THE IMPACT OF A CNS-LED QUALITY IMPROVEMENT INITIATIVE ON DIABETES QUALITY METRICS IN PRIMARY CARE

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LEARNING OBJECTIVES

- Share role competencies of the Clinical Nurse Specialist that assist organizations in achieving the “Triple Aim” for specialty populations
- Describe the quality improvement initiative in primary care to enhance the experience of the patient living with diabetes
- Discuss the challenges of creating an interprofessional environment respectful of the contributions of all health disciplines engaged in achieving better patient outcomes

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No conflicts of interest to report
Clinical experts in the delivery of specialty care to patients with distinctive clinical needs

Developers of knowledge and skill sets of those delivering care to patients with those distinctive clinical needs

Orchestrators of organizational change that ensure a practice environment wherein patients receive evidence-based care at the right time every time
Standardizing Quality Diabetes Care in Primary Care
Clinical experts in the delivery of specialty care to patients with distinctive clinical needs

Developers of knowledge and skill sets of those delivering care to patients with those distinctive clinical needs

Orchestrators of organizational change that ensure a practice environment wherein patients receive evidence-based care at the right time every time
Reliably deliver best practices by design by embedding them into everyday patient flow and leveraging technology whenever possible

Measure outcomes, provide feedback & continuously evaluate the effectiveness of the introduced change

Evaluate resource utilization to ensure alignment with identified best practices
Seventy-two (72) metrics were identified from the guidelines by the CNS with forty-one (41) best practices eventually established as best practice by the team.
Diabetes Management-Ambulatory Use only PowerPlan
Diabetes-Comprehensive Visit Note
Diabetes Health Maintenance
PAID Screening Tool
Pioglitazone Alert
Diabetes Lab Result Alert
Diabetes Self-Management Patient/Family Education
Social History Exercise Only Smart Template
Orders-Outpatient Current Encounter Smart Template
Creating an Evidence-based Diabetes Program
National statistics
- Twenty-six million Americans have diabetes (CDC, 2014)
- Thirty percent of the diabetes population nationally is poorly controlled
- Diabetes costs $245 billion a year in the United States (ADA, 2013)

Virginia statistics
- Over 100,000 central Virginians have diabetes and could potentially seek care at VCU Health Systems (CDC, 2014)

Problem statement
- Thirty-six percent of the diabetes population served by VCU Health System’s primary care-resident physician clinic has poorly controlled diabetes, as evidenced by an A1c greater than 8%
### Population Characteristics

#### Electronic Health Record

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Group A Hgb A1c 6.5-7.9%</th>
<th>Group B Hgb A1c &gt;8%</th>
<th>National data (NHANES)</th>
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Key Informant Interviews

- What do you do to stay healthy having diabetes?
  - Rely on non-pharmacy interventions
  - Buy medications when affordable
  - Do not understand meaning of blood glucose readings

- Who supports your efforts to stay healthy?
  - Family and friends

- What are your challenges?
  - Significant financial barriers

- What can healthcare professionals do to help you achieve better health?
  - Provide information and professional support
Fostering Patient Wisdom

- Team of knowledgeable & skilled healthcare professionals
- Blending of education & disease management
- Self-management focused on nutrition, physical activity and medication
- Capitalize on unique motivations to change self-care practices
Control group

- Provider offers program to patients meeting criteria. Patient declines but agrees to complete PDSMS. Obtain informed consent.
- Scheduled visit where PDSMS is completed.
- Week 2-4: Mail patient education materials.

Intervention group

- Provider offers program to patients meeting criteria who agree to participate. Obtain informed consent & serum fructosamine.
- Visit #1: All diabetes assessments completed. Education & coaching begins. Diabetes health maintenance addressed.
- Visit #2: Education & coaching related to identified gaps occurs.
- Visit #3: Education & coaching related to identified gaps occurs.
- Visit #4: Diabetes assessment and additional education completed. PDSMS repeated. Serum fructosamine collected.
- Patient returns to care of primary care resident-physician.
- Scheduled visit where PDSMS is completed.
- Week 6-8: Mail patient education materials.
- Week 6-8: Mail patient education materials.
## Research Results

### Control group

<table>
<thead>
<tr>
<th>Patient</th>
<th>A1c-pre</th>
<th>A1c-post</th>
<th>PDSMS-pre</th>
<th>PDSMS-post</th>
<th>% PA-pre</th>
<th>% PA-post</th>
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### Intervention group

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## IMPACT

<table>
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<tr>
<th>Endpoints</th>
<th>Implementation (n=9)</th>
<th>Control (n=11)</th>
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<tr>
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<td>Pre</td>
<td>Post</td>
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<tr>
<td>A1c</td>
<td>9.2 ± 1.1</td>
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<tr>
<td>PDSMS</td>
<td>22.0 ± 4.8</td>
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<td>% Adherence</td>
<td>60.0 ± 30.0</td>
<td>95.6 ± 8.8***</td>
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*p < 0.01 Within group significance

**p < 0.05 Within group significance

***p < 0.01 Between group significance
CLINICAL NURSE SPECIALIST

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- Orchestrators of organizational change that ensure a practice environment wherein patients receive evidence-based care at the right time every time
DIABETES SELF-MANAGEMENT TRAINING

- Identify primary care nurses interested in becoming certified diabetes educators
- Teach diabetes self-care content, and role model delivery of DSMT
- Provide opportunity to teach patients living with diabetes
PURPOSE:
To ensure patients living with diabetes (PWD) are monitored according to national clinical practice recommendations for appropriate examinations, testing and interventions. The standard of care will facilitate therapeutic interventions without delaying patient care.

