

## **2016 Pharmacist Role in Team-based Care for Diabetes and Hypertension**

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## **Impact of a Hypertension Shared Medical Appointment on Clinical Outcomes and Medication Adherence in a Veterans Affairs Health Care System**

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### **Disclosures**

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  - **Nothing to Disclose**

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  - **Nothing to Disclose**
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  - **Nothing to Disclose**

### **Disclosures**

- **Molly Howard, Pharm.D., BCPS**
  - **Nothing to Disclose**
- **Kelly Mooney, Pharm.D., BCPS**
  - **Nothing to Disclose**
- **Emily Piercefield, MD, MPH**
  - **Nothing to Disclose**

### **Disclaimer**

- **This quality improvement project was performed to improve patient care at the Central Alabama Veterans Health Care System (CAVHCS)**
- **Upon review by CAVHCS leadership, it was determined to meet guidelines for IRB review exemption**

### **Disclaimer**

- **The contents of this presentation represent the views of the primary author and co-investigators**
  - **The views expressed today are not the views of the Department of Veterans Affairs, the United States Government, the Centers for Disease Control and Prevention, or the Alabama Department of Public Health**

### Definitions / Acronyms

- BP – blood pressure
- CAVHCS – Central Alabama Veterans Health Care System
- DBP – diastolic blood pressure
- PDC – proportion of days covered
- SBP – systolic blood pressure
- SMA – shared medical appointment

### Definitions / Acronyms

- VHA – Veterans Health Administration
- VISN – Veterans Integrated Service Network

### Background

- CAVHCS – Central Alabama Veterans Health Care System
  - Located in VA Southeast Network (VISN7)



### Background

- Three Main Campuses
  - West Campus (Montgomery, AL – Acute Care, ED, and Specialty Outpatient Clinics)
  - East Campus (Tuskegee, AL – Long-term Care, Inpatient Psychiatry, Outpatient Primary Care)
  - Montgomery VA Clinic (MVAC – Outpatient Primary Care)

### Background

- Four Community Based Outpatient Clinics (CBOCs)
  - Dothan
  - Ft. Benning
  - Ft. Rucker
  - Monroeville

### Background

- United States leading cause of death = cardiovascular disease
- Increased medication adherence = decreased medical costs and hospitalization rates

### **Background**

- **Improved adherence to antihypertensive medications = improved blood pressure control**
  - **Only 70-75% of Veterans have appropriate BP control<sup>4</sup>**

### **Background**

- **Influencers of Medication Non-adherence:**
  - **Lack of motivation**
  - **Low health literacy**
  - **Poor understanding of disease state**
  - **Non-involvement with medical decision making**
  - **Lack of evidence-based prescribing**
  - **Lack of medication counseling**

### **Background**

- **Complex prescribing patterns**
- **Poor access to care**
- **Polypharmacy**

### **Purpose**

- **Implement a pharmacist-run SMA to improve Veteran's access and quality of healthcare**
  - **Aims**
    - **Improving adherence to prescribed antihypertensives**
    - **Reducing systolic and diastolic blood pressures**

### **Purpose**

- **Provide quantitative evidence for the quality of healthcare services offered to Veterans at CAVHCS**

### **Objectives**

- **Assess the difference in the proportion of Veterans considered adherent to prescribed antihypertensive medications between baseline and post-intervention periods**
- **Assess the difference in the proportion of Veterans with adequately controlled BP from baseline throughout the intervention period**

### Objectives

- **Secondary:**
  - Mean change in SBP and DBP from baseline throughout the intervention period

### Methodology

- **Inclusion criteria:**
  - SMA
    - Prescribed  $\geq 2$  antihypertensive medications
    - SBP > 140 mmHg or DBP > 90 mmHg
    - Enrolled in healthcare at CAVHCS
    - 18 years or older

