Improvement of Overweight and Obesity Screening and Intervention in Primary Care

Improvement of Overweight and Obesity Screening and Intervention in Primary Care

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Abstract

Background: Obesity is a chronic health condition, resulting in significant morbidity and mortality, and is inadequately managed and treated in primary care. The Obesity Pathway is an organization-specific algorithm for providers to treat patients with obesity.

Purpose: To improve provider use of an Obesity Pathway in a primary care clinic and to increase the screening and intervention of all adult patients with overweight or obese status.

Methods: The Obesity Pathway was reviewed with primary care providers as well as best practices for weight management, obesity bias and stigma. The NEW Attitudes Scale and satisfaction surveys were completed by providers before and after the training to assess knowledge, attitudes, barriers, and usability. The number of patients referred to nutrition or weight loss services during the project timeframe was also reviewed.

Results: Five providers responded to initial surveys; four providers responded to the NEW Attitudes Scale and two providers responded to the post-evaluation surveys. Providers did not report using the Obesity Pathway often in their practice. Providers reported overall positive attitudes toward obesity on the NEW Attitudes Scale, with improvements on post-intervention survey. Approximately, 2.4% of patients with overweight/obesity were referred to nutrition or weight loss services during the project timeframe.

Conclusion: The Obesity Pathway must be more accessible to increase use and improve outcomes. Provider pessimism on weight management is evident despite overall positive attitudes, and reflects findings in the literature. Future research is needed to improve the screening and intervention of all patients with overweight/obesity in primary care.

Keywords: *obesity, overweight, adult primary care, weight management, weight loss, obesity intervention, obesity screening, weight bias/stigma, primary care providers*

Improvement of Overweight and Obesity Screening and Intervention in Primary Care

There is a lack of adequate screening for overweight/obesity in primary care and the subsequent lack of appropriate interventions and referrals to manage weight loss (Ciciurkaite et al., 2019). Only 25% of overweight, young adults (ages 20-34 with a body mass index [BMI] ≥ 25) reported that their provider notified them of their overweight status in a 2015-2016 survey of 41,343 adults in the United States (Hansen et al., 2020). Overweight and obesity have significant impacts on patient health, and primary care providers are integral in assessing and managing this chronic health condition (Fruh, 2017). The purpose of this quality improvement (QI) project was to improve provider use of the Obesity Pathway in a primary care clinic, encourage providers (nurse practitioners, physician assistants, and doctors) to screen all adult patients (ages 18 to 65) for obese or overweight status (BMI ≥ 25) and to provide appropriate lifestyle counseling, individualized treatment plans, and referrals to promote weight loss. The Obesity Pathway was implemented at the clinic organization in 2020 and is an organization-specific algorithm for providers to manage and treat obesity based on evidence-based, best practices. The Obesity Pathway was adapted from several professional resources, including the American Heart Association/American College of Cardiology/The Obesity Society's Guideline for Management of Overweight and Obesity in Adults (2013), and the Obesity Medicine Association's (2016-2017) Obesity Algorithm: Clinical Guidelines for Obesity Treatment. (See *Appendix A*).

Background

Obesity is a complex, chronic health condition influenced by individual, socioeconomic, and environmental factors, and contributes to significant morbidity and mortality in the United States (Centers for Disease Control and Prevention [CDC], 2020). Obesity is associated with an average decreased life expectancy of five to ten years and increases the risk of developing co-

morbidities such as cardiovascular disease, diabetes, gastrointestinal conditions, musculoskeletal disorders, respiratory complications, and psychological issues (Fruh, 2017). Over one-third of adults in the United States are obese, defined as having a BMI of greater than/equal to 30 kg/m^2, and nearly two-thirds are considered overweight or obese (BMI $\geq$ 25) (Fruh, 2017; Rust et al., 2020). Primary care practitioners are crucial in the assessment and treatment of obesity and associated co-morbidities because they are seen regularly and are trusted by their patients (Semlitsch et al., 2019).

Data from the National Ambulatory Medical Care Survey (NAMCS) from the years 1999 through 2016 reveal several concerning trends. Data shows that obesity has been substantially underdiagnosed and undertreated in healthcare (Ciciurkaite et al., 2019). There have been decreasing trends in behavioral counseling, and patient age, race/ethnicity, body weight, and reason for the office visit influenced whether providers offered behavioral counseling (Goldberg et al., 2019). Overweight adults are less likely to have their weight discussed by their providers compared to obese adults, and less than 25% of overweight, young adults were made aware of their overweight status, which has implications for obesity in later adulthood (Hansen et al., 2020). Additionally, provider discussion of overweight status differs based on gender and race, with overweight men and overweight black patients being less likely to have their weight discussed (24% less likely for men and 19% less likely for black patients) (Hansen et al., 2020).

One-third of obese patients report that their healthcare providers did not discuss their obesity or tell them they are overweight (Harvard School of Public Health, 2020). However, research shows that overweight or obese patients have accurate perceptions of their weight, are interested in losing weight, and attempt to lose weight when their providers talk to them about their overweight/obese status (Harvard School of Public Health, 2020). Barriers to adequate

screening and treatment of obesity and overweight status include provider attitudes, biases, and assumptions (Bleich et al., 2015). Additional barriers include inadequate visit times, provider training in weight loss management, and provider knowledge of the available tools and resources to refer patients for weight loss (Bleich et al., 2015). To improve primary care provider assessment and management of overweight and obese patients, increasing the use of clinical pathways and policies/procedures is necessary.

Problem Statement

The risks associated with being overweight (BMI ≥ 25) or obese (BMI ≥ 30) among adults (ages 18 - 65) in the United States are indicated by significant morbidity and mortality, and results from a lack of adequate assessment and intervention by health care providers in primary care