibitor or diuretic or has CKD: draw every 6 months
   b. Patient not on an ACE inhibitor or diuretic: draw every 12 months
3. Lipid profile
   a. Draw every 12 months
4. Ophthalmologist/optometrist referral for dilated eye exam every 12 months
5. Monofilament foot exam every 12 months
6. Urine sample for microalbuminuria every 12 months
   (albumin/creatinine ratio). Repeat if abnormal twice more over a 3-6-month period
7. Diabetes education referral offered every year
8. Immunizations: refer all patients to the immunization nurse annually for updated vaccines
9. Referral for patients to nephrology with Stage IV or greater CKD
### Scheduling Template

<table>
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<th>Description</th>
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<tr>
<td>800</td>
<td>new pt* Physical* hospital follow up* established complex follow up* acute complex</td>
</tr>
<tr>
<td>815</td>
<td>established pt simple follow up* established pt simple acute * = OR</td>
</tr>
<tr>
<td>830</td>
<td>catch-up time</td>
</tr>
<tr>
<td>845</td>
<td>may add simple, established, “same day” apt if slot is not filled within 12-24 hours</td>
</tr>
<tr>
<td>900</td>
<td>new pt* Physical* hospital follow up* established complex follow up* acute complex</td>
</tr>
<tr>
<td>915</td>
<td>established pt. simple follow up* established pt simple acute</td>
</tr>
<tr>
<td>930</td>
<td>catch-up time</td>
</tr>
<tr>
<td>945</td>
<td>please call provider if you would like to place anyone on the schedule if there is a conflict with the template</td>
</tr>
<tr>
<td>1000</td>
<td>new pt* Physical* hospital follow up* established complex follow up* acute complex</td>
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<tr>
<td>1015</td>
<td>established pt simple follow up* established pt simple acute</td>
</tr>
<tr>
<td>1030</td>
<td>established pt simple follow up* established pt simple acute</td>
</tr>
<tr>
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<td>catch-up time</td>
</tr>
<tr>
<td>1100</td>
<td>established pt simple follow up* established pt simple acute</td>
</tr>
<tr>
<td>1115</td>
<td>examples of acute complex: abdominal pain, shortness of breath, dizziness, any elderly patient</td>
</tr>
<tr>
<td>1130</td>
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<tr>
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<td>LUNCH</td>
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<tr>
<td>1330</td>
<td>established pt simple follow up* established pt simple acute</td>
</tr>
<tr>
<td>1345</td>
<td>catch-up time</td>
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<tr>
<td>1400</td>
<td>new pt* Physical* hospital follow up* established complex follow up* acute complex</td>
</tr>
<tr>
<td>1415</td>
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<tr>
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<tr>
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<td>catch-up time</td>
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<tr>
<td>1700</td>
<td>established pt simple follow up* established pt simple acute</td>
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<tr>
<td>1730</td>
<td>catch-up time</td>
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</tbody>
</table>
References


nephrology in patients with type 2 diabetes and hypertension in the USA.

*Nephrology, Dialysis, Transplantation: Official publication of the European Dialysis and Transplant Association-European Renal.*


Primary Care Provider Adherence to ADA Guidelines for Microalbuminuria Screening
Introduction

• #1 Cause: Diabetes

• Present in 20-40% of patients with diabetes

• 1.4 million newly diagnosed with diabetes each year

CKD FACTS:

15% of US adults are estimated to have chronic kidney disease—that is about 30 million people.
Importance

Early detection and management with microalbuminuria screening can:

- slow the progression of renal failure
- improve quality of life
- increase longevity
- reduce healthcare costs
Measuring Microalbuminuria

The quantification of small amounts of albumin, a serum protein, in urine that can be used to identify microvascular endothelial dysfunction.

Endothelial damage is a risk for kidney failure and cardiovascular events.
Numerous guidelines have been created to assist with the prevention of declining kidney function.
Guideline Adherence

Awareness of CKD is low among both patients and providers

Only 14-49% of providers meeting standards

Appropriate Referral to nephrology is low
Problem

2 million people worldwide receive treatment with dialysis or transplant to stay alive.

Represents just 10 percent of the people who actually need treatment to live.
COST TO TREAT ESRD

Cost to Treat ESRD/Dialysis Patients

- 1985: $4 Billion
- 2001: $15 Billion
- 2010: $28 Billion
- 2030: $63 Billion

Financial Impact
The purpose was to examine microalbuminuria screening and treatment of patients with type II diabetes at two Federally Qualified Health Care centers (FQHCs).

Objectives

- Determine adherence
- Increase staff and provider knowledge
- Identify barriers and facilitators to increase guideline adherence
- Implement the ADA guideline
Goals

Short-term goals
change and evaluate the knowledge, behavior, and attitudes of providers regarding early detection and management of microalbuminuria in patients with type II diabetes.

