

Background

- Problem Statement:** The frequency of hemoglobin A1c (A1c) testing in primary care clinics is a well-established metric to improve glycemic control and equity of care for patients with diabetes.¹⁻³ At Jefferson Internal Medicine Associates (JIMA), 77% of patients with a resident physician primary care provider (PCP) are up to date with annual A1c testing compared to 85% of patients with an attending physician PCP.
- Project AIM:** To increase the percentage of annual A1c testing among patients who are diagnosed with diabetes and have a resident primary care provider to meet the department's quarter goal of 83% (6% increase).

Baseline Metrics

Figure 1: Comparison of Diabetes Measures between Resident and Attending Physicians

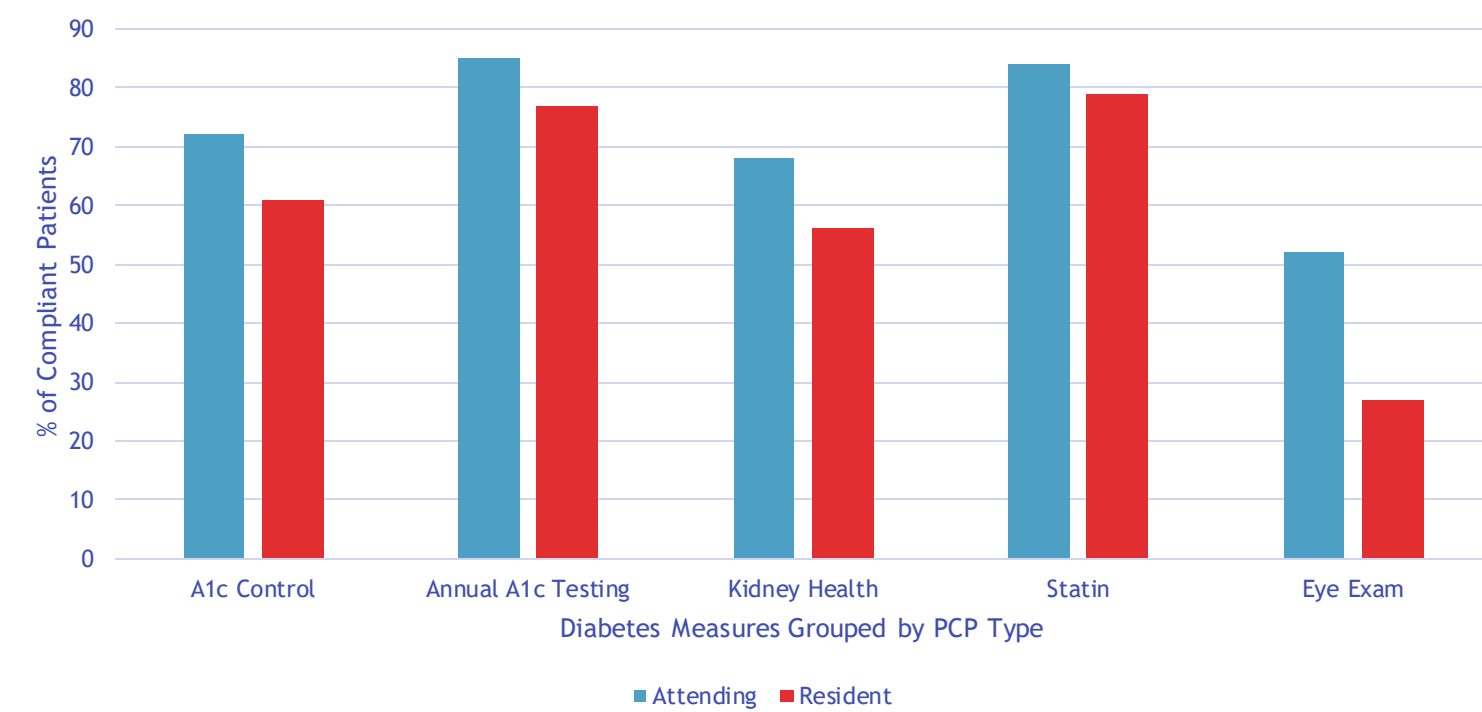


Table 1: Patient Characteristics

Characteristics	Total (n = 60)
Sex	
Male (%)	31 (51.67)
Female (%)	29 (48.33)
Age (years)	
Mean (SD)	51.95 (13.94)
Preferred Lab	
Jefferson (%)	12 (20.00)
LabCorp (%)	9 (15.00)
Quest (%)	2 (3.33)
Other (%)	1 (1.67)
Not on file (%)	36 (60.00)
Mean Hemoglobin A1c (SD)	8.07 (2.34)
MyChart Status	
Active (%)	45 (75.00)
Not active (%)	15 (25.00)

Interventions

- Performed a chart review and called patients who were identified to not have an annual A1c on file
 - Most patients identified had labs ordered to Quest or LabCorp
 - Most patients stated that they were unaware they had labs ordered or had since forgotten
 - Some patients did not have a working phone number or had documentation about providers attempting to contact them in the past

