

New York



New York Chapter  
American College of Physicians

Resident/Fellow and Medical Student  
Forum

Poster Presentations

Friday, May 12, 2023

Desmond/Crowne Plaza Hotel  
660 Albany-Shaker Road  
Albany, NY



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Medical Student Clinical Vignette











































































































































































































## Resident/Fellow Research

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### Neda Sohrabi

Neda Sohrabi MD, Rajmohan Rammohan MD, Atul Sinha MD, Melvin Joy MD; Jiten Desai MD; Tulika Saggar MD, Rucha Jiyani MD, Kirill Zagorodnev MD, Sai Greeshma Magam MD; Susan Bunting C TAGME, Prachi Anand MD, Paul Mustacchia MD.

**Nassau University Medical Center**

## **IMPACT OF INSURANCE AND MEDIAN INCOME ON 30-DAY READMISSION IN IRRITABLE BOWEL SYNDROME PATIENTS " A NATIONWIDE ANALYSIS**

### Introduction:

Irritable bowel syndrome (IBS) is a functional disorder involving alternating diarrhea and constipation and is often associated with painful abdominal distention and spasms. IBS negatively impacts patients' quality of life and is associated with substantial utilization of both traditional and alternative healthcare resources. Efforts focusing on costs associated with protocols to reduce hospital readmission are limited. Our study aims to identify the high-risk group among IBS patients to prevent 30-day readmission.

### Methods:

The Nationwide Readmission Database (HCUP) was queried for 2019-2022. We collected data on hospital readmissions of 1,748,576 adults readmitted within 30 days. Inclusion criteria included a principal diagnosis of IBS. The primary outcome was 30-day hospital readmission rates for IBS-specific causes. Our study first applied standard logistic regression and decision trees to obtain influential variables and derive meaningful decision rules. We then stratified the original data set and applied logistic regression to each data stratum. Finally, using Area under the curve and Odds ratio, we further explored the risk and accuracy of interacting variables in the logistic regression modeling.

### Results:

A total of 1,558,776 patients were readmitted between 2019-2022. Of these, 20,518 (Mean age 56.4  $\pm$  11.4) patients were included after the propensity score matching. 9,205 (45%) patients with IBS to 11,313 (54%) Patients without IBS. Multiple logistic regression of the independent variable showed a readmission probability of 5.2% in the Insurance group ( $p=0.023$ ), HTN 3.2% ( $p < 0.01$ ), COPD 6.8% ( $p < 0.01$ ), Obesity 5.2% ( $P=0.021$ ) and Lower median Income quartile (1k-24K) showed increased readmission 4.2% ( $p=0.013$ ). The odds of readmission were increased in patients with a history of HTN requiring medication (3.4  $p < 0.01$ ), Median household income (OR 1.19,  $p=0.012$ ), and Insurance status (OR=2.53  $P=0.023$ ) showed an increased incidence of readmission. In addition, the female sex was associated with higher odds of readmission (OR 2.21,  $P < 0.01$ ). The accuracy of gender, Insurance status, and the lower median income were also significant. Gender AU ROC (0.620,  $p < 0.01$ ), Insurance status AU ROC (0.610,  $p < 0.01$ ), and Median Income AU ROC (0.525,  $P=0.012$ ) as compared to the logistic regression. Relation mapping confirmed the hypothesis.

### Conclusion:

Our results suggest that patients with comorbid medical conditions, Insurance status, gender, and Lower Quartile pay showed an increased risk for readmission. Research is needed to determine if targeted interventions for high-risk patients decrease readmissions among IBS patients.

## Resident/Fellow Research

### Abhishek Tadikonda, DO

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Nassau University Medical Center

## PREVALENCE OF OBESITY IN IRRITABLE BOWEL SYNDROME PATIENTS AFFECTING THE HEALTHCARE COST IN UNITED STATES- A NATIONWIDE ANALYSIS

### Introduction:

Irritable bowel syndrome (IBS) is a chronic functional gastrointestinal disorder that presents with abdominal pain and altered bowel habits. It affects about 20% of the general population, mainly women, and considerably impacts quality of life and health care costs. The study aims to understand the impact of obesity on IBS patients and the health care cost based on hospital readmission and length of stay.

