Obesity Management: A Pilot Test of an Electronic Health Record Prompt

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Abstract

The project objective was to conduct a pilot study to discover primary care providers' responses to using a newly developed obesity screening and management addition to an electronic health record (EHR).   Seven providers at a rural community health center pilot tested a red flag body mass index (BMI) prompt, an obesity template, and a resource list placed in the exam rooms to aid in obesity identification and management. Focus group narrative served as the data. A semi-structured interview obtained information about providers' responses to the EHR addition as well as their recommendations for improvements. The results of the pilot study showed that the BMI Red Flag prompt helped providers acknowledge the overwhelming number of obese patients in the clinic. The template was found to be a practical component in obesity management. Having a resource list available for patients in the exam rooms was noted to be needed, useful, and time saving. A key recommendation by the providers was to continue discussion in monthly meetings to facilitate better utilization of the template and enhance individualized approaches. The findings demonstrate a successful implementation of an obesity screening and management addition to the EHR in a rural community health center. It is hoped that this pilot study will serve as a model for one way to incorporate obesity screening and management in primary care settings.

OBESITY MANAGEMENT: A PILOT TEST OF AN EHR PROMPT

Table of Contents

Background and Significance of Intervention

Obesity has gradually increased in the United States since 1980, but, when considering the world, it has almost doubled (World Health Organization, 2013). More than one-third of adults in the United States are obese (Centers for Disease Control and Prevention [CDC], 2012). Not only is obesity a risk factor for chronic conditions and premature death, it is also costly for the United States. In 2008, obesity cost the United States approximately $147 billion (CDC, 2012).

The U.S. Preventative Services Task Force recommends that clinicians screen all adults for obesity, and, if patients are found to be obese, providers should implement interventions for weight loss (U.S. Preventative Services Task Force, 2012). Unfortunately, evidence shows that not all obese patients are addressed, educated, and treated during visits by providers. Research has found that only 48.7% of providers screen their patients for obesity, and only 28.9% include education about diet and exercise (Healthy People, 2020, 2012).

Theoretical Framework

The transtheoretical model (TTM) provides the framework for this study and for the practitioner to determine when a patient is ready for change (Seal, 2007). Integrating the TTM through individualized assessment of readiness and choice of lifestyle modifications with related education is likely contributive to effective weight loss (Seal, 2007).

Project Description

To address the recommendation to screen for and provide weight loss management in the primary care setting, a body mass index (BMI) Red Flag prompt, obesity template, and resource list were developed using the TTM as a guide. These were incorporated into the electronic health record (EHR) within a rural family practice community in the southwestern part of Arizona.

Implementation was done through a pilot study to aid in improving, identifying, and documenting obesity management by providers.

Review of the Literature

Currently, patients lack basic knowledge regarding weight loss management, even though there is a vast amount of information on the related issues of nutrition and exercise. Such barriers interfere with the implementation of recommended weight loss management. Research revealed that providers did not offer education regarding weight loss management because of "too little time, not enough training, lack of financial incentive, and failure to believe that patients can be successful" (Shay, Shobert, Seibert, & Thomas 2009, p. 197).

A combination of interviews by providers, nurses, and patients identified barriers to obesity management within a primary care setting. The multiple barriers that patients, nurses, and provider's identified included *stigma*, cost of private sector services, previous patient experience, practitioners not wanting to take responsibility for obesity management, lack of consistency in care, and limited practitioner skills (Gunther, Guo, Sinfield, Rogers, and Baker, 2012).

Treatment for obesity consists of different approaches, including lifestyle modifications, pharmacotherapy, and bariatric surgery. The most effective therapy for obesity is a combination approach, such as pharmacotherapy and lifestyle modifications (Burke & Wang, 2011). Lifestyle modifications, such as diet, exercise, setting goals, self-monitoring, stimulus control, problem solving, relapse prevention, and cognitive restructuring, are the most effective treatment for obesity (Burke &Wang, 2011). Lifestyle modifications are important even when medication and surgery are used to treat obesity. Pharmacotherapy is not used unless an individual has a BMI of

30 or greater. Bariatric surgery is an option only when the BMI is greater than 40, or 35 with comorbid conditions (Burke &Wang, 2011).