Figure 2: Root Cause Analysis

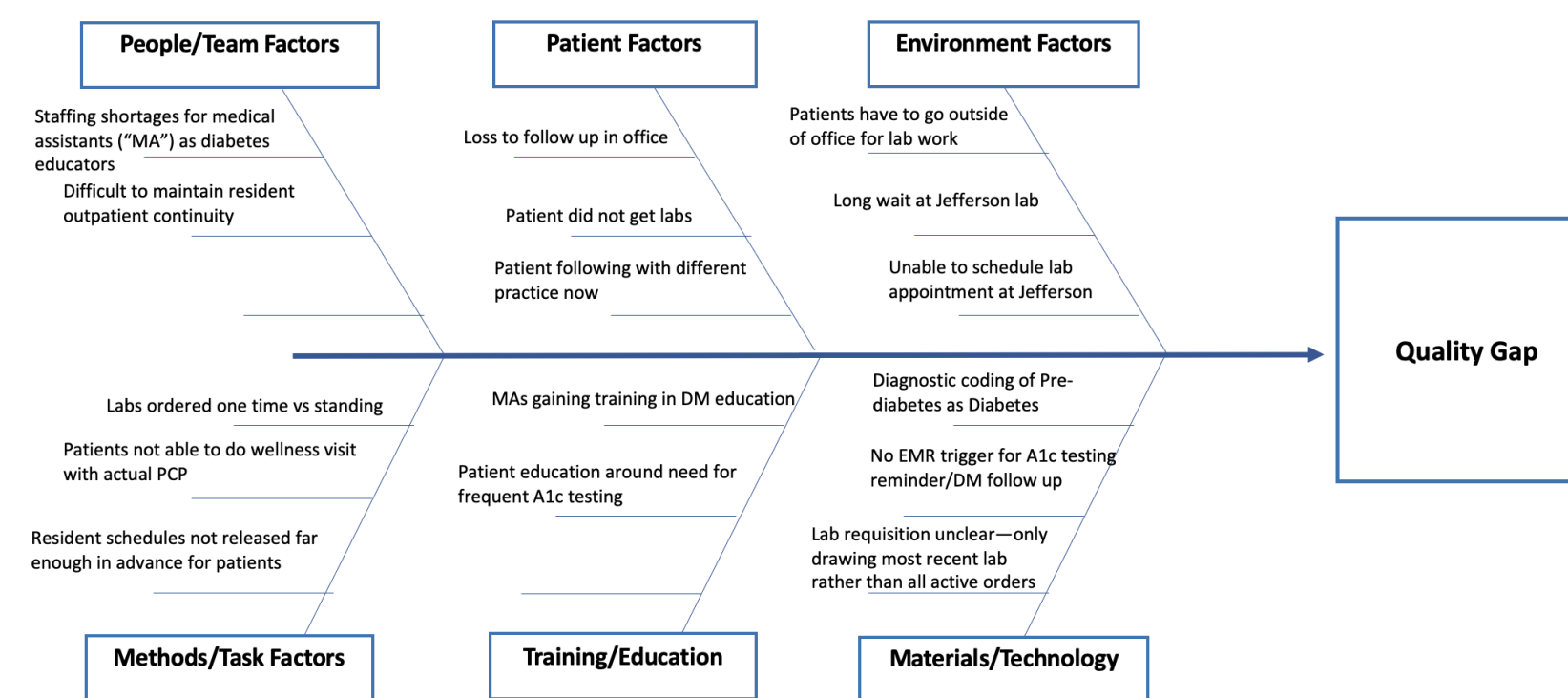
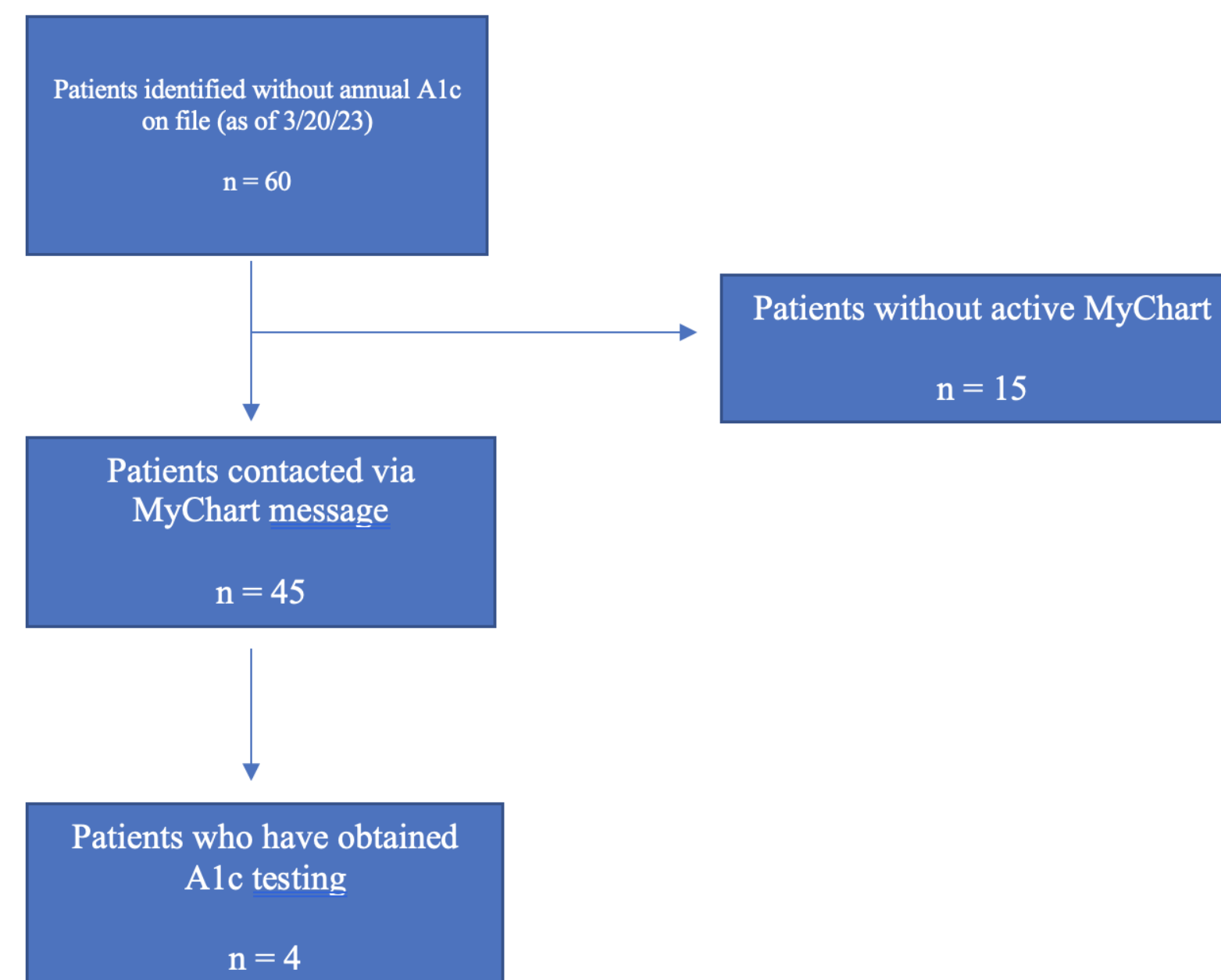


