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Using Rapid Cycle Improvement to Improve Weight Management in Family Medicine

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Using Rapid Cycle Improvement to Improve Weight Management in Family Medicine

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Spring 2018

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Abstract

PURPOSE: The purpose of this quality improvement project was to improve rates of nutrition screening and weight management in a Family and Community Medicine Clinic.

METHODS: This study was among several quality improvement projects being conducted at a Family and Community Medicine Clinic aimed at improving patient outcomes and quality measures for reimbursement beginning in 2019. Rapid cycle quality improvement was used to identify problems, implement changes, and evaluate workflow at the clinic in order to improve rates of compliance in BMI screening and documentation of weight management plans. Three PDSA cycles were completed. Activities included observation, staff education, visual aids, focus groups and evaluation.

RESULTS: Documentation of a weight management plan for patients with a BMI over 30 improved from 0% to 34% over the course of three PDSA cycles.

CONCLUSION: Future quality improvement projects aimed at improving rates of nutrition screening and intervention would likely benefit from updates to the electronic health record (EHR), as well as adding scheduled time for patient rooming. Both interventions could improve the quality and completeness of screening and preventative MACRA measures (Including colorectal cancer screening, tobacco assessment and cessation management, vaccination screening, depression screening, etc.) without compromising patient provider interaction time.

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Introduction

More than one third of American adults and 17% of the youth in America are categorized as obese, a condition associated with countless comorbidities and significantly higher healthcare costs (CDC, 2015). Despite the high rates of obesity in the United States, its contribution to several preventable comorbidities and well-established treatment modalities obesity is generally left unaddressed and untreated in the healthcare setting (Kaplan, 2017).

The U.S. Preventive Task Force (USPSTF) is an independent panel of national experts in disease prevention and evidence-based medicine. This task force, created in 1984, works to continually provide up to date screening and preventive recommendations to primary care providers to improve the health of all Americans. Recently the USPSTF has begun the process of updating the 2012 recommendations for screening and treatment of adult obesity. The new recommendation is to offer or refer adults with a body mass index (BMI) of 30 kg/m² or higher to intensive, multicomponent behavioral interventions. Updates to this recommendation are in the final stages of development indicating that the review of the literature performed by USPSTF found that the benefits consistently outweighed the harms associated with behavioral-based weight loss interventions in the primary care setting (Le Blanc et.al., 2018).

The development of this new recommendation from USPSTF calls for primary care providers throughout the United States to implement nutritional screenings in order to provide the best care to their patients. This recommendation from USPSTF in addition to the recent changes in legislation with the Medicare Access and CHIP reauthorization Act (MACRA) of 2015 have also called for an improvement in rates of nutrition screening and patient centered interventions. As a result, a Quality Improvement project aimed at improving rates of Nutrition

screening and intervention was initiated at a Family and Community Medicine clinic in October of 2017.

Background

According to the World Health Organization over one third of adults in the United States were considered obese in 2016 (WHO, 2018). This growing epidemic has largely remained unaddressed in the healthcare setting despite well-established treatment modalities. The long list of obesity-related costly complications includes heart disease, stroke, diabetes, and certain types of cancers (CDC, 2017). In addition to the large number of health problems associated with obesity, there is a substantial financial burden imposed on the United States annually due to obesity related health problems. It is estimated that in 2014 the United States spent \$149.4 billion U.S. dollars on obesity treatment and obesity related health problems (Kim, & Basu, 2016).

MACRA established a new payment system for healthcare providers which emphasizes high-quality, cost-efficient care. This law, signed in April of 2015, established two tracks of Quality Payment Programs (QPP) for eligible clinicians. One of the tracks for reimbursement is the Merit-based Incentive Payment System (MIPS) which establishes four performance categories; quality, costs, improvement activities, and advancing care information (ACI). The university selected 15 MACRA quality measures for reporting in 2019 (*See table 1*). These quality measures ranged from preventative medicine measures such as screenings and immunizations, to medication reconciliations and medication therapy guidelines for specific disease processes. Six of these measures within MIPS were chosen by the Family and Community Medicine clinic and benchmarked. These measures will directly impact reimbursement starting in 2019.

This quality improvement initiative was focused on improving rates of nutrition screening at the Family and Community Medicine Clinic. The nutrition screening and treatment measure outlined as part of MIPS sets a benchmark for the percentage of patients aged 18 years and older with a BMI documented during the current encounter or during the previous six months and with a BMI outside of normal parameters, a follow-up plan is documented during the encounter or during the previous six months of the current encounter. The electronic health record can be used for identifying these individuals at risk for the development of these obesity related preventable health conditions. Having accurate obesity data available at the population level is critical and can help clinicians target community-level determinants of obesity to improve the quality of care provided to patients (Funk, 2017).

