

## Abstract

Presentation title: Follow-up practice trends in pharmacy ambulatory care visits for type II diabetes mellitus patients

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### Background Information:

Follow-up pharmacy visits for patients with type II diabetes mellitus are being conducted frequently in the outpatient setting, but the best practice for monitoring patients with diabetes is currently unknown. Follow-up is based on the pharmacist's preference and experience. Frequency and duration of visits can be influenced by many different factors including disease severity, current medications, lab results, health literacy of the patient, type of visit, and other clinical factors. Studies have shown pharmacy practice in the clinic setting has led to improved patient outcomes, less hospitalizations, and reduced total healthcare costs through medication management, education, and medication access. Finding a consistent approach for follow-up practice would allow maximization of pharmacy productivity and allow for greater patient impact. A consistent approach would also be helpful to set expectations for providers, newly hired pharmacists, and patients of patient care provided by pharmacy.

### Objectives

The objective of the project is to identify current trends in follow-up practice for patients with type II diabetes in the ambulatory care setting. An additional objective is to evaluate those trends based on different patient factors including baseline hemoglobin A1c, changes in hemoglobin A1c, and medications prescribed. Current follow-up trends will be used to derive a consistent treatment approach for follow-up practice for patients with diabetes in the ambulatory care pharmacy clinics.

### Methods:

A retrospective review of 200 randomized patients pulled from an electronic health record report of type II diabetes patients in outpatient clinics was conducted. Outpatient clinics included in the study were two medical resident-based clinics, a HIV clinic and a primary care clinic. Patients were included if they were greater than 18 years of age, had type II diabetes mellitus, and had two or more pharmacy visits regarding diabetes management. Patients were also required to have at least two visits with documentation of direct patient care and care coordination times as well as the number of interventions. These times and interventions were manually entered by the pharmacist at the time of visit using the "pharmacy tracker tool" embedded as part of the electronic health record visit documentation. Patients' first visit was required to be between February 2020 and February 2021 to ensure patients would be evaluated for a full year's worth of visits at time of data analysis.

Patient demographics including age, race, sex, insurance, and visited clinic was collected in patients who met inclusion criteria. Number of disease states and diabetes-related complications, diabetes medication class use, and hemoglobin A1c were collected at baseline. For each patient visit, data regarding follow-up metrics was obtained. Information from the pharmacy tracker tool including direct patient care time, care coordination time and number of interventions was documented for each visit. The dates of each visit were also recorded and intervals between each visit were calculated. At the last included visit for each patient, diabetes medication class usage as well as hemoglobin A1c was collected. To address potential confounders, the number of primary care provider visits as well as endocrinologist use was also collected.

Descriptive statistics were used to evaluate visit times, intervals, and duration as well as medication interventions. Data was stratified based on baseline A1c as well as the change in A1c from baseline to assess for follow-up trends based on

diabetes severity and pharmacist impact. Linear regression was used to assess correlation between change in A1c with number of visits in each stratified baseline A1c group.

#### Preliminary Results:

Of the 200 patients reviewed, only 93 patients met inclusion criteria. Overall, patients included were elderly males with Medicare insurance in the primary care clinic setting. Patients in the two resident-based clinics and HIV clinic made up 24.8 percent and 17.2 percent, respectively. Although a majority of patients were Caucasian, 40.9 percent of the patients evaluated were African American. At baseline, the average A1c was elevated at  $9.0 \pm 3.5$  percent. The most common medications seen at baseline were metformin followed by basal insulin and glucagon-like peptide-1 receptor (GLP-1) agonists.

The total number of visits conducted among the 93 patients was 446 visits. A majority of the diabetic pharmacy visits (59.6 percent) were conducted via telephone format. Overall, the average number of visits per patient over the one-year time frame was  $4.4 \pm 2.0$  visits. Of the 446 visits, 10.6 percent did not have documented direct patient care time, care coordination time, and number of interventions. Linear regression model did not show baseline hemoglobin A1c was correlated with the number of visits. Of the patients managed for at least 3 months, a greater hemoglobin A1c reduction was seen in patients having a follow-up visit within 90 days compared to patients seen greater than 90 days after initial visit. The average A1c reduction in patients seen within 90 days and beyond 90 days were  $-1.17 \pm 1.83$  percent and  $0.029 \pm 2.37$  percent, respectively. The average interval of follow-up visits in patients managed for at least 3 months was  $59.25 \pm 24.40$  days. At least four visits were needed to see an A1c reduction in patients managed for at least 3 months. Patients who were started on a GLP-1 receptor agonists had a significantly lower average interval of  $36.60 \pm 0.47$  days. GLP-1 agonists use increased by 29 percent in patients evaluated.

Conclusion: Overall, a consistent follow-up practice approach for pharmacy visits for patients with type II diabetes could not be determined based on current practice trends due to variability in follow-up visits practice. A total number of four pharmacy visits may be an ideal practice given that 4 visits was the minimum number of visits needed to see an A1c reduction in the study. Further studies are needed to determine the best follow-up practices in the pharmacy outpatient setting.