Enhancing Care for Patients with Diabetes Mellitus

NURSING FOCUSED INTERVENTION

TAMULA BENNETT, RN  DOCTOR OF NURSING PRACTICE STUDENT
PROJECT CHAIR: DR. TRACY ARNOLD, ASSOCIATE DEAN
Acknowledgements

- Chair: Dr. Tracy Arnold, Associate Dean
- Practice Learning Environment: Dr. Eleanor Barone, Chief of Education and Informatics; IRB
- Practice Partner: Dr. Theone Fee, Associate Deputy of Patient Care Services
- Committee Member: Katrina Canady, MSN, Director of Nursing
Doctor of Nursing Practice Overview
## Comparison of DNP practice vs. PhD research

<table>
<thead>
<tr>
<th>DNP practice project</th>
<th>PhD dissertation project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systematic practice <strong>problem investigation</strong></td>
<td>Systematic search for an answer to a <strong>question</strong></td>
</tr>
<tr>
<td>Outcome as a practice problem solution, reproducible and <strong>transferrable</strong> new nursing knowledge</td>
<td>Outcome <strong>answers research question</strong>, reproducible and <strong>generalizable</strong> new nursing knowledge</td>
</tr>
<tr>
<td><strong>Limited</strong> to a place and time</td>
<td><strong>Not specific</strong> to place or time</td>
</tr>
<tr>
<td><strong>Theory and literature based</strong></td>
<td><strong>Theory and literature based</strong></td>
</tr>
<tr>
<td>Uses rigorous methods appropriate to <strong>scope of the problem</strong></td>
<td>Uses rigorous methodology, unbiased and can be reproduced</td>
</tr>
</tbody>
</table>

White and Zaccagnini, 2017
DNP Process Model

I: Problem
II: Needs Assessment
III: Goals, Objectives, Mission
IV: Theoretical Underpinnings
V: Work Planning
VI: Plan for Evaluation
VII: Implementation
VIII: Data Analysis
IX: Disseminate Results

Future Scholarship
Problem Recognition

P: Patients enrolled in VHA primary care at the WHCC with a diagnosis of Type 1 or Type 2 DM

I: Standardized algorithm for management of diabetic patients

C: Renal lab testing of patients within the 2-3 lowest performing teams; pre and post intervention

O: Renal testing BISL data dashboard

T: 1 to 2 months
Needs Assessment

- Literature confirms collaborative team effort, patient inclusion, and timely screening for microalbuminuria, will change overall diabetes care and patient outcomes.
- VHA PACT 2010 implementation with continuous labs for pilots and dissemination
- 2-3 lowest performing PACTs
- Team of nurse managers, PACT RNs, performance improvement team
- Gaining control of diabetic renal testing will decrease the cost of care associated with complications of nephropathy, chronic kidney disease, and end stage renal disease.
Screening for Microalbuminuria in Patients with Diabetes

**Why?**
- To identify patients with diabetic kidney disease (DKD).
- To distinguish DKD patients from diabetic patients with chronic kidney disease (CKD) from other causes. The latter require further investigation and possibly different clinical management.
- Because markers of kidney damage are required to detect early stages of CKD. Estimated glomerular filtration rate (eGFR) alone can only detect CKD stage 3 or worse.

**When?**
- Begin screening:
  - In type 1 diabetes – 5 years after diagnosis, then annually
  - In type 2 diabetes – at diagnosis, then annually

**Is it Microalbuminuria?**
Measure urinary albumin-creatinine ratio (ACR) in a spot urine sample.

<table>
<thead>
<tr>
<th>Category</th>
<th>Spot (mg/g creatinine)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal albuminuria</td>
<td>&lt;30</td>
</tr>
<tr>
<td>Microalbuminuria</td>
<td>30-300</td>
</tr>
<tr>
<td>Macroalbuminuria</td>
<td>&gt;300</td>
</tr>
</tbody>
</table>

**How?**

1. Test for microalbuminuria
   - No
   - + for albumin
     - Yes
     - Condition that may invalidate* urine albumin excretion
       - Yes
       - 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
         - Yes
         - 2 of 3 tests positive?
           - No
           - Yes
           - Microalbuminuria, begin treatment

* Exercise within 24 hours, infection, fever, congestive heart failure, marked hyperglycemia, pregnancy, marked hypertension, urinary tract infection, and hematuria.
GOALS
To educate PACT nurses on enhanced diabetic care within their scope.
To provide increase in standardized, timely, and more cost effective care for veteran patients with DM

OBJECTIVES
Using BISL data warehouse for WHCC PACTs, 2-3 lowest performing teams will be identified related to DM renal testing measure compliance to increase each team by 25% at the conclusion of February 2019 evaluation (current lowest FY18 rate at 44% compliance).

MISSION
This project is intended to serve as a foundation for standardized chronic disease management for veterans within VHA PACTs, ultimately aligning with current evidence-based practice guidelines, offering efficient tools for nurses via practice algorithms.
Theoretical Frameworks

Rogers' Diffusion of Innovation Theory

- Innovation
  - Analyze current HEDIS quality renal metric state for patients with DM
    - HEDIS and BISL data dashboards

- Communication Channels
  - Open communication with primary care nurses
    - PRISM sustainability model

- Time
  - Education, implementation, and evaluation over 30-60 day timeframe
    - GANTT and Work Breakdown Structure

- Social System
  - Evaluate data related to those involved in the innovation for impacts
    - Revisit HEDIS and BISL data dashboards
## Project Design

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse Executive team</td>
<td>PACT Nurses, PI, Data Analysts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Population</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusion</td>
<td>Exclusion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Timeline</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FY18 baseline (Oct 2018)</td>
<td>FY19 February 2019</td>
</tr>
</tbody>
</table>
Project Design

**Intervention**

| Nurse Protocols | National Kidney Foundation Algorithm |

**Implementation**

| 3 lowest performing teams | 30 days |

**Outcome Measures**

| EMR Audits | BISL |
Outcomes

Direct Nursing Impact

Team A

Team B

Team C

10/31/18 pre  02/28/19 post
Outcomes

FY19 DIABETIC RENAL TESTING

- Team A
- Team B
- Team C

<table>
<thead>
<tr>
<th>Month</th>
<th>Team A</th>
<th>Team B</th>
<th>Team C</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCT</td>
<td>74%</td>
<td>57%</td>
<td></td>
</tr>
<tr>
<td>NOV</td>
<td>69%</td>
<td>69%</td>
<td>71%</td>
</tr>
<tr>
<td>DEC</td>
<td>76%</td>
<td>67%</td>
<td>78%</td>
</tr>
<tr>
<td>JAN</td>
<td></td>
<td>80%</td>
<td>78%</td>
</tr>
<tr>
<td>FEB</td>
<td>88%</td>
<td>86%</td>
<td>69%</td>
</tr>
</tbody>
</table>
Future Dissemination