### Methods:

The Nationwide Inpatient Sample (NIS) database was queried for 2019-2022. We collected data on hospital admissions of 3,702 IBS patients. Patients were divided based on their BMI A [ $>30$ ] = 750 (20%) and BMI B [ $<30$ ] = 2952(79%). Propensity case matching was performed to match the baseline characters. Our study first applied the Kaplan Meier curve and Log Rank Mantel-Cox test to compare the two groups. We then stratified the original data set and applied the Hazard ratio to identify the factors for prolonged Length of Stay.

### Results:

A total of 3702 IBS patients were included. The median length of hospital stay for patients was A = 3 &#177;3 days, B= 5 &#177;4 days, by Kaplan Meier Curve. The Log Rank Mantel-Cox comparison among the two groups was significant  $p= 0.015$ . The covariates that prolonged the length of hospital stay were found to be abnormalities in HTN (HR= 0.256,  $p<0.01$ ), Renal Failure (HR= 0.246,  $p= 0.04$ ), and Heart Failure (HR= 0.556,  $p<0.012$ ). IBS patients with obesity also showed increased 30-day readmission (OR:0.547,  $p<0.01$ )

### Conclusion:

Obesity in IBS patients can affect the length of stay and 30-day readmissions, which can increase the health care cost. Factors associated with prolonged length of hospital stay of patients and readmission need to be considered in planning bed strength on a contingency basis.



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## Resident/Fellow/Medical Student Quality

### Sara Armstrong

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Jacobs School of Medicine and Biomedical Sciences

### Preventative Cardiovascular Care Differences in Female Veterans: Mixed-Gender clinics vs. Women's-Only Clinics

Female Veterans have higher rates of cardiovascular disease than their non-veteran female counterparts, presenting a unique population. It is also known that Veteran women have inferior lipid, blood pressure, and diabetic control compared to their male counterparts. This illustrates the need to improve our interventions with cardiovascular risk reduction in this population. Early, aggressive treatment of these risk factors provides an opportunity to reduce the burden of cardiovascular disease in veteran women and decrease future adverse events. There is currently no data that has studied if preventative cardiovascular measures of female Veterans differs in various clinic environments. This study will identify any disparities with cardiovascular care in women's-only versus mixed-gender clinics.

We utilized the EMR system at the Buffalo VA Medical Center to extract patient data from several primary care clinics. These patients were under the care of providers in women's only and mixed-gender VA clinics.

A random indices database was used to identify 100 males from three mixed-gender clinics as well as 100 females from the mixed-gender and three women's-only clinics, noting any diagnoses of HTN, HLD, TIIDM, or lack thereof. Data was extracted ranging from the dates 10/31/21- 11/1/22, including recent blood pressure measurements, lipid levels and statin treatment, and HbA1c readings, all of which can be used to stratify cardiovascular risk. Patients with controlled vs. uncontrolled HTN (controlled: BP <140/90; uncontrolled: BP >140/90), controlled vs. uncontrolled HLD (controlled: adequately treated with a statin; uncontrolled: not prescribed a statin), and controlled vs. uncontrolled TIIDM (controlled: HbA1c <8; uncontrolled: HbA1c >8) were identified with the specific cutoff values.

A collection of logistic generalized linear mixed effect regression (GLMER) models were considered each with a specific binary response: one Controlled TIIDM, Uncontrolled TIIDM, Controlled HTN, Uncontrolled HTN, and Statin Treatment; a binary predictor variable: one of Clinic Type (Women's only or Mixed) and Gender (Male or Female); Provider as the intercept only random effect; and possibly with Age as a control/co- variate (including both main effect of age, and the interaction effect of Age with the binary predictor variable).

Among female veterans with HTN, HLD, and TIIDM, there were no statistically significant differences in the odds of diabetic, blood pressure, and cholesterol control between female-only clinics compared to mixed- gender clinics when age was ignored or considered conditional at five age levels. Odds of statin treatment was bigger among older female patients with HLD at both clinics. The odds of having HTN controlled was bigger among older female patients with HTN visiting mixed-clinics. Lastly, female patients with HLD (with or without DM and HTN) had significantly lower odds of receiving statin therapy than male patients, both when focusing on the mixed- gender clinic and the pooled data from both clinics.

