

Improving Blood Pressure Control in Patients with Diabetes at Madsen Family Practice

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Background

Diabetes mellitus is a growing problem across the United States with over 34 million Americans having diabetes. Nearly 1 in 10 Americans have diabetes and 1 in 3 have pre-diabetes according to 2020 CDC reports. Additional cardiovascular risk factors such as hypertension are important to control to reduce morbidity and mortality from diabetes. The goal of this clinic-led quality improvement project was to improve elevated blood pressure follow up and increase the number of diabetic patients with blood pressure less than 140/90mm Hg.

Methods

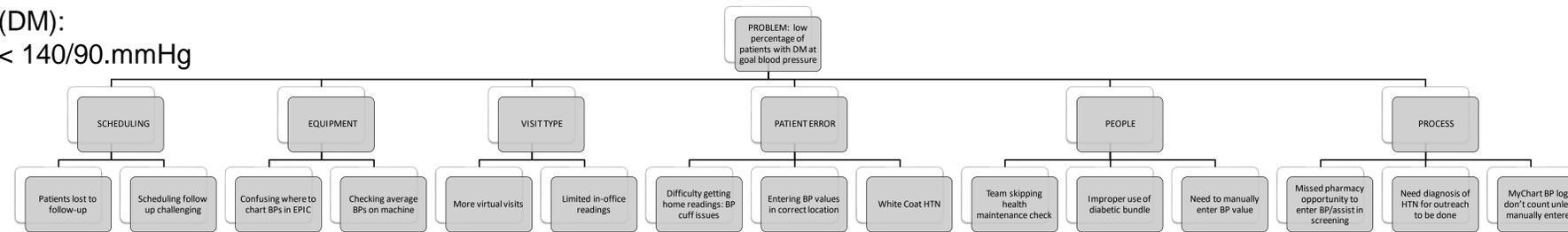
Setting: Single-site family medicine residency clinic.

Participants: All primary care patients at clinic with diabetes.

Goal blood pressure (BP) defined for patients with diabetes mellitus (DM):
 < 140/90.mmHg

Design:

- The team decided on a goal to increase percentage of patients with Type 2 diabetes mellitus with BP < 140/90 mmHg from 69.5% to 74.5% from onset of implementation from November 1st, 2021, until March 1st, 2022.
- A fishbone diagram was generated, as below, and multiple rounds of Plan-Do-Study-Act cycles were used. Due to multiple areas for improvement, the team decided on implementation of an After Visit Summary dot phrase to educate patients on the importance of blood pressure control and to remind providers on BP management goals, specifically stating for follow up evaluation to be done within one month
- The dot phrase included patient friendly language to standardize the follow-up time for hypertensive diabetic patients to one month and to remind providers to refer to clinical pharmacy when patients remain above goal despite two or more medications.
- Flyers at the clinic and emails advertised the new EMR dot phrase which was to be used by all providers and medical assistants.
- The percentage of phrase use and percentage of patients with diabetes at goal blood pressure less than 140/90 mmHg was analyzed monthly by calculating missed and captured opportunities.



Discussion

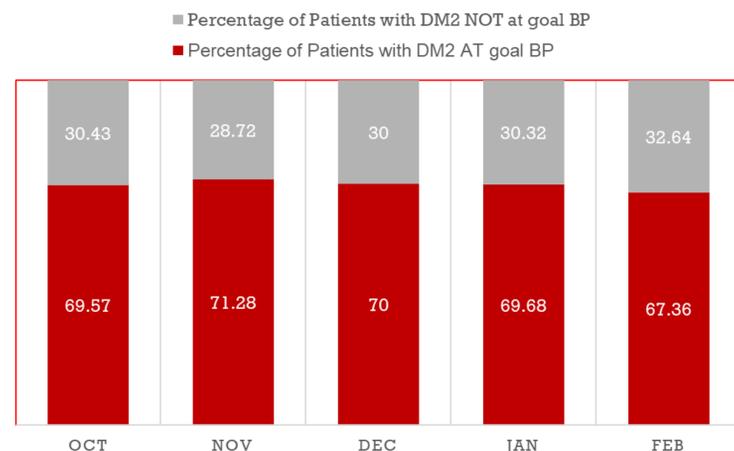
Our results show that our clinic-led intervention did not increase the percentage of diabetic patients with a BP of 140/90 to our goal of 74.5%. We experienced a slight increase in study population at goal blood pressure early on. However, that did not persist to the end of the project.

LIMITATIONS:

- There was a small number of patients who met criteria that were seen in clinic during our study time frame.
- We had a short duration of data collection at only 4 months.
- Our project did not consider home recorded blood pressure readings during virtual visits.
- An anonymous survey conducted after project completion revealed 42.9% of respondents did not use the phrase, 23.1% forgot about it and 7.78% did not know there was one.
- Those who responded to the survey and indicated they chose not to use the phrase was because they didn't find it useful or because they were unsure whose responsibility it was to put in the dot phrase, M.A. or Physician/APC.

Results

PERCENTAGE OF PATIENTS WITH DM AT GOAL BP < 140/90 AND THOSE NOT AT GOAL:



After generating a new AVS electronic medical record dot-phrase (.HTNDMAVS) for providers to use, we had limited use of the dot phrase per possible captured visit and no significant change in number of patients with diabetes with a recorded blood pressure of < 140/90 despite implementation of an AVS dot-phrase.

Out of the total clinic visits for patients with a type 2 diabetes visit diagnosis who had uncontrolled hypertension, the number of times the dot-phrase was used include:

NOV: 0/5 DEC: 1/16 JAN: 1/13 FEB: 0/4

TOTAL USAGE OF AVS DOTPHRASE: 2 times

	OCT	NOV	DEC	JAN	FEB
.HTNDMAVS USAGE	0%	0%	6%	8%	0%

Conclusions

The overall percentage of patients with diabetes at goal blood pressure did not improve to our goal with use of the electronic medical record documentation phrase. This was likely due to the above limitations. Future direction could include a longer period of data collection, including home blood pressure readings, having more patient outreach, or having focus on other diabetes care quality metrics .

References and Acknowledgements

- <https://www.cdc.gov/diabetes/data/statistics-report/index.html>
- Support for this project was provided by the Gross Scholarship Fund.