

Improving Annual Diabetic Foot Exams

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Background

- Foot ulcers and amputations are common consequences of diabetic neuropathy and peripheral arterial disease (PAD) and represent major causes of morbidity and mortality in people with diabetes. Early recognition and treatment of patients with diabetes at risk for these conditions can delay or prevent adverse outcomes (1).
- The American Diabetes Association recommends a comprehensive foot evaluation annually to identify risk factors (1). However, the percentage of completed annual foot exams by health professionals has been suboptimal in the USA. (2).
- Our objective was to implement quality improvement interventions to improve completion rates for diabetic foot exams.

Aim Statement

- To improve the monthly percentage of completed diabetic foot exams (DFEs) for ECU Family Medicine Center's Pirate Module patients with diabetes to $\geq 70.00\%$ by December 2020.

Project Design/Strategy

- **Setting:** ECU Family Medicine Center Pirate Module
- **Timeline:** December 2019 to December 2020
- **Team:** Authors (lead), attending physicians, residents, nurses, medical office assistants (MOA) & health coach nurse on the Pirate module, and the Quality Improvement Project Manager of ECU Family Medicine
- **Methods:**
 - Literature review of prior initiatives
 - Plan-Do-Study-Act (PDSA) format
 - Data source: Electronic Health Record (Epic) dashboard
 - Monthly project meetings to plan and evaluate PDSA cycles, create process maps, and receive staff feedback.
 - A baseline completion rate of 65.80% was established using data from previous 3-months (September 2019 – November 2019).
- **PDSA cycles:**
 - PDSA 1: (Dec 2019 – Feb 2020), An exam room visual cue consisting of "red feet" implemented to serve as a provider reminder. (Figure 2)
 - PDSA 2: (Mar 2020), A list of patients with diabetes due for DFEs was given to the Medical Assistants for easier identification
 - PDSA 3: (Nov 2020), Educated providers on how to document DFE in Epic flowsheet. A paper template of the DFE documentation was also attached to the patient's face sheet and given to the provider for documentation. If needed, MOA would then enter the data in the patient's Epic flowsheet.

Quality Tools:

Figure 1: C/E diagram

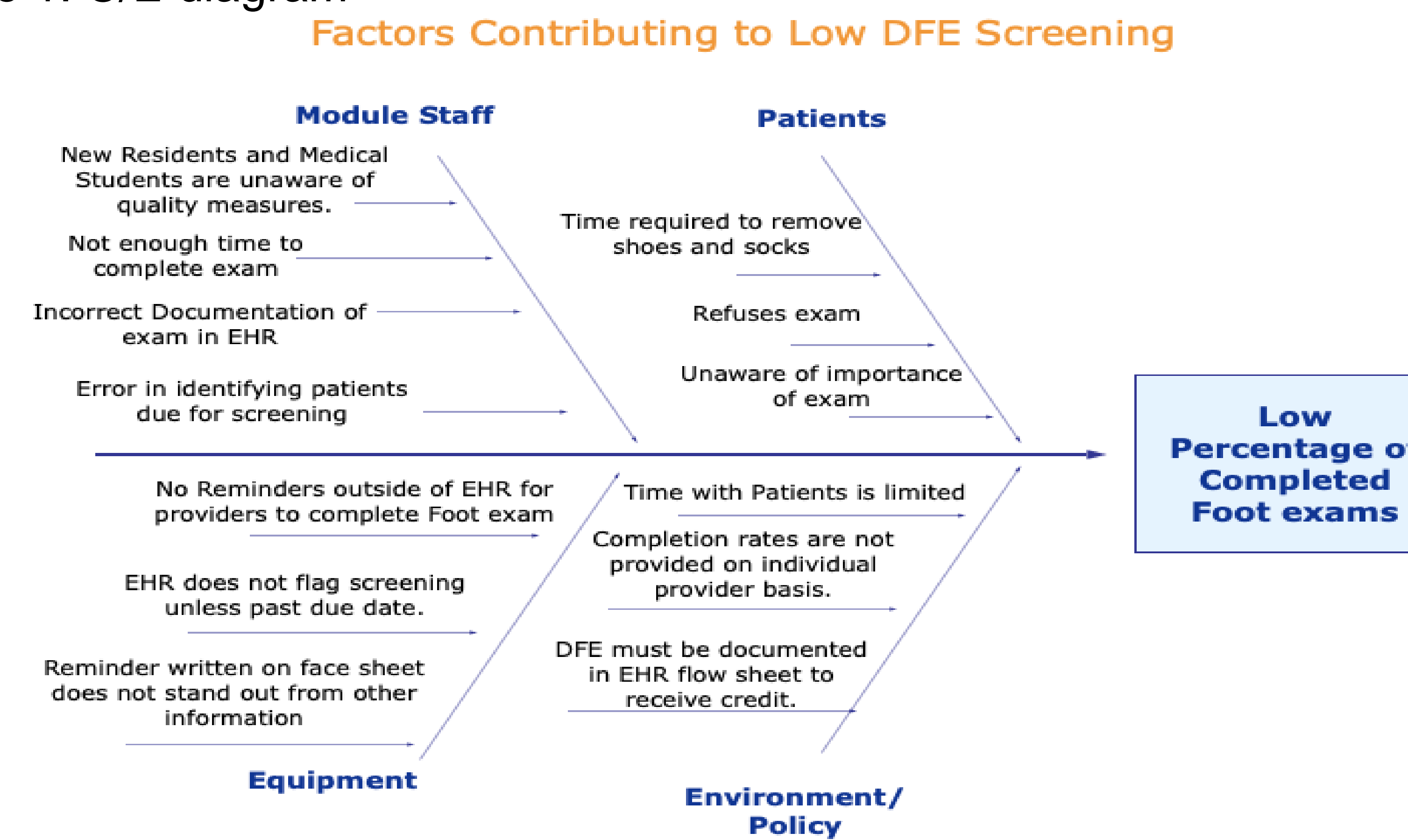
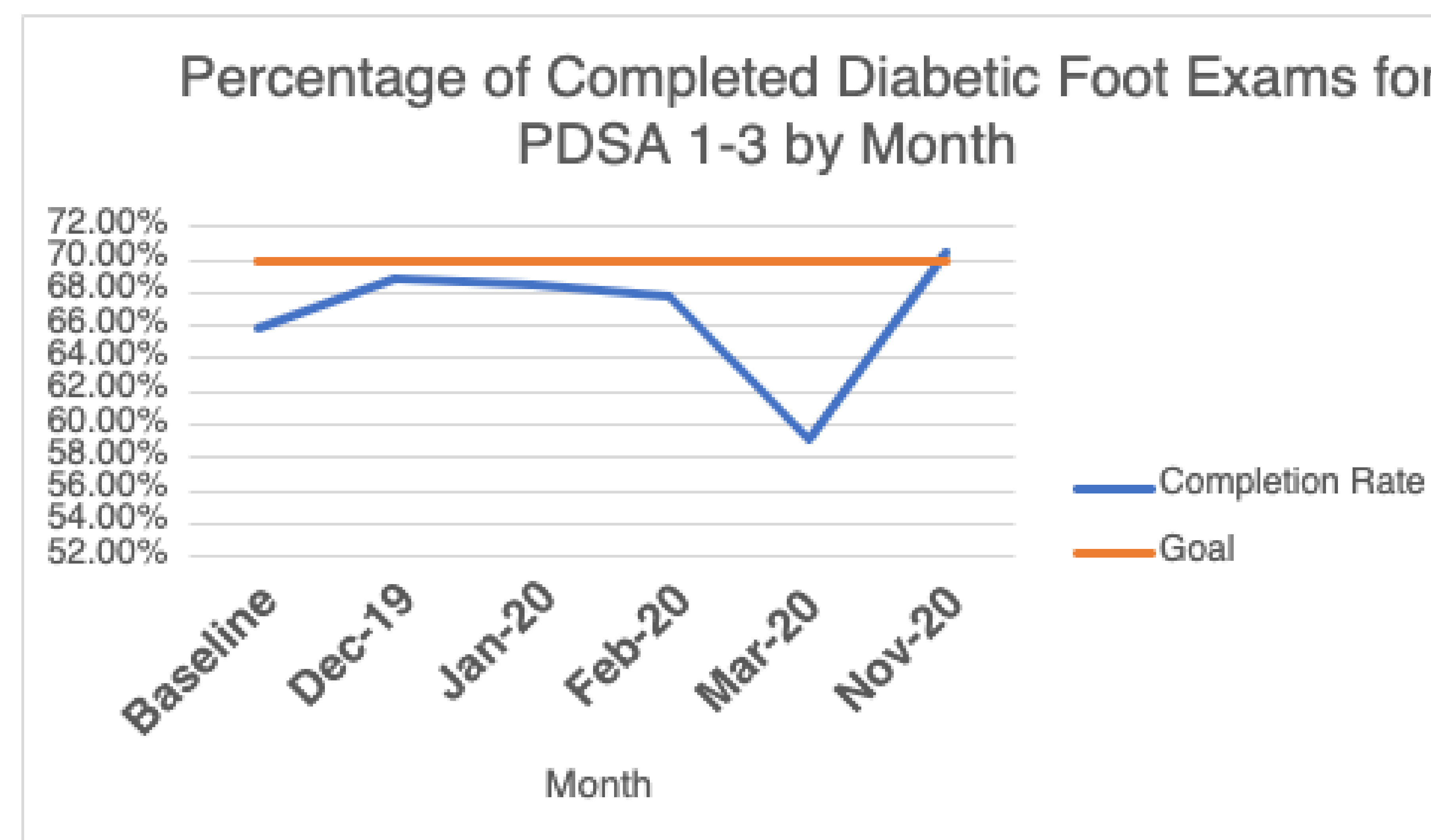


Figure 2: PDSA 1



Run Chart of PDSA Cycle Results by Month



Results/Outcomes

PDSA Cycle	Comp	Incom	Total Seen	% Complete
PDSA Cycle 1				
Dec-19	51	23	74	68.92%
Jan-20	50	23	73	68.49%
Feb-20	97	47	143	67.83%
PDSA Cycle 2				
Mar-20	29	20	49	59.18%
PDSA Cycle 3				
Nov-20	57	24	81	70.37%

Lesson Learned

- Exam room visual cues have been shown to have a direct effect on improving the percentage of completed DFEs. We believe our project further demonstrates their success and is an inexpensive solution that can be adapted to the outpatient setting.
- COVID-19 had a direct impact on our project which severely limited our ability to see patients in person. Leading to a decrease in our completion percentage for our 2nd PDSA Cycle.
- After PDSA Cycle 2, we identified improper documentation in our EHR to be one of the factors affecting our ability to increase the percentage of diabetic foot exams. Exam findings were not documented in the flowsheet but were documented in the notes. While educating providers on proper documentation helped, the paper template was often not utilized by staff or providers.

Next Steps

- Incorporate successful measures into the routine workflow for DFE completion and documentation.
- Reassess need for the paper template with providers and staff as it may help reduce documentation burden for providers.
- Continue to discuss the DFE during monthly module meetings.

References

- 1) American Diabetes Association Standards of Care 2021
- 2) Centers for Disease Control and Prevention. *Diabetes Report Card 2019*. Atlanta, GA: Centers for Disease Control and Prevention, US Dept of Health and Human Services; 2020.

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