Diabetic Foot Exam Screening Rates in the ECU Adult and Pediatric Health Care Clinic

WHY THIS PROJECT?

The American Diabetes Association states that diabetic foot exams screening using monofilaments should be conducted annually for all patients with diabetes1. Yet, it is estimated that less than 12-20% of outpatient providers conduct regular diabetic foot exams due to perceived office visit time restraints2. Diabetic foot exam screening rates are now considered indicators of clinical adherence to best practice healthcare delivery in several outpatient primary care facilities including at East Carolina University’s (ECU) Adult and Pediatric Health Care Clinic (APHC).

Before this quality improvement (QI) project, monthly diabetic foot screening exam rates for eligible patients were around 60% at APHC. Ideally, monthly diabetic screening rates for eligible patients would be at least 75%.

AIM STATEMENTS

Global Aim: To reduce undiagnosed pedal neuropathy in patients with diabetes by increasing monthly counts of diabetic foot exams.

Specific Aim: To increase the amount of monthly diabetic foot exams conducted on diabetic adult patients by healthcare providers using monofilaments at APHC from 63% to 75% by December 1, 2018.

PROJECT DESIGN

Location: ECU Adult and Pediatric Health Care Clinic (APHC)

Duration: July – December 2018

Strategy: Conduct 3 PDSA cycles

Personnel Involved: medical student, attending physician mentor, clinic nurse manager, Internal Medicine-Pediatrics (Med-Peds) residents, medical assistants, other attending physician faculty at clinic, LINC Scholars Program advisors and faculty

Outcome Measures: monthly average diabetic foot exam screening documentation percentages in EPIC

Potential Barriers: duration of project, additional time and work constraint on clinic personnel, project topic may not be considered interest-provoking or existing

PLAN, DO, STUDY, ACT (PDSA) CYCLES

CAN YOU FIND THE MONOFILAMENT?

HOW ABOUT NOW?

PDISA 1: Ensuring monofilaments are available in all clinical exam rooms at APHC.

Prior to PDSA, 46% of rooms had a monofilament that were various styles and difficult to identify. After PDISA 1, 100% of rooms had labeled “DARCO” foot-shaped monofilaments that were checked for availability weekly by nursing and medical assistant staff.

PDISA 2: Educate Med-Peds residents about indications, technique, and documentation for diabetic foot exam.

During a noon-conference, 10 out of 24 Med-Peds residents were instructed using a PowerPoint presentation (left image) about the indications, technique, and EPIC documentation for outpatient diabetic foot exams. The presentation was also emailed to the chief residents for small distribution to all Med-Peds residents.

PDISA 3: Displaying one-page Diabetic Foot Exam EPIC documentation instructions in the APHC.

Laminated diabetic foot exam documentation instruction sheets (right image) where displayed on checkboards and in free-standing display cases in the APHC resident computer workroom.

RESULTS

A run chart depicting the APHC’s average diabetic monthly foot exam documentation percentiles for April – December 2018.

Results Interpretation:

• Monthly average screening rates at APHC has increased since PDISA cycle 1 and 2; but has not yet achieved the goal of 75%.

• The trend in monthly average diabetic foot exams may be slow to observe numerically as diabetic patients usually return to clinic in 3 month intervals for routine A1c laboratory testing. Thus, there may be at least three months before a patient who is due for an annual diabetic foot exam visits the clinic – potentially delaying implementation of skills and knowledge gained through our PDISA cycles and quality improvement project.

LESSONS LEARNED

Increasing monthly diabetic foot exam screening rates in an outpatient healthcare clinic requires a multifaceted strategy of ensuring appropriate screening tools, education, and visual reminders are available to clinic staff. As the project cycle 1 and 2 of this QI project utilized both resident and attending physicians, it was important to create time-sensitive yet efficacious educational materials to assist with achieving the project’s goal. Additionally, the help from nursing clinical staff was significant in ensuring the monofilaments were adequately stocked in the appropriate exam rooms.

Clinic visit time constraints, chief complaint of patient, and resident familiarity with diabetic foot exam screening protocols may have also impacted the overall monthly diabetic foot exam screening rates. Residents of all years were providing care to diabetic patients in the clinic; experience in the workplace may have also impacted screening rates. The physician and nursing staff’s perceived importance of and barriers to conducting diabetic foot exams were not captured objectively during this QI project, but would be a process measurement to consider in similar projects. In future initiatives, it may also be advantageous to assess individual resident and faculty monthly diabetic foot exam screening rates and have focused problem solving and/or educational sessions for those routinely reporting below monthly goal percentiles.

NEXT STEPS

• Monthly average diabetic foot exam screening percentiles will continue to be measured at APHC for the foreseeable future.

• Labeled foot-shaped monofilaments will remain in each clinical exam room, and be resupplied as needed (PDISA 1).

• Subsequent cohorts of Med-Peds residents will need to be taught about diabetic foot exams using the presentation created in PDISA 2.

• Continue to use the displayed documentation instruction sheets (PDISA 3) for the next few months and assess its impact over a longer period of time.

• Med-Peds residents will be reminded of the goals of this QI project in a noon-conference presentation in March 2019.

• With these continued project endeavors, we hope to achieve the goal of 75% clinical average diabetic foot exam documentations by December 2019.

ACKNOWLEDGEMENTS

This project was made possible by the guidance, mentorship, and teamwork of Dr. Mary Catherine Turner, Erica Turner, and the Leaders in Innovative Care Scholars Program faculty – Dr. Timothy Reeder and Jenna Garris. It has been an absolute joy to learn about and implement a quality improvement project at APHC. I am thankful for all of the individuals who have made this project and incredible learning opportunity. Lastly, I would like to acknowledge all of the medical assistant, nursing, residents, and attending physicians who are implementing the resources and patient care provided by this initiative. This endeavor has been an honor.

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1. Miller, J., Carter, E., Shih, J. "How to do a 3