### Methodology

- Analysis
  - Attend  $\geq 2$  SMAs

### Methodology

- **Patient Selection:**
  - 4 providers identified
    - 2 providers from MVAC
    - 2 providers from Ft. Benning CBOC
  - Cohort of 15 patients created from each panel

### Methodology

- List of all patients meeting inclusion criteria pulled
- Provider selected the patients they wanted to be enrolled in SMA
- Each cohort had its own corresponding SMA

### Methodology

- **SMA Design:**
  - Pharmacist = provider
  - 15 Veterans identified per panel
  - Two BP readings taken at each meeting
    - One upon arrival and one prior to breakout sessions

### Methodology

- 1.5 hour meetings once a month for 4 months
- Support from nurses, social workers, dietitians, and psychologists
- Group discussion prior to 1:1 appointment with pharmacist for medication adjustments

### Methodology

- Data Collection
  - Baseline and intervention data obtained from electronic medical record
  - PDC calculated for each Veteran to determine adherence
    - Considered adherent if PDC  $\geq$  80%

### Methodology

- Mean of three most recent BP readings used to determine the proportion of Veterans meeting goal BP (defined as BP < 140/90 mmHg) and mean difference between baseline and intervention period

### Methodology

- Statistics
  - Alpha = 0.05
  - Paired, two-tailed t-test
  - McNemar's exact test

### Results

- Proportion of Veterans with Controlled BP
  - Baseline period = 14.3%
  - Intervention period = 42.9%
  - p = 0.03

### Results

- Proportion of Veterans Adherent to Antihypertensives
  - Baseline period = 95.2%
  - Intervention period = 85.7%
  - p = 0.1573

### Results

- **Secondary Outcomes**
  - SBP
    - Significant reductions in 76.2% of enrolled Veterans
    - Average decrease: 8.3 mmHg
    - $p = 0.02$

### Results

- DBP
  - Significant reductions in 52.4% of enrolled Veterans
  - Average decrease: 1.5 mmHg
  - $p = 0.36$

### Discussion

- **Conclusion: pharmacist-run SMA significantly reduced SBP and increased the proportion of Veterans with controlled BP in a VA health care system**
  - A pharmacist-run SMA may decrease the risks of adverse outcomes resulting from poorly controlled hypertension in the Veteran population

### Discussion

- The change in adherence from baseline throughout the intervention period is a conundrum believed to be due to looking at 90 day supplies of medication filled during a short project duration (~4 months)
  - Medication discontinuations
  - Very high baseline adherence rate
  - Low number of Veterans included in analysis

### Discussion

- **Strategies for SMA implementation**
  - Provider buy-in
  - Interdisciplinary approach to care
- **Barriers to SMA implementation**
  - Patient motivation
  - Administrative investment
  - Provider status for pharmacists

### Discussion

- **Summary:**
  - Significant increase in the proportion of Veterans with controlled BP from baseline throughout the intervention period
  - Significant decrease in SBP for majority of enrolled Veterans

### Discussion

- Non-significant decrease in DBP for majority of enrolled Veterans
- No significant differences in proportion of Veterans considered adherent to prescribed antihypertensives

### Discussion

- Future Considerations
  - Second phase of the project is currently underway
  - Enrolling more Veterans from multiple providers into SMA with same model

### Discussion

- Data will be assimilated together from Phase I and Phase II to increase sample size and length of project to better determine effect on medication adherence
- Future projects to improve BP control in the Veteran population:

### Discussion

- Development of evidence-based treatment algorithm to serve as provider tool for hypertension management

### Discussion

- Limitations
  - Exclusion of second-line BP medications from PDC calculation
  - Small number of Veterans enrolled
  - Short duration of intervention

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### Self-Assessment

- What are strategies and barriers for the implementation of a pharmacist-run SMA?

### Self-Assessment

- **Strategies:**
  - Provider buy-in
  - Interdisciplinary approach
- **Barriers**
  - Provider Status (private sector)
  - Administrative time
  - Patient motivation

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