# Resident/Fellow/Medical Student Quality

## Martin Chang, DO

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University at Buffalo

## Pharmacoequity in Gastroenterology: A Comparison Between Patient's and Health Care Provider's Perspectives on Variations in Medication Prices among Pharmacies

Healthcare disparity is a significant public health problem particularly affecting vulnerable populations in the United States. Annually, billions of dollars are spent on retail prescription drugs, and the inability to afford medications strongly contributes to healthcare disparities. This impacts especially the socioeconomically disadvantaged persons who often have a higher prevalence of chronic diseases. In particular, patients with chronic medical problems, such as gastroenterological diseases, can face financial burdens associated with long-term pharmacotherapy. Pharmacoequity and improvements in access to medications independent of race, ethnicity, or socioeconomic status will narrow the healthcare disparity gap and help limit many preventable cascades of problems including delay of care, suboptimal medication compliance, and development of more serious diseases.

In this study, we targeted the lack of transparency in medication pricing as a factor contributing to variations in medication prices among pharmacies. To further investigate, we proposed a quality improvement project with multiple aims. First, we aimed to assess the level of understanding of healthcare providers and patients on the variability of medication pricing among different pharmacies. Second, we identified factors that influence providers' and patients' decisions when choosing pharmacies. Lastly, we investigated whether providing information on price variability among pharmacies would change where patients get their medications. The design of this project included a survey with three parts performed in one sitting: pre-intervention survey, intervention (short data table comparing different prices of the same gastroenterological medications at different pharmacies), and post-intervention survey. Two versions of the surveys were created which were designed for medical providers and patients. All surveys were collected at the Erie County Medical Center, in Buffalo, New York.

The preliminary data collected from health care providers suggest a generalized understanding of medication payment systems, however, awareness of price discrepancies among pharmacies was variable and often limited. Almost all providers agreed on the importance of medication cost and found the data table beneficial while considering referrals to pharmacies based on price discrepancies. Meanwhile, the preliminary data collected from the patients showed mixed opinions about the benefits of the data table. Although the majority felt that knowing of price differences among pharmacies was beneficial, it would not necessarily change where they would purchase their medications. At this stage, more data is being collected to assess the efficacy of the data table and contributions towards pharmacoequity. Nevertheless, pharmacoequity is an essential component in addressing healthcare disparity, and it remains an important task to find ways to provide fair, affordable, and effective medical treatment to all patients in the United States.

# Resident/Fellow/Medical Student Quality

## Nazeera Ghanie, MD MBA

Ernest Garnier MD

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### SUNY Downstate

## IMPLEMENTATION OF A PATIENT NAVIGATOR IN A PRIMARY CARE CLINIC TO IMPROVE DIABETES MELLITUS FOLLOW-UP

### Introduction

COVID-19 disrupted access to primary care and preventive care, hindering patient follow-up of comorbidities such as Diabetes Mellitus and hypertension. Populations disproportionately at risk for COVID were especially susceptible to poor continuity of care and largely contributed to the statistics of canceled and delayed primary care appointments during the pandemic. In the pre-pandemic world of healthcare, research suggested that the role of patient navigators is a factor in reducing health disparities. The role of a patient navigator is to remove barriers to care and facilitate patients' access to components of a health system. In this Quality Improvement (QI) project, a patient navigator was assigned to a cohort of approximately 250 patients who were lost to primary care follow-up.

### Objectives

The aim statement of the QI project was "to implement the service of a patient navigator to a cohort of 257 pre-diabetic and diabetic patients with a goal of successfully having at least 50% of patients present to clinic for Hemoglobin A1c measurements." The target patient population followed at the Primary Care Clinic at SUNY Downstate and were lost to follow-up due to the COVID-19 pandemic.

### Methods

An internal medicine resident served as a patient navigator and contacted a total of 257 patients. Patients were informed via a phone call of their last visit date and the need for follow-up given their history of Pre-diabetes or Diabetes Mellitus. They were advised to schedule appointments using the patient appointment line. Three months following the initial phone call, patients who did not schedule an appointment were contacted as a reminder. If complaints were voiced about difficulty scheduling appointments via the appointment line, the circumstance was mitigated by scheduling directly with the clinic secretary.

### Results

Of the 257 patients who were contacted via phone, 26 patients (10%) endorsed having a different primary care physician and were excluded from the remainder of the data analysis. Of the remaining 231 patients, 188 patients (81.4%) scheduled visits and had their hemoglobin A1c measured between January 1 and December 31, 2022. Forty patients (17.3%) were reached but did not follow-up, two patients (0.87%) had appointments but did not have labs ordered, and one patient (0.42%) had a lab error where the sample could not be run.