Research has identified some common shared steps needed for successful weight loss management (Shay et al., 2009). Communication and cooperation between provider and patient are needed for implementation of the steps. Findings from the review of literature support the following recommendations: determining and tracking daily calories, evaluating BMI, tracking body weight, developing a weight maintenance plan, and follow-ups. Along with these steps, it is important for the patient and provider to set realistic goals related to lifestyle modifications to aid in weight loss management. Each goal should be tailored to fit the patient and adjusted as needed. Other factors linked to weight loss are tracking weekly weights, keeping a food diary, and eating a nutritional diet (no fast food, decreased portion sizes, and healthy food choices). According to findings from the review of literature, providers who help, encourage, and appraise their patients have better results with weight loss management (Shay et al., 2009).

Chart prompting was found effective when used within the EHR system to help improve diagnosis and documentation of obesity management. This was found when charts were assessed and age, gender, BMI, and documentation of obesity/overweight were taken into consideration over a one month time frame. Unfortunately no change was noted in how providers addressed obesity; documentation of diagnosis increased from 40% to 60% with chart prompting was utilized (Bode, Roberts, & Johnson, 2013).

Providers can use the TMM framework for weight loss management. This process highlights the attributes of "psychological, emotional, behavioral, and motivational processes that may account for successful weight loss management" (Stoltz et al., 2009, p. 79). The first stage in weight management is assessing the patient's readiness for change and individual

circumstances. It is essential to use the five steps to determine the patient's readiness for change. Suggesting appropriate individualized interventions for each of the five steps is most appropriate for best results with weight loss management. The TTM framework could be used in conjunction with lifestyle modifications for weight loss management. There was a relationship noted between lifestyle modifications and TTM framework; which indicates that the best weight loss management results are achieved when both lifestyle modifications and the TTM are used together (Stoltz et al., 2009).

A synthesis of key findings in the literature review regarding screening and management of weight loss management in primary care offices highlights that only one study directly addressed using an EHR prompt to promote provider recognition and diagnosis of weight management (Bode et al., 2013). Findings indicate that providers respond to chart prompts as represented by an increase of 20%. However, neither a template for documentation nor resources were utilized in this study (Bode et al., 2013).

Providers indicate that barriers to weight loss management include "too little time, not enough training, lack of financial incentive, and failure to believe that patients can be successful" (Shay et al., 2009, p. 197). Lifestyle modifications, such as exercise and diet, setting goals, self-monitoring, stimulus control, problem solving, relapse prevention, and cognitive restructuring, are the most effective treatments for obesity (Burke & Wang, 2011). Stoltz and colleagues (2009) supported the use of a theoretical approach using the TTM with an emphasis on patient readiness to change was supported in one study. A combination of literature reviews and randomized control trials (RCT) were used in this literature review. Beyond the low number of RCTs, studies were characterized by use of small sample sizes, heterogeneity in selection and

measurement of demographic and background variables, and use of study-specific outcome variables.

Project Objective

The project objective was to conduct a pilot study to discover primary care providers' responses to using a newly developed EHR addition for obesity screening and management.

Method Design

The project used a descriptive, qualitative design. A focus group narrative served as the data that was gathered through a semi-structured interview. Utilizing focus groups to collect narrative data on a practice change and performing a content analysis can yield dense, rich data that lead to a high level of understanding concerning the topic (Doody, Slevin, & Taggart, 2013a). Focus group and content analysis utilization in health care inquiry is increasing; for example, Stevenson and Nilsson (2012) found that perceptions and views of EHR users should be acquired when developing components of an EHR system. In particular, when developing an EHR system prompt, it is essential to gain insight from providers who will use the system, via collecting, examining, and synthesizing their thoughts and recommendations, to assure that the change adequately addresses needs and to make revisions as indicated (Ortiz & Bushy, 2011; Stevenson & Nilsson, 2012).

Procedure

The BMI Red Flag prompt, obesity template, and resource list were created utilizing the TTM model as well as evidence-based practice recommendations. The BMI Red Flag Prompt was programmed in the intake template of the EHR system to appear at the beginning of the progress note in bold if the patient's BMI $\geq$ 30 at time of visit. The purpose of the prompt was to

help providers acknowledge their patients were obese at time of visit and prompt the provider to

address and intervene in the patient's obesity management using the obesity template.

The obesity template was programmed into the EHR system to pop up automatically at

the beginning of the progress note, within the intake template, if the BMI Red Flag prompt was

initiated because of a BMI ≥ 30.   Appendixes A and B provide screen shots of the BMI Red

Flag prompt and obesity template.

A resource list was developed and placed in each exam room for provider use with

choosing lifestyle behavior changes. If used, the provider documents this in the obesity template.

