# EXAMINING RATES OF APPOINTMENT COMPLIANCE IN DIFFERENT PATIENT POPULATIONS AT A STUDENT-RUN FREE CLINIC

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## Abstract

**INTRODUCTION**: The Case Management (CM) and Diabetes Case Management (DCM) programs at MedZou assign complex patients to medical students who call with appointment reminders and attend clinic appointments with them. Although these programs are designed to improve continuity of care, rates of appointment compliance have not previously been evaluated.

**OBJECTIVE**: The primary objective of this study was to compare rates of appointment compliance between general clinic (GC), CM, and DCM patients at MedZou.

**METHODS**: This was a retrospective chart review in which appointment compliance was examined for every appointment record from January 2014 to December 2016 in the SharePoint scheduling system and physical charts. The primary outcome measured was percent appointment compliance, with compliance defined as keeping, rescheduling, or canceling an appointment as long as notice was given.

**RESULTS**: 3,801 appointment records were included. Rates of appointment compliance were lowest for GC, highest for CM, and intermediate for DCM appointments (62.6% vs. 84.3% vs. 73.8%, respectively, p<.0001). Rates of appointment reminders were intermediate for GC, highest for CM, and lowest for DCM appointments (83.2% vs. 87.1% vs. 71.0%, respectively, p<.0001).

**CONCLUSION**: Although appointment compliance was higher for the CM and DCM populations compared to the GC population, DCM appointments received the fewest reminders of these groups. Thus, steps should be implemented to improve the percentage of reminders for DCM appointments.

## Introduction

MedZou Community Health Clinic is a free clinic for uninsured patients of Missouri run by students at the University of Missouri School of Medicine. Both the Case Management (CM) and Diabetes Case Management (DCM) programs at MedZou were designed for complex patients who require more attention than general clinic (GC) MedZou patients. Each patient in either of the case management programs is paired with a medical student who attends that patient's appointments, answers his/her questions between appointments, calls the patient to remind him/her of upcoming appointments a week in advance, and assists the patient with other needs.

MedZou historically has a high rate of patients canceling or missing appointments, approaching 25%. One of the goals of the Case Management and Diabetes Case Management programs is for patients to receive more continuity of care and reminders of upcoming appointments than general clinic patients. This study aims to analyze appointment compliance in each patient population.

## Objectives

The primary objective of this study was to compare rates of appointment compliance between GC, CM, and DCM patients at MedZou.

Secondary objectives were to compare rates of appointment reminders between GC, CM, and DCM patients and to compare rates of appointment compliance for all patients who received an appointment reminder versus those did not receive a reminder.

## Methods

A retrospective chart review was conducted to collect data from all 3,801 MedZou appointments from January 2014 to December 2016 using the SharePoint scheduling system and physical charts.

Each patient was classified as GC, CM, or DCM based on how he or she was registered in the clinic records. Patients were classified as compliant for a given appointment if they kept, rescheduled, or canceled the appointment as long as notice was given, while they were classified as non-compliant for a given appointment if they did not keep the appointment and no notice was given.

Percentages of appointments in each category for each patient population were calculated, and chi-squared tests were performed to compare these rates between the three populations.

## Results

Population distribution: The data consisted of 2336 GC appointments, 456 CM appointments, and 1009 DCM appointments.
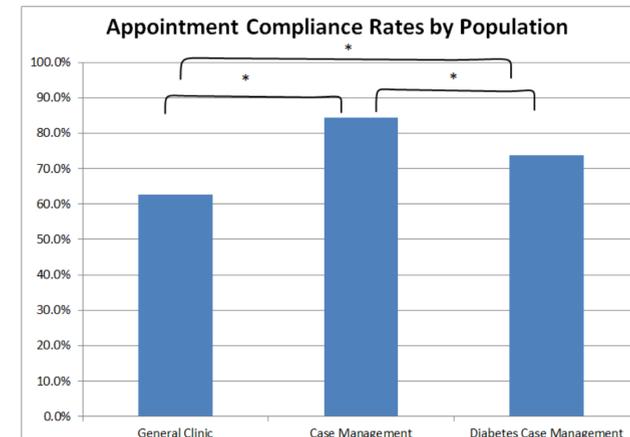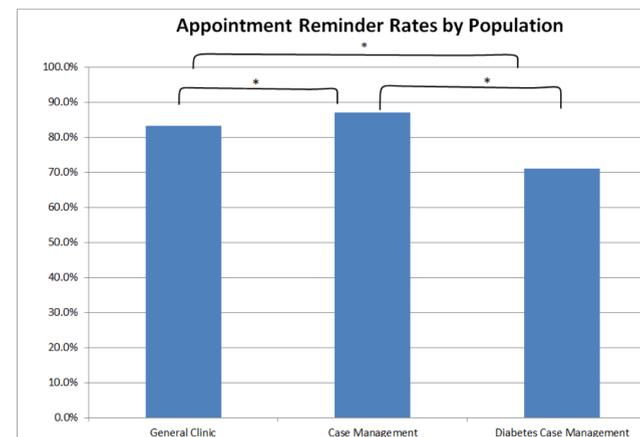
52.9% of appointments were kept for the GC population compared to 77.4% of kept appointments for the CM population and 63.0% of kept appointments for the DCM population (p<.0001).

Phone reminders were given before 83.2% of general clinic appointments compared to 87.1% of CM appointments and 71.0% of DCM appointments (p<.0001).

59.0% of appointments were kept when a reminder was given compared to 56.5% of appointments kept when no reminder was given (p=.2104).

GC patients were compliant for 62.6% of appointments, while CM patients were compliant for 84.3% of appointments and DCM patients were compliant for 73.8% of appointments (p<.0001).

All patients who received an appointment reminder were compliant for 71.4% of appointments compared to 58.3% of appointments where no appointment reminder was given (p<.0001).


Appointment Compliance Rates by Reminder Status


Appointment Reminder Rates by Population


Appointment Compliance Rates by Population

*statistically significant at alpha=.05

## Discussion

These data show that both CM and DCM patients had higher rates of kept appointments and appointment compliance compared to GC patients.

Although there was no statistically significant difference between rates of kept appointments based on whether or not a phone reminder was given, patients were compliant for more appointments when a phone reminder was given compared to when no reminder was given.

The results suggest that the CM and DCM programs are effective at improving rates of kept appointments and appointment compliance. Given that the data show that reminders correlate with higher compliance, steps should be taken to improve reminder rates for both GC and DCM patients.

CM patients had the highest rates in every category studied. One reason for this may be that the CM population is the smallest of the 3 populations. Given that CM and GC appointments are typically scheduled on the same nights as GC appointments, we hypothesize that CM patients may be called by both the GC patient liaisons as well as their own case managers. On the contrary, DCM appointments are scheduled on an independent clinic night without patient liaison reminders.

Based on our data, the CM program's methods do appear to be the most effective, and further analysis of these methods is warranted to improve compliance in the other 2 populations.

## Future Directions

The results were discussed with MedZou faculty advisors and student directors, as well as CM and DCM chairs. Steps are being implemented to improve the rates of appointment reminders, especially for the GC and DCM populations. For example, methods of emailing and texting patients are being explored in hopes that more patients may be reached with appointment reminders. In addition, the importance of making appointment reminders for DCM patients will be emphasized. The goal is that by increasing rates of appointment reminders, more patients will be compliant with appointments.