### Conclusion

The SUNY Downstate patient population was disproportionately at risk for COVID-19 and continuity of primary care was disrupted due to the pandemic. The implementation of a patient navigator acting as a liaison to coordinate care mitigates the data on vulnerable patients lost to follow-up to improve screenings such as Hemoglobin A1c.

# Resident/Fellow/Medical Student Quality

## **Binita Neupane**

Sunita Karki, MD, Monica Sharma, MD, Abdullah Firoze Ahmed, MD

### **Rochester General Hospital**

## **Appropriate screening for osteoporosis in female patients in the resident clinic with a DEXA scan**

The purpose of the study:

The study's main aim is to assess the effect of education sessions regarding the American College of Clinical Endocrinologists (AACE) guidelines for Osteoporosis screening in peri and postmenopausal female patients in the outpatient setting on the rates of ordering DEXA scans.

Methods:

This is a combined retrospective-prospective study conducted in our resident clinic. Peri-menopausal and menopausal female patients were included in the study. The study was divided into 3 phases of 5 weeks each: pre-intervention, intervention, and post-intervention. Data were collected from chart review. Our intervention was weekly teaching sessions in the clinic regarding current AACE guidelines for Osteoporosis screening in the female population.

Rates of ordering DEXA screening were compared pre and post-intervention to assess the effectiveness of education sessions on the same.

Comparative analysis between groups was performed using the  $\chi^2$  test for categorical variables. For continuous variables, the t-test was used to evaluate normally distributed continuous variables. The Wilcoxon rank-sum test was used to assess continuous variables that are not normally distributed. Stepwise multivariable logistic regression will be used to estimate the odds ratio (ORs) and 95% confidence interval (CI) relating potential predictors to the outcome of optimal adherence.

Summary of the results:

One hundred twenty patients met the inclusion criteria for the study in the pre-intervention phase and sixty-four in the post-intervention phase.

For the pre-intervention group, the mean age was 56.93 years (Range: 41-84 years), the mean BMI was 33.45 (Range: 17.99-53.67), 32.5% were peri-menopausal, and 67.5% were postmenopausal. In addition, 18.3% had a DEXA scan done, and 81.7% did not have a DEXA scan.

For the post-intervention group, the mean age was 66.625 years (Range: 61.75-73 years), the mean BMI was 32.061 (Range: 27.15-36.56), 8.1% were peri-menopausal, and 91.9% were postmenopausal. In addition, 7.82 % had a DEXA scan done, and 92.18% did not have a DEXA scan.

In conclusion, based on the chi-square test, there was no difference in the rates of ordering DEXA scans between the pre and post-intervention groups.

Conclusion:

Consistent effort is required to keep enhancing DEXA screening in our resident clinic. Electronic reminder initiatives (best practice advisory), making smart phrases for health care screening, and robust education sessions (weekly teaching sessions in the clinic) are required to increase resident adherence to preventative screening recommendations. We plan to conduct a second phase study after implementing the changes mentioned above.

## Resident/Fellow/Medical Student Quality

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### Albany Medical Center College

## INCREASING THE RATE OF LUNG CANCER SCREENING IN AN ACADEMIC PRIMARY CARE PRACTICE

### Purpose of the study

Lung cancer is the second most common cancer in the United States, and it is by far the leading cause of cancer death. The objective of this study was to investigate and improve lung cancer screening (LCS) rate at the Albany Medical Center Health System Internal Medicine Group (IMG) over 12 months by providing education about LCS to our medical home team and patients.

### Methods

We reviewed a random sample of 100 patients seen at IMG in 2019 with a current or former cigarette smoking history. Based on the 2013 United States Preventive Task Force (USPSTF) recommendations on screening for lung cancer with low-dose computed tomography (LDCT), inclusion criteria included patients aged 55-80 years who have a 30-pack-year smoking history and currently smoke or have quit within the past 15 years. Exclusion criteria included patients who have not smoked for 15 years or developed a health problem that substantially limited life expectancy or the ability or willingness to have curative lung surgery. Of the 100 patients, 46 patients qualified for lung cancer screening. The pre-intervention rate of LCS was assessed based on the number of eligible patients who underwent CT lung cancer screening study ordered by IMG providers.