The resources included applications or programs for smart phones, web site suggestions,

dietician information, support groups, and gyms within the community.

Evaluation Plan

A nurse at a local hospital who was familiar with all participants was selected as the

moderator for the focus group. She used a semi-structured interview that featured questions

about what worked well, what did not, and recommendations for improvement. The focus group

narrative was recorded and later transcribed (see Appendix C for focus group questions).

In preparation for content analysis of the focus group narrative, the data were organized

into three categories: the BMI Red Flag prompt, obesity template, and resource list. For each

category, there were subcategories for grouping and creating themes: strengths, challenges or

concerns, and recommendations. Guidelines for content analysis were as follows:

1. Each theme represented the essence of the data from at least three out the six

     participants to ensure credibility.

2.   Significant responses were then grouped according to similarities.

At this stage, a content analysis of the responses was conducted by the student and validated by the project chair. Each independently developed theme sentence description, from the data, was organized around strengths, problems, and recommendations for revisions. Then, the researcher developed final sentence description themes that incorporated both analyses. Provider recommendations were also incorporated in content analysis.

Results

Seven providers were invited to the focus group, and six attended. The participants included three female medical doctors, one female family nurse practitioner, and two male physician assistants with a range of one in a half to over 30 years at the facility. The focus group lasted 36 minutes.

The primary themes that emerged for the BMI Red Flag prompt were: (a) I knew about obesity in my practice but I really didn't . . . ahh; (b) it pops up and works. There were no challenges or concerns noted in this category. There was a recommendation to track the use of the BMI prompt.

Results from the obesity template category demonstrated that: (a) it is a good start with an easy workable setup; (b) it's there when we want to use it, especially when the patient is ready; (c) provider engagement and ownership by stimulating problem solving and connections. Challenges and concern themes discovered were: (a) how much can we do during an office visit? (b) now what? Give us something to do and tell us what works best; (c) working with persons with obesity is personal, complex, and challenging; (d) how can we personalize and customize our approaches? Recommendations to help improve the obesity template were as follows: (a) incorporate a weight loss goal; (b) relook at naming the categories and expanding in the future; (c) in a provider meeting, have Tanya present what evidence-based practice has indicated as

effective approaches (this was done in January 2014); (d) during a provider meeting, have Tanya lead discussions about helping us utilize the template better, for example, adding medications; (e) look at possibly scanning in the resource list; (f) we need to build in more about customizing and personalizing our approaches; (g) consider placement of ICD9 obesity codes in certain templates (chronic, mult); (h) insert .Edy into the template to gain education credit.

The resource list only had one strength theme discovered: It's needed, useful, and time saving. The only challenge or concern theme discovered was: (a) where was it? The recommendations noted were to: (a) add other resources (signing up for gym or practical equipment at home, home exercises, walking trails); (b) ensure the resource list is in all the exam rooms. Please refer to Appendix D to view a table representing results of the themes with recommendations.

Translation into Practice

Currently, many providers do not address obesity within their practices, even though doing so is a recommendation by the U.S Preventative Services Task Force (2012). The results of the pilot study show that the BMI Red Flag prompt helped providers acknowledge the overwhelming number of obese patients in the clinic. This is represented in the theme "I knew about obesity in my practice but I really didn't . . . ahh." This acknowledgment led to the providers acceptance of change in incorporating obesity screening and management in the EHR. Provider ownership of the change was enhanced through the process of participating in the study and the focus group discussions. This was demonstrated by their active engagement in assessing the components in the EHR and by contributing ideas for improvement of the BMI Red Flag prompt, obesity template, and resource list. The theme "Provider engagement and ownership by stimulating problem solving and connections" represents this. On-the-job training was thus

provided through participation in the process and addressed the provider barrier of "not enough training."

The template was found to be a practical component in obesity management and a practical way to make change, as noted by the theme "It's there when we want to use it, especially when the patient is ready." Considering the barrier of limited time with patients, the obesity template needed to be easy to use with an easy flow. This was accomplished, as demonstrated by the strength theme "with an easy workable setup." It was recommended by providers to re-look at naming the categories and expanding it in the future for individualization to further improve the easy flow of the template, which is expected to help improve their use of the obesity template. A key recommendation by the providers was to continue discussion in monthly meetings to facilitate better utilization of the template and enhance individualized approaches.