Long-term impacts

Decrease the progression of CKD
Reduce cardiovascular events
Prevent dialysis
Reduce healthcare costs
Improve quality of life
Theoretical Model

The Chronic Care Model

Community resources and Policies

Health System
Health Care Organization

Self-Management Support

Delivery System Design

Decision Support

Clinical Information Systems

Informed, Activated Patients and Caregivers

Productive Interactions

Prepared, Proactive, Practice Team

Improved Outcomes

Design

IRB Approval
- Obtained from Washburn University and the agencies

Project type
- Quality Improvement Project

Setting
- Two FQHCs in the Midwest

Data Collection and Analysis Tools
- 4 IT reports
- Initial Provider survey
- Educational/problem solving session exercise
- Follow-up provider survey
Design Population

Records from EHR with 4 reports
Patients over 18
Dx of DM II
Seen in a 1 year period

Initial Provider survey
4 nurse practitioners
1 physician

Educational Problem solving Session
4 NPs
1 physician
3 RNs
1 member from IT

Follow-up survey
4 NPs
1 Physician
Report #1:
Age 18 or older
Dx of DM II + office encounter in one year period
Three independent filters applied

Report #2:
Order for microalbumin without UACR

Report #3:
Order for microalbumin with UACR

Report #4:
All who did NOT have a lab order for microalbumin with or without UACR
Data Collection: IT Reports

Demographics

- Gender (M/F)
- Race/Ethnicity
- Age groups
- Provider type (NP, PA, DO, or MD) was excluded to keep anonymity
## IT Report Results

<table>
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<th>Row Labels</th>
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<th>Count of actual value</th>
<th>Column Labels</th>
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<td>4</td>
</tr>
<tr>
<td>Provider B</td>
<td></td>
<td>11</td>
<td>28</td>
</tr>
<tr>
<td>Provider C</td>
<td></td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Provider D</td>
<td></td>
<td>5</td>
<td>26</td>
</tr>
<tr>
<td>Provider E</td>
<td></td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>Provider F</td>
<td></td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>3</td>
<td>52</td>
</tr>
</tbody>
</table>

- Total with DM II: 313
- Total ordered with uacr: 207
- Total ordered with uacr not completed: 4
- Total ordered with urine micro only: 4
- Total DM II pts without UACR ordered: 96
- Total DM with UACR not performed: 110
- Total with uacr high or abnormal: 55
- Total DM II without a normal UACR documented: 148
1st Survey Results
Survey Results

- Screen patients with DM II yearly
  - Screen using UACR, 40% reported using only the urine microalbumin for screening

- 1 diagnosed with two out of three UACRs within a 3-6-month period

- All others diagnosed microalbuminuria with one result of either UACR or microalbumin alone

- 3 rated the importance of screening a 10 out of 10

- Greatest barrier to screening was lack of time given for patient appointments

- 100% thought they would benefit from an educational or group in-service

- Template in their EHR the preferred intervention
Barriers and Facilitators

Providers
- Lack of enough clinical support staff
- Lack of training/knowledge
- Shortage of time (charting takes too long, no scheduling template, so appointment times are not scheduled correctly)
- Lack of lab training (manual available for staff performing tests)
- Lab supplies (not available, outdated)
- Poorly developed EHR (non-user friendly, tests not mapped)
- Faulty equipment

Lab staff
- Lack of policy for lab tracking
- Lack of lab director
- Lack of motivation
- Only one machine available for testing
- Environment (facility)
- Equipment

Patients
- Missed time from work for testing
- Lack of lab director
- Lack of training
- Machine only available at main clinic
- Environment (facility)
- Equipment
- Materials

Methods
- Patients only come when they are ill
- Lack of time (wait time is too long for appointments)
- Cost issues (lack of insurance, self-pay costs are too high)
- Paperwork (too long, above 6th grade comprehension)
- Improper lab handling
- Location of office (not easy to find, not posted outside)

Materials

Equipment

Environment (facility)
2nd Survey

Which test do you now plan to order for microalbuminuria screening? (please select one answer)

- Urine microalbumin...
- Urine microalbumin...
- I am certain, I do not know...
- I do not order screening...
- Other (please specify)

Answered: 5  Skipped: 0

When will you now consider a diagnosis of microalbuminuria? (Please select one answer)

- One elevated urine...
- One urine albumin/crea...
- When a patient has at least...
- I do not ever consider a...
- Other (please specify)

Answered: 5  Skipped: 0
**Implementations**

<table>
<thead>
<tr>
<th>Improved scheduling template</th>
<th>Protocol allowing for order-entry by nurses</th>
<th>Diabetes template in the EHR</th>
<th>Patient hand-out</th>
<th>Clinic guideline with an algorithm</th>
</tr>
</thead>
</table>

- **Application**
- **Transport**
- **Internet**
- **Link**

![Image of protocol allowing for order-entry by nurses](image)

![Image of diabetes template in the EHR](image)

![Image of clinic guideline with an algorithm](image)
Limitations

- Small group size
- Lack of available/reliable data: Difficulty in obtaining data from IT due to inability to obtain data using CPT codes
- Limited prior research regarding studies to improve screening
- Measure used to collect the data: need for future researchers to revise the survey questions
- Self-reported Data from the group session
- Time
Discussion

- Educational intervention was effective at improving knowledge and attitudes.
- Problem solving session was effective at identifying barriers and facilitators which allowed for the creation of tools to assist with improved screening rates.
- Evaluation of the tools created to assist with improving rates could be completed by future DNP students.
Conclusion

Objectives Met

- Determine adherence to ADA guidelines
- Increase staff and provider knowledge
- Identify barriers and facilitators.
- Implement the American Diabetes Association guideline for

Additional work

- Evaluation of educational session
- Creation of tools
- Implementation of tools

Clinic protocol/policy
- Scheduling template
- Diabetes template
Implications for Clinical Practice

- Screening and treatment of microalbuminuria can improve lives

- Healthcare is complex and reform will require input from all stakeholders
Thank you for your guidance and support!

Dr. Shirley Dinkel  
Dr. Bobbe Mansfield  
Dr. Monica Scheibmeir  
Dr. Chris Johnson