Interventions to improve LCS rates included educational meetings and flyers posted in patient examination rooms. We presented a PowerPoint explaining the importance of lung cancer screening and the 2021 USPSTF screening guidelines to attending and resident physicians, physician assistants, and nursing staff. The flyers included facts about lung cancer and decision aids for high-risk patients.

After the 12 months of our intervention, we assessed the rate of eligible patients who underwent lung cancer screening by LDCT based on a random sample of 100 patients seen at IMG in 2022. Of the 100 randomly selected patients with a smoking history, 33 were eligible for screening.

### Results

Before our intervention, 12 patients out of 46 eligible patients underwent CT lung cancer screening (26%). Post-intervention, 19 patients out of 33 eligible patients underwent CT lung cancer screening (57.6%).

### Conclusion

Low-dose CT lung cancer screening is underutilized in the United States. By closing the knowledge gap through engagement of the medical home team and patients, we increased the rate of LCS by 2.2-fold in 12 months.

# Resident/Fellow/Medical Student Quality

## Rafeh Safdar, MD

Sualeha Khalid, MD

Shannon Murawski, MD

### Albany Medical Center

## Teaching Value in Care Through Implementation of a Novel Curriculum

### Purpose for Study

This quality improvement project evaluates the efficacy of implementing a new high-value care (HVC) curriculum into our internal medicine residency program.

### Methods

An HVC curriculum was introduced, consisting of a series of dedicated noon conferences using case studies to teach quality of care and cost-effective practices. The existing morning report structure, which consisted of reviewing the clinical reasoning in a challenging case, was modified to include an HVC learning point about the case reviewed. Surveys were circulated among internal medicine residents engaging with this curriculum, before and after 15 months of implementation. Respondents were asked about the perceived importance of value in care and several knowledge-based questions about high-value management decisions and the costs of common procedures. Additionally, the post-intervention survey identified whether residents were more likely to consider several factors of HVC in patient care.

### Findings

Among respondents, 71% of residents had engaged in HVC discussions during case reviews in the morning report after the intervention. Respondents endorsing the view that physicians need to consider cost in patient care decisions was 74% at baseline, which increased to 93% after the curriculum. Three questions were directed at identifying high-value management decisions, with the correct answer selected 23% more frequently after the curriculum as compared to before. The costs of common interventions, including CMP, EKG, EGD, and non-contrast CT head were significantly underestimated at baseline. In the post-intervention survey, one-quarter to more than one-half of all respondents stated that they were more likely to consider a variety of HVC factors in patient care. The strongest impact was seen in considering how test results will affect management, endorsed by 43% of respondents, and cost to the patient, endorsed by 55% of respondents.

### Discussion

The introduction of a novel HVC curriculum was successful in improving resident knowledge of and attitudes toward HVC. Using a case-based approach was particularly effective in demonstrating the practicality of considering the quality of care and cost-effectiveness in clinical decision-making. Future directions may include providing access to resources for understanding costs for common labs, imaging, and procedures.

## Resident/Fellow/Medical Student Quality

### Amandeep Saini, DO

Vincent Dong DO, Brenda Garcia MD

Northwell Health - Lenox Hill Hospital

### **REAL-WORLD EXPERIENCES OF ROBOTIC BRONCHOSCOPY FOR PULMONARY LESIONS: INSIGHTS FROM THE FDA MANUFACTURER AND USER FACILITY DEVICE EXPERIENCE (MAUDE) DATABASE**

**Purpose:** Bronchoscopes are vital for tissue sampling, therapeutics, and palliation. Limitations in existing flexible and rigid bronchoscopes have led to promising developments in robotic assisted technologies with precise maneuvering and stability into lung periphery. The Ion Endoluminal System received FDA clearance in February 2019 and includes an articulating, flexible catheter with shape-sensing technology that provides live visualization and positional feedback. The Monarch Platform, which received FDA approval in March 2018, includes an outer sheath and an inner bronchoscope with 4-way steer control, electromagnetic navigation guidance, and continuous peripheral visualization. We aim to investigate the number and type of complications associated with the use of robotic bronchoscopes using a publicly accessible governmental database.