The selection of this measure within MIPS by the Family and Community Medicine clinic requires both increasing rates of screening for BMI documentation as well as the development of a treatment plan for those with an established diagnosis of obesity. The purpose of this quality improvement project was to improve patient outcomes through increasing rates of screening, obesity identification, and targeted obesity treatment referrals as supported by the updated USPSTF guidelines.

Framework

In order to influence change in a organizational system it is important to understand the factors or forces within the system that require intervention. Lewin's change model outlines this process, and was utilized in this Quality improvement project to better understand how to positively impact the change process. Lewin's model states that behavior is a function of a group environment, making understanding the group atmosphere imperative in influencing process change. Lewin identifies that establishing the driving and restraining forces allows you

to identify why individuals, groups, and organizations act as they do, and ultimately what forces need to be diminished or strengthened to bring about the desired change (Lewin, 1997). Utilizing Lewins change model, an observation period was conducted to better understand the environment of the clinic in order to identify the driving forces for change and the barriers for improvement.

Quality improvement is defined as systematic and continuous actions that lead to measurable improvement in health care services and the health status of targeted populations (HRSA, 2016). Most quality improvement projects follow the plan-do-study-act model; and are continuous, requiring multiple sequences with appropriate interventions and evaluations. The goals for change must be identified, as well as the process by which those changes will be made. Finally feedback should be continually gathered to make further progress towards accomplishing the identified goal.

Methods

The aim of this rapid cycle quality improvement project was for 65% of patients with a diagnosis of obesity at the Family and Community Medicine clinic to have a follow-up plan documented at the current visit or within the last 6 months by March 1, 2018. In order to achieve this measure, every patient visit had to include BMI screening, as well as adding obesity to the problem list when applicable. Before the initiation of this quality improvement project, zero percent of patients with a diagnosis of obesity had documented follow-up plans for treatment or weight management.

Context

This Quality Improvement project took place at a Family and Community Medicine clinic from October 2017- February 2018. This clinic provides a variety of primary care services throughout the lifespan. Services include diagnostic and preventative services, as well as treatment of acute and chronic illnesses and injuries. The Family and Community Medicine clinic has 29 healthcare providers including Nurse Practitioners, Physicians, Resident physicians and a Physician Assistant who provide primary care services. This clinic is organized onto teams. The Family and Community Medicine Clinic contain a total of six teams. Each team contains 3-4 Residents, 1-2 Advanced Practice Providers, 3-4 Attending physicians, and 4-5 Clinical Service Technicians (CSTs). The teams serve the purpose of cross-covering for other providers for same day appointments, or scheduling conflicts. Patients who cannot get appointments to see their primary care provider can usually see someone on the same team within the week. CSTs are also assigned to teams, but can room patients for any providers within those teams.

In 2017, the health care enterprise identified fifteen quality measures for reporting within the MIPS program. These measures were selected enterprise-wide, and would be reported in 2019 for reimbursement purposes, 2018 measures will be reported on for a payment adjustment in 2020. Of the fifteen measures, the family and community medicine clinic chose six for improvement using rapid cycle quality improvement guidelines in the fall of 2017. This quality improvement project addressed nutrition screening and intervention took place simultaneously with two other QI projects within the same Family and Community Medicine Clinic.

Table 1: *Quality Measures selected for Improvement*

Quality Measures (Enterprise Wide)
Diabetes: Adult Eye Exam
IVD: Aspirin or Another Antithrombotic Therapy
Preventative: Adult BP Control
Preventative: Tobacco Assessment and Cessation Management
Preventative: Influenza Immunization *
Preventative: Pneumonia Vaccination
Preventative: Colorectal Cancer Screening *
Falls: Risk Assessment *
Statin Therapy
Preventative: Depression Screening and Follow-up Plan
Diabetes: Adult HbA1c Control *
Preventative: BMI and Weight Management *
Preventative: Mammography Screening
Depression: PHQ-9 Score improvement *
Medication Reconciliation

* = Selected measures at Family and Community Medicine for QI Projects in 2018

PDSA Cycles

Observation Phase

In order to capture the BMI treatment plan for MIPS reporting purposes, several factors had to be documented within the EHR. First, BMI had to be recorded for every patient visit. Second, the diagnosis of obesity needed to be entered into the EHR for qualifying patients, and third, a treatment plan or intervention had to be documented. All three of these components were either not completed or not correctly documented for any patients at the start of this quality improvement project in the fall of 2017.