The literature review identified a significant barrier to provider's acceptance of managing weight loss in their practice as a failure to believe that obese patients can be successful with weight loss, as well as time limitations, and lack of education (Shay et al., 2009). The results of the pilot study showed similar challenges and concerns, as noted in the themes "Working with persons with obesity is personal, complex, and challenging" and "Now what? Give us something to do and tell us what works best." The obesity template incorporated the evidence-based practice recommendations to manage obesity, in attempt to address this barrier. In addition, the providers requested that a presentation of the evidence-based practice recommendations at the provider meeting be implemented.

Conclusion

The findings demonstrate a successful implementation of an obesity screening and management addition to the EHR in a rural community health center using a combination of a BMI red flag prompt, obesity template and resource list. Continued revisions will be needed to help improve the template to ensure that it runs smoothly and to help individualize it to provider's preferences. Discussion and feedback at monthly provider meeting are likely to enhance this.   It is hoped that this pilot study will serve as a model for one way to incorporate obesity screen and management in primary care settings.

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Appendix A: BMI Red Flag Prompt
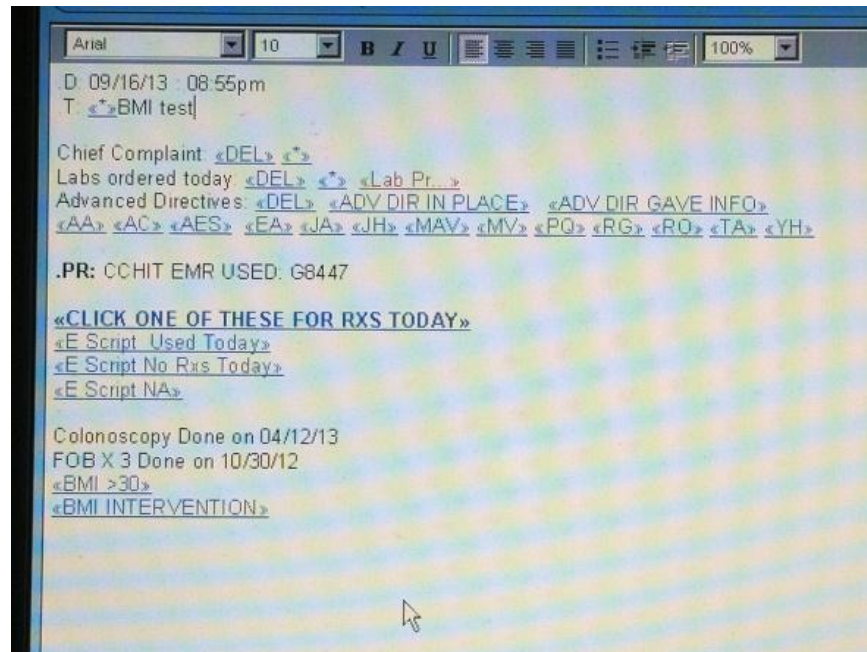
Appendix B: Obesity Template
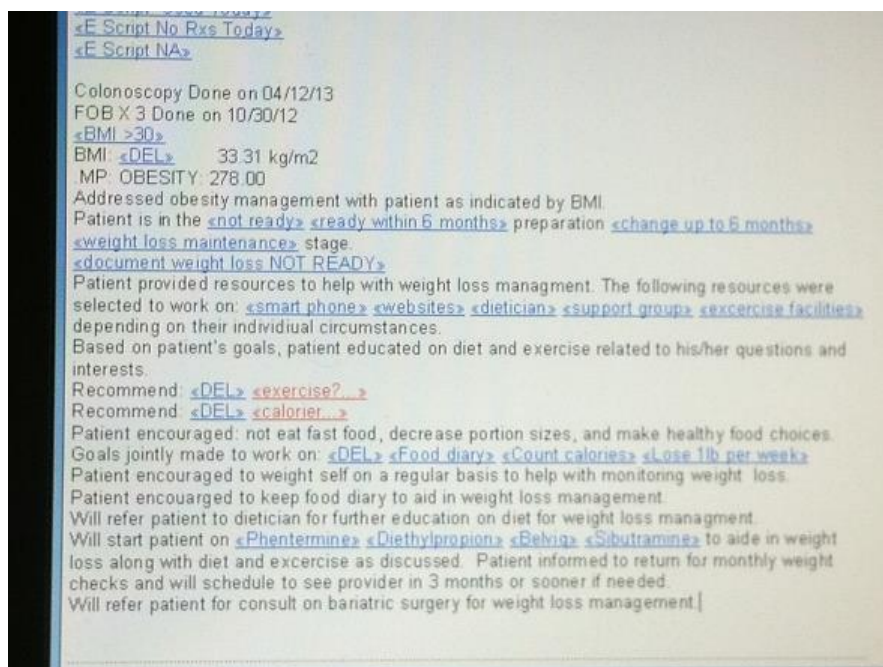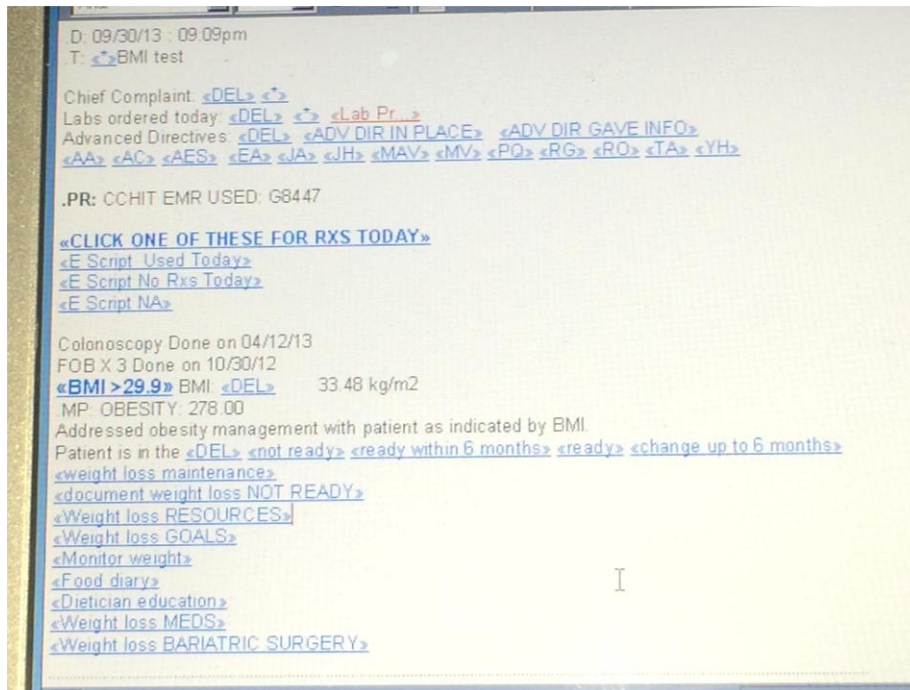
Appendix C: Focus Group Questions