Figure 3: Workflow for Pilot Intervention (3/20/23 – 4/23/23)



Discussion, Challenges, and Lessons Learned

- Of the 45 patients contacted via MyChart, 4 patients obtained A1c testing (8.89%)
- Overall annual A1c testing improved 2% (79% from 77%)
- Aside from manually going through each patient's chart, it was difficult to ascertain who had read the MyChart messages that were sent – those who have not read them may benefit from a phone call instead

Future Directions

- Automation of MyChart messages to send reminders for patients 1 week after their in-office visit and monthly thereafter
- Sending letters for patients who do not have MyChart active or having staff call as a reminder
- Improving annual A1c testing as a step to obtain more frequent testing as per American Diabetes Association guidelines (every 3-6 months) for better glycemic control (“A1c control”) metric

Linkage to Healthcare Disparities

- Data from a large national survey suggest that racial differences in A1c continue into older age and thus increase risk of comorbidity and mortality due to complications of poorly controlled diabetes.⁴
- By identifying barriers to yearly A1c testing and creating a reminder system, we were able to improve annual A1c testing
 - With a reminder system that could be replicated for the masses, the interval reminder may lead to testing more frequently than an annual basis
 - There are some data to suggest more frequent A1c checks were associated with a significant reduction in A1c⁵

References:
¹ American Diabetes Association; 6. Glycemic Targets: Standards of Medical Care in Diabetes—2021. *Diabetes Care* 1 January 2021;44 (Supplement_1):S73–S84. <https://doi.org/10.2337/102337>.
² Roy E, Furman, Timothy S, Harlan, Lesley LeBlanc, Elise C, Furman, Greg Liptak, Vivian A, Fonseca; Diabetes INSIDE: Improving Population HbA1c Testing and Targets in Primary Care With a Quality Initiative. *Diabetes Care* 1 February 2020;43 (2): 329–336. <https://doi.org/10.2337/102337>.
³ Terens N, Vecchi S, Barzaghi AM, Agabini N, Mitrova Z, Amato L, Davidi M. Quality improvement strategies at primary care level to reduce inequalities in diabetes care: an equity-oriented systematic review. *BMC Endocr Disord*. 2018;18(1):131.
⁴ Small S, BL, Rittchwood TD, Bishu KG, Egede LE. Racial/Ethnic Differences in Glycemic Control in Older Adults with Type 2 Diabetes: United States 2003-2014. *Int J Environ Res Public Health*. 2020;17(3):950. Published 2020 Feb 4. doi:10.3390/ijerph17030950
⁵ Millan-Ferro A, Garcia-Dolagay G, Gautam S, Caballero AE, Mitri J. Impact of Monthly A1c Values Obtained at Home on Glycemic Control in Patients With Type 2 Diabetes: A Randomized Clinical Trial. *Clin Diabetes*. 2020;38(3):209–219. doi:10.2337/1419-0086