In order to improve the documentation of BMI and weight management plans, the Family and Community Medicine Clinic first needed to improve rates of screening and diagnosis of obesity. This change required a work-flow modification during the patient rooming process by clinical service technicians (CSTs). The current rooming protocol at this Family Medicine clinic

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was reviewed to better understand the gap in documentation. The rooming protocol at this clinic required both the documentation of every patients BMI as well as for the following screening questions to be answered and documented: (1) BMI category (above recommended BMI, below recommended, within recommended, or unexplained weight loss of 10 lbs. or greater within the last 30 days), (2) specialty diet requirements, (3) determine if nutrition counseling was provided in the last 6 months, and (4) document if the nutrition protocol was implemented. Once it was identified that the expectation was for BMI to be documented during the rooming process as well as for nutrition screening to be completed at every patient visit, the natural next step was to identify why this process was not occurring consistently.

Before implementing an intervention, a shadow experience with CSTs to observe the current rooming process was conducted. The average rooming process took between two to seven minutes depending on a variety of uncontrolled variables. Of the CSTs observed, none of them asked the nutrition screening questions or entered obesity to the problem list for qualifying patients. A post observation focus group with the CSTs revealed that none of them were aware of the expectation to ask the nutrition screening questions or to add obesity to the problem list.

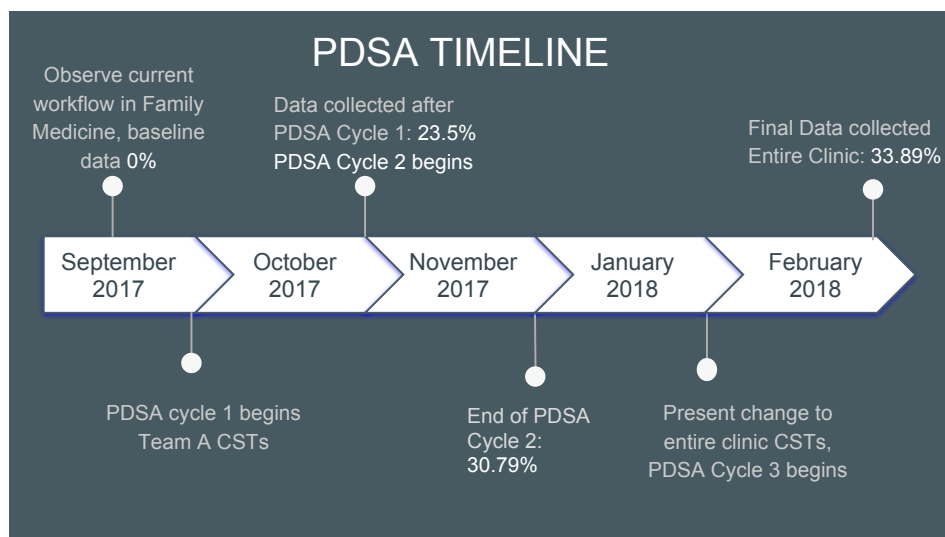


Image 1: *PDSA Timeline*

PDSA Cycle One

At the beginning of PDSA cycle one, the Family and Community medicine clinic had 0% documented treatment plans for those patients with a BMI over 30%. Data collection took place once a month after completion of each 30 day trial period following an intervention. This time frame reflected one PDSA cycle.

Based on the observation phase it was decided that the biggest barrier to consistent BMI screening and documentation was a knowledge deficit among the CSTs. To address this knowledge deficit, a brief targeted educational session with the CSTs on team A was completed by the PI during a mandatory monthly meeting in October of 2017. The PI addressed the expectations for nutritional screening, the workflow change, and the process for documentation within the EHR.

The data collected at baseline in September of 2017, and following each PDSA cycle reflected compliance throughout the entire clinic and was presented as a percentage of patients with a documented diagnosis of obesity that had a follow up plan or intervention recorded by their provider. For example, after the first month trial period in November of 2017, the family medicine clinic measured at 23.50% for BMI and weight management documentation. This number represented that out of 11,078 patients with a documented diagnosis of obesity, 2,603 patients had a provider weight management intervention documented in the EHR. Captured documentation would include nutrition or exercise educational handouts, referrals to treatment, or verbal education intervention/reinforcement during the visit.

Following the first PDSA cycle, a focus group of CSTs was convened to evaluate the intervention. The CSTs brought up several concerns regarding the change in workflow including time constraints, and difficulty of the documentation process within the EHR. The concerns

regarding the EHR were that several windows had to be opened in order to capture the BMI screening, diagnosis, and intervention for MACRA measures. Previously, the old workflow only required one window to be opened to document vital signs following documenting the medication reconciliation and allergy updates. Several of the CSTs requested that the process be compiled within the EHR in order to save time, as well as to serve as a reminder for the workflow change. This request to reorganize the EHR although reasonable was not within the scope of this QI project; however it was recognized as a necessity for change following the completion of this quality improvement project in this family and community medicine clinic.

During the month following the educational intervention on team A, an increase in documentation of nutrition care plans was seen from 0% to 23.5% between October of 2017, and November 2017. It is important however to keeping in mind that the ability to capture this measure of obesity screening and intervention within the EHR did not exist before the changes in legislation that required the primary care clinic to document this quality measure. Another limitation was that data collection could not be limited to the team on which the intervention took place, but instead reflected clinic compliance as a whole. Although it is unlikely that other CSTs were aware of this change, there is a possibility of confounding factors which could have elevated these results.

PDSA Cycle Two

A follow-up focus group with team A CSTs was convened to obtain feedback on the workflow change, and to assess for impediments discovered during the trial period. The major feedback from this meeting included the continued obstacle of time constraints, inability to remember the change in workflow, and difficulty with the EHR documentation process. Of these three consistently identified barriers to change, the most easily addressed for the next PDSA

cycle was the challenge of remembering the workflow change.. Therefore before starting the next PDSA cycle, small printed reminder cards were placed on the computer tables in each patient room. The cards were three inches by three inches and simply said “Don’t forget to screen for BMI.” The location of the visual cues was agreed upon by the CSTs partaking in the second PDSA cycle on team A.

This second round of interventions began in November of 2017, and took place for two months. Rates of obesity care plans improved from 23.5% in November, to 30.79% in January of 2018. A focus group with CSTs on team A revealed that the visual cues were not considered helpful, and in fact had been removed from several of the tables in patient rooms before the trial period was finished. CSTs also mentioned in this meeting that the reinforcement at the beginning of the month regarding the start of the second PDSA cycle served as a reminder of the expectation, and that intervention was likely why compliance continued to improve between November 2017 and January 2018.

PDSA Cycle Three

As a result of the feedback provided from CSTs at the end of PDSA cycle 2, it was determined to eliminate the visual cues, and simply provide education to the entire clinic during a mandatory monthly educational meeting in January of 2018. An educational PowerPoint was presented to CSTs throughout all teams at the Family Medicine clinic addressing the expectation for screening, the importance of this workflow change, and the process for documentation within the electronic health record. The final data collection period was for the entire Family Medicine Clinic for the Month of February 2018. Rates of nutrition screening and intervention increased from 30.79% in January 2018, to 33.89% in February 2018.

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Following the third and final PDSA cycle, a focus group with CSTs throughout the clinic met to discuss why rates had not continued to rise to goal despite the repeated education regarding the expectation. CSTs stated that as the rooming protocol continued to add expectations for screening and preventative measures, and providers' patient interaction time became limited. CSTs expressed irritation with unrealistic expectations, and resistance to change regarding feelings of frustration.

Table 2: *PDSA Cycles 1-3*

	PDSA Cycle 1: Team A CSTs	PDSA Cycle 2: Team A CSTs	PDSA Cycle 3: Entire Clinic
Plan	Reviewed current rooming protocol, observation study of rooming workflow. Prediction: increased knowledge of expectations among CST's will improve rates of nutrition screening and as a result results of nutrition follow-up care plans.	Prediction: Visual cues will aid CST's in implementing nutritional screening into workflow.	Prediction: Education to CST's across clinic teams on expectations for nutritional screening will improve rates of compliance.
Do	Educational session with blue team CSTs to review expectations. Documentation process reviewed within EHR.	Second educational session with CST's on blue team reminding them of expectations, and how to document within the EHR, visual cues placed in patient rooms on November 1, 2017.	Presentation made to all CST's in the Turfland clinic on expectations, effects of non-compliance, and measures for reimbursement.
Study	Time limitations within patient visit, difficulty of EHR	Visual cues deemed not helpful, ultimately removed from patient	Focus group reveals resistance to change and time constraints

	documentation process, difficulty remembering change in workflow.	rooms. Biggest obstacle in compliance is difficulty in EHR use.	within patient rooming process as biggest barrier to compliance.
Act	Implement visual cues in patient rooms to promote change in workflow	Educate entire clinic on expectations for nutritional screening.	Continue to reinforce education on expectations, consider changes in the EHR to ease burden of documentation in order to increase compliance and data capture for MACRA measures.

Results

The goal of this Quality Improvement project was to improve rates of BMI screening, as well as to reach 65% documentation of treatment plans for those patients with a BMI of 30 or above. This goal was targeted at the reimbursement benchmark for the 2019 MACRA measures. Three total PDSA cycles were completed between October 2017 and February 2018, with three separate trials and interventions aimed at improving screening for obesity and patient-provider developed care plans. Results over the three cycles showed an increase in nutrition screening by 33.89%. Based on the outcome of this QI project, continued educational reinforcement with the CSTs regarding the MACRA measure and expectations moving forward will be necessary to achieve the goal of 65% compliance in the documentation of obesity care plans.

The data compiled for MACRA and this QI project reflect patient percentage with documented BMI, as well as follow up care plans addressing those patients with a documented diagnosis of obesity. The PDSA cycles were aimed at improving CST knowledge deficits and workflow challenges. One major limitation to this QI project was lack of provider participation in developing and documenting plans for the treatment of obesity. Identified barriers for

provider follow up in obesity treatment include lack of time, lack of adequate training, inadequate teaching materials, and low confidence (Schriefer, 2009). Moving forward, research would be beneficial in exploring strategies to help primary care providers overcome these actual and perceived barriers to obesity treatment.

Discussion

This Quality Improvement project aimed to improve rates of nutritional screening and patient-provider developed care plans for the weight management. While documentation of both BMI and the obesity treatment improved, the clinic as a whole is not meeting the MACRA benchmark of 65%. Simply documenting obesity as a problem in the EHR alone has shown to increase rates of interventions strategies for weight loss including physical activity recommendations, referral to nutrition counseling, and dietary recommendations (Waring, Roberts, Parker, & Eaton, 2009, Schriefer, Landis, Turbow, & Patch, 2009, Funk, 2017) However, if providers are not documenting both components of the intervention, BMI and follow up care plans, the practice will not be reimbursed for this measure. As changes in legislation continue to affect rates of reimbursement for primary care providers, it is important that clinicians are able to identify gaps in patient care and intervene with processes for improvement.

Limitations

Major limitations of this study include a holiday break between QI cycles two and three, and data collection limitations. With PDSA cycle two ending in November of 2017, there was a month time lapse between cycles, this time gap also coincided with the holiday season and the end of the school semester. An inconsistent presence in the clinic in conjunction with a busy holiday season may have led to a decline in documentation rates.

Another limitation was the use of the enterprise wide MACRA measures reporting system. While this reporting system was the most accurate way to evaluate compliance rates to estimate reimbursement, it did not allow for data categorization. Specifically, rates of compliance based on patient visit types (i.e. acute visits, health maintenance visits) may have been useful, as well as data collection for specific color teams during PDSA cycles one and two. Having individual team data collection would have been helpful in determining if interventions were effective during PDSA cycles one and two, as opposed to clinic wide data collection.

Practice Recommendations

This quality improvement project was limited in its scope for change due to constraints within the current electronic health record, and time limitations within scheduled patient visits. Moving forward, creating a time allotment within the patient visit for the rooming process would allow for more complete patient screening to improve all of the MACRA preventative and screening quality measures (*see table 1*) selected for reporting in 2019.

Another recommendation to improve rates of BMI screening and weight management documentation is to improve the ease of use in the EHR. Tools within the EHR could be employed such as popup windows triggered by BMI documentation when outside of the recommended range. Triggers within the EHR have shown to improve the diagnosis and treatment of obesity (Schriefer, Landis, Turbow, & Patch, 2009), and therefore would be a useful intervention moving forward at this family medicine clinic. Due to the rapid nature of this quality improvement project, changes within the electronic health record or to the scheduling system of this clinic were not within the scope of this project. Implementing these changes moving forward would be beneficial in order to achieve targets for several of the screening and preventative health measures selected for reporting in 2019.

Conclusion

Many changes in practice in Family medicine are on the horizon with the implementation of MACRA. The ability of family medicine clinics to adapt to these continued changes will determine the financial sustainability in a constantly evolving, politically charged healthcare climate. It will become a necessity for healthcare providers to have the ability to develop and sustain Quality Improvement projects aimed at improving patient care, workflow enhancements, and overcoming other various challenges to providing high quality, cost effective patient care.

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