Improving Documentation of Comprehensive Foot Examinations in a Rural Endocrinology Clinic: A Quality Improvement Initiative

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BACKGROUND

- Diabetes-related lower-extremity amputations are increasing in the United States, with hospitalizations doubling from 2009 to 2019,[1] highlighting a critical need for improved preventive care and early detection.
- Most diabetes-related amputations are preventable, yet many are preceded by undetected neuropathy, peripheral artery disease, or foot ulcers—conditions that can be identified through routine foot examinations.[2]
- Foot exam documentation is essential for risk stratification and continuity of care, enabling timely referrals, monitoring of disease progression, and coordination across multidisciplinary teams.[3]
- Despite ADA guideline recommendations and inclusion in quality metrics (e.g., HEDIS, value-based care), foot exams are frequently underperformed and under-documented, representing a key gap in diabetes care and an opportunity for quality improvement.[2,3]
  - 28-73% of people with diabetes do not receive comprehensive foot exams,[4,5] and 84-100% of foot exams are not documented in EHRs.[6,7]
- We aimed to increase documentation of foot exams for adults with type 2 diabetes through staff education, visual reminders, and workflow redesign.

METHODS

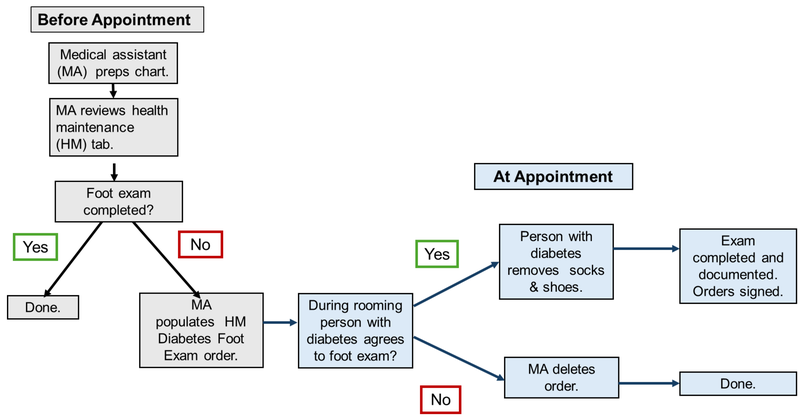
- **Framework**: Employed the Model for Improvement as the guiding quality improvement (QI) framework.
- **Setting**: Diabetes and Endocrinology clinic located in rural Ohio.
- **Intervention Approach**:
  - Applied Plan-Do-Study-Act cycles for iterative process improvement.
  - On October 16, 2024, all clinic staff received education on foot exam documentation.
  - On October 23, 2024, visual prompts were placed in exam rooms.
  - On November 12, 2024, we ran a small-scale test of a medical assistant workflow to pre-populate the health maintenance order (see Figure 1).
- **Data Collection**: Extracted electronic health record (EHR) data from adults with type 2 diabetes at baseline and during intervention period.
- **Measurement and Analysis**:
  - Created control charts to track outcomes over time.
  - Defined the baseline period as August 2022 – September 2024.
  - Defined the intervention period as October 2024 – October 2025.

METHODS

Table 1: Demographic Breakdown of People with Diabetes at the Rural Diabetes and Endocrinology Clinic

Variable	Number of Encounters	Percent of Encounters	Number of Individuals	Percent of Individuals
Race/Ethnicity				
Hispanic/Latino	93	0.9	18	0.9
Non-Hispanic Black	201	1.9	43	2.2
Non-Hispanic White	10,262	95.7	1,839	95.4
Other	170	1.6	28	1.5
Age (years)				
18-34	649	5.8	127	6.4
35-64	5,625	50.7	985	49.2
65+	4,822	43.5	888	44.4
Insurer				
Medicaid	1,959	17.7	362	18.1
Medicare	5,364	48.3	1,001	50.0
Other	934	8.4	414	20.7
Private/Commercial	2,839	25.6	223	11.2

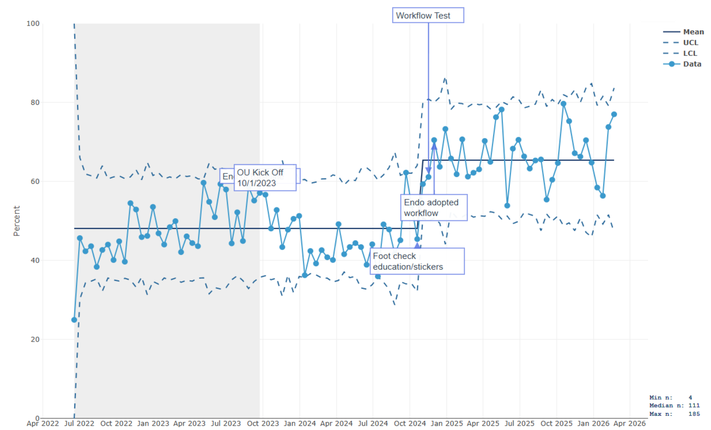
Figure 1: Workflow to Pre-populate the Health Maintenance Order to Identify People who are Due for Foot Exam



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RESULTS

Figure 2: Control Chart Showing Upward Shift in the Percentage of People with Type 2 Diabetes with a Document Foot Examination



SUMMARY & CONCLUSIONS

- This multicomponent, low-cost quality improvement project improved foot exam documentation rates from a baseline mean of 48% to 65%.
- Staff education and visual prompts were associated with an immediate increase in foot exam documentation rates, while subsequent workflow redesign supported sustainment. These findings highlight the importance of addressing both knowledge and system-level barriers.
- Ongoing gaps suggest opportunities for EHR-based automation, pre-visit planning, and patient-generated health data (e.g., pre-visit foot pictures).
- Future work should assess the impact on clinical outcomes, including reductions in foot ulcers, infections, and lower-extremity amputations.

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