WHO CAN PERFORM:
A registered nurse (RN) who has completed competency requirements related to scheduling appointments, initiating health care services, performing diabetic foot examinations and completing the PAID survey.

PROCEDURE:
The standard of care will be activated upon communication with patient in-person, by phone conversation or through patient portal.

The RN will initiate standard of care for assigned patient cohort in the diabetes registry:
1. Examine electronic health record (EHR) for:
   a. Care changes noted in latest Primary Care or Family Medicine clinic visit note
   b. Diabetes health maintenance needs
   c. Documentation of immunizations for influenza, pneumonia and Hepatitis B
2. Schedule for Annual diabetic ophthalmologic examination (if provider within VCU Health System)
3. Initiate referral to:
   a. Behavioral Health for smoking cessation for those interested
   b. High-risk obstetrics for those interested in pregnancy
4. Propose American Diabetes Association recommended laboratory testing including:
   a. Bi-annual hemoglobin A1c if less than 7% (serum or POCT), or every 3 months if greater than 7% or individualized patient goal
   b. Annual comprehensive metabolic profile
   c. Annual lipid profile
   d. Annual urinary microalbumin unless CKD Stage 3 or greater
5. Send communication to provider requesting future order for appropriate Hepatitis B vaccine series
6. Propose refills for diabetes, cholesterol and hypertension medications, as well as diabetes testing supplies to provider
7. Perform diabetic foot examination annually
8. Complete Problem Areas in Diabetes (PAID) survey annually
9. Schedule appointments for Interprofessional Diabetes Team and/or Clinical Diabetes Educator visits as indicated by the nursing assessment (available to patients served by the providers in ACC2, Family Medicine and Hayes Willis clinics) and willingness of the patient to address
10. Summarize planned health care services in a letter to patient

DOCUMENTATION:
Documentation of completed diabetes health maintenance will be noted in the Health Maintenance section of Cerner, the foot exam will be noted in the physical examination section of the Comprehensive Diabetes Visit note, and the PAID survey within the Mental Health Screening section of iView. Summary of diabetes health maintenance recommendations and diabetes-related appointments will be communicated to the patient in writing or via patient portal.
POPULATION RN ROLE PILOT

- Elicit patient interest in the diabetes program
- Address diabetes-specific quality metrics
- Schedule diabetes visits & DSMT
- Deliver DSMT
Changing the Clinical Practice Environment
Clinical Nurse Specialist

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INSTITUTE FOR HEALTHCARE IMPROVEMENT

Quality

Cost

Value
PDSA CYCLES
Greet patient and introduce self

Obtain height and weight

Position patient in chair

Begin screening patient

Note diabetes-related quality metrics due per health maintenance tool?

Complete prompting sheet & place in orange sleeve

Give patient education handout entitled “Diabetes Care Schedule”

Complete vital signs

Complete POC blood glucose testing

Room patient

END
CMA/LPN determines need for eye exam from Health Maintenance tool, completes reminder sheet & gives patient appropriate educational handout.

Resident-physician electronically refers for Ophthalmology appointment using tip sheet.

PSR staff schedules appointment to coincide with other primary care appointments.
Scheduling Annual Diabetic Eye Exam #3 series

Exam needed  Exam scheduled
CMA/LPN determines need for diabetes-related metrics, completes reminder sheet and gives patient appropriate educational handout.

Resident-physician uses Diabetes Power Order set to order all needed diabetes maintenance.

PSR staff continues usual process of completing orders.
EDUCATIONAL SYMPOSIUM
NATIONAL DIABETES MONTH

“Staying Healthy with Diabetes”

**Yearly Exams**
- Weight
- Blood pressure
- Eye exam
- Foot exam

**Yearly Lab Tests**
- A1C (twice a year)
- Cholesterol panel
- Kidney & liver blood test
- Urine test for kidney

**Vaccinations**
- Flu
- Pneumonia
- Hepatitis

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**National Diabetes Month Challenge**

Shannon G. is a 68 y.o. Caucasian female with Type 2 diabetes, an A1c of 6.8% and normal renal function. She is on oral agents to control her blood sugar and shares that she wants to stay healthy. You review her diabetes health maintenance metrics and prepare to do a foot exam.

Components of a diabetic foot exam include:

1. Inspection
2. Palpation of dorsalis pedis and posterior tibial pulses
3. Presence/absence of patellar & Achilles reflexes
4. Determination of proprioception, vibration and monofilament sensation

The most efficient option for capturing the diabetic foot exam in Corner to satisfy national diabetes health maintenance quality metrics is:

- Document within your personalized progress note
- Satisfy manually via the Health Maintenance tool
- Automatically satisfy by using Physical Examination structure within standard visit note

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Patient

Resident-physicians
CNSs FORGE CHANGE!

Questions?