Optimizing Metformin Prescribing Behaviors In Primary Care

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BACKGROUND

- Diabetes is the 7th leading cause of death in the United States
- Metformin is the first-line recommended pharmacological option for type 2 diabetes mellitus (T2DM)
- Despite metformin's well-documented effectiveness and respectable drug profile, suboptimal prescribing is not uncommon
- At project site, suboptimal metformin prescribing was identified in overall metformin prescribing, therapy intensification and modification, and concomitant use with insulin
- The literature suggests that multi-faceted educational approaches, academic detailing and expert-guided feedback have a positive effect on prescribing behaviors
- The purpose of this project was to implement academic detailing to improve providers' metformin prescribing behaviors

CLINICAL QUESTION

Will academic detailing targeting providers' metformin prescribing in adult patients with T2DM affect prescribing behaviors?

METHODS

- **Setting:** Federally Qualified Health Center in the southeastern US
- **Staff**: Physician (1), Physician Assistant (1), Pharmacist (2), Licensed practical nurse (1), Medical assistant (3)
- **Population:** Adult patients (> 18 years old) with a T2DM diagnosis (N = 1,091)
  - Average age 56 years, 62% female, 52% African American, 32% Caucasian, mean A1C 8.5%
- **Data Collection:**
  - EHR data reports and chart review: metformin prescriptions, modifications, insulin use
  - **Pre-QI:** Oct - Mar 2019 (n=348)
  - **Post-QI:** Oct 2019 - Mar 2020 (n =743)
- **Intervention:**
  - Academic detailing
  - In-services, emails, and clinical pearls handout
  - Audit and feedback
- **Data Analysis:** Microsoft Excel; Descriptive Statistics with Graphic Display; Statistical Analyses

RESULTS

Figure 1. Metformin Prescriptions & Maximum Dose

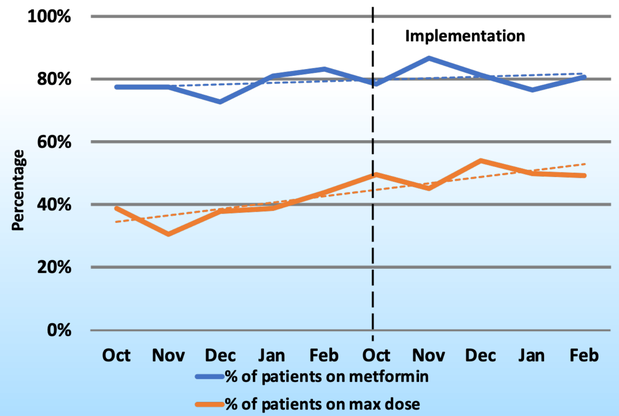
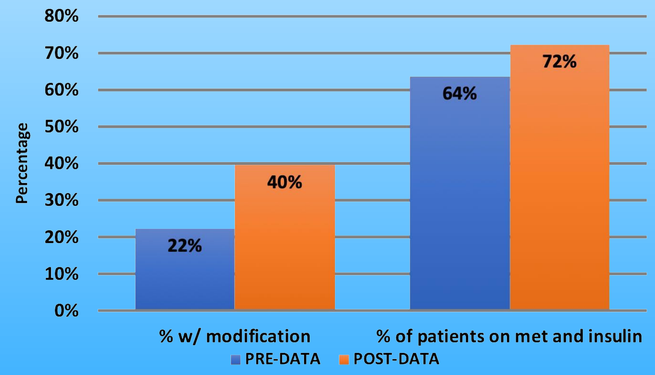


Figure 2. Metformin Modification & Insulin



- Increase in patients on metformin from 79% to 81% ($p = 0.469$) and maximum dose 38% to 49% ($p < 0.05$)
- Therapy modification within 6 months increased from 22% to 40% ($p = 0.05$); Patients on metformin and insulin increased from 64% to 72% ($p = 0.472$)

CONCLUSIONS

An academic detailing intervention targeting providers' metformin prescribing in adult patients with T2DM can improve prescribing behaviors

- **Strengths:** Interprofessional approach; Administrative support; Staff buy-in; Timely project management tailored to site-specific barriers; Improvements in documentation
- **Limitations:** Short timeline; Many confounding variables related to T2DM management and prescribing behaviors; Staffing shortage
- **Next Steps:** Sustain optimal metformin prescribing, integrate to all sites and include other T2DM medications; Consider a clinical decision support tool in addition to academic detailing to enhance prescribing

IMPLICATIONS FOR PRACTICE

Academic detailing and interprofessional collaboration enhances metformin prescribing behaviors in the primary care setting, minimizing clinical inertia and improving patient outcomes.

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