**Methods:** We analyzed post-marketing surveillance data on Ion and Monarch robotic bronchoscopes using the FDA MAUDE database between March 2019 and November 2022. This open-access platform receives device reports from both mandatory sources (manufacturers and facilities) and voluntary sources (healthcare professionals and patients). These reports allow the FDA to monitor device performance and device-related safety concerns. Events are classified into four categories: death, injury, malfunction, or other.

**Results:** During the study period, approximately 364 cases with 34 device issues and 351 patient complications were identified. Of the two systems, Ion had the most reported cases (308/364, 84.6%). Collectively, many of the 34 device problems were due to device detachments (n = 7, 18.4%), output/lack of visual prompts (n = 6, 15.8%), defects (n = 5, 13.2%), program shutdown (n = 5, 13.2%), and needle fracture (n = 2, 5.2%). Amongst the 351 patient complications were pneumothorax (n = 267, 76.1%), hemorrhage (n = 38, 10.8%), cardiac arrest (n = 15, 4.3%), and stroke (n = 9, 2.6%). Several cases described unspecified patient complications (n = 18, 5.1%). Lastly, 9 out of 364 cases (2.5%) resulted in mortality.

**Conclusion:** Our analysis of the FDA MAUDE database revealed that pneumothorax represented the most common patient complication from robotic bronchoscopy. While the technology is not readily available compared to rigid and flexible bronchoscopes, pneumothorax complication rates are still less in the latter. Reported device complications were related to detachments, visual output, and program malfunction. Notable shortcomings of this study include limited information on patient comorbidities, the experience of the performing bronchoscopist, anesthesia reports, and availability of adjunct imaging tools (such as radial EBUS and the use of fluoroscopy alone, or in conjunction with cone beam CT). In summary, while robotic platforms exist, we suggest careful consideration of the targeted patient population along with a risk/benefit discussion given the aforementioned complication rates.

# Resident/Fellow/Medical Student Quality

## Gunjan Umarji

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### Montefiore Medical Center

## REDUCING THE FREQUENCY OF ORDERING HEMOGLOBIN A1c IN PATIENTS WITH WELL-CONTROLLED DIABETES

### Introduction

"Let's check an A1c" is a sentence heard often in primary care settings. Is it truly required for each visit? According to Standards of Care 2021 by American Diabetes Association, hemoglobin A1c should be tested every six months for patients with well-controlled diabetes. Hemoglobin A1c test can cost between \$28 - \$245 with an average of \$85.20 without insurance. Unnecessary blood tests cause anxiety in patients and increase healthcare costs. We conducted a quality improvement project whose aim was to decrease the frequency of unnecessary hemoglobin A1c testing by 50% from March 2022 to March 2023 at an internal medicine residency clinic.

### Methods

Our discovery phase included a survey of all providers in the residency clinic and a chart review. The goal of the survey was to understand how clinicians identified well-controlled diabetes. The survey was sent to 86 providers (attending and residents) with a response rate of 43%. Results showed a shortcoming to define goal A1c for adults >65 years of age. Less than half knew that A1c should be checked every 6 months only, for patients with well-controlled diabetes. A chart review was conducted for all patients seen by attendings and residents as primary care providers in clinic with hemoglobin A1c between 6.5 and 8.5. Of the 462 patients, 20% charts were reviewed as a representative sample. Of the 45 patients with well-controlled diabetes (defined with goal A1c from standards of care 2021), 16 (38%) had A1c ordered sooner than recommended. Three interventions were planned to reduce this occurrence. The first intervention was an educational session with attendings, as they act as point regulators for every plan made for clinic patients. The second intervention was an educational session with the residents.

### Results

Eight weeks after the first intervention, a similar chart review was conducted, which demonstrated a decrease in patients with well-controlled diabetes having A1c sent sooner than recommended from 38% to 33%, and after the second intervention, from 38% to 35%.

### Discussion

The third intervention was to post information about A1c ordering in the precepting room at clinic, for which data will be gathered after 8 weeks. Although the decrease in A1c ordering was small, the combined effect of all 3 interventions will likely be more significant. Besides training, an ideal intervention would be to introduce an engineering control in the electronic medical record (EMR), such as a hard stop asking if the physician truly wanted to order another A1c since the last was ordered x months ago with the result of y%. A disadvantage of that would be adding to the fatigue that physicians experience from EMR alerts.