20–25 minutes for questions (1a,b,c all focus on BMI Red Flag prompt)

     1a.   Tell me what worked well with the BMI Red Flag prompt.

     1b.   Describe to me the barriers or difficulties you encountered.

     1c.   Please tell me what revisions or changes you would make.

20–25 minutes for questions (2a,b,c all focus on obesity template and resource list)

     2a.   Tell me what worked well with the obesity template and related resources list.

     2b.   Describe to me the barriers or difficulties you encountered.

     2c.   Please tell me what revisions or changes you would make.

5–10 minutes for final question

     3.   What else comes to mind related to this obesity management approach?

Appendix D: Results of Themes

Obesity Template		
BMI Red Flag Prompt		
Strengths themes	Challenges and concerns themes	Recommendations
I knew about obesity in my practice but I really didn't . . . ahh! It pops up and works	None	Track use of BMI prompt
Strengths themes	Challenges and concerns themes	Recommendations
It's a good start with an easy workable setup	How much can we do during an office visit?	Incorporate a weight loss goal
It's there when we want to use it, especially when pt. is ready	Now what? Give us something to do and tell us what works best.	Relook at naming the categories and expanding in the future
Engagement and ownership by stimulating problem solving and connections	Working with persons with obesity is personal, complex, and challenging.	For a provider meeting, have Tanya present what evidence-based practice has indicated as effective approaches for weight loss
	How can we personalize and customize our approaches?	During provider meeting, have Tanya lead discussions about helping us better utilize the template (adding meds etc.)
		Looking at possibly scanning in resource list
		We need to build in more about customizing and personalizing our approaches
		Consider placement of ICD9 obesity codes in certain templates (chronic, mult)
		Insert .Edy into template to gain education credit

Resource List		
Strengths themes	Challenges and concerns themes	Recommendations
Needed, useful, and time saving	Where is it?	Add other resources: signing up for gym or practical equipment at home, home exercises, walking trails. Ensure resource list is in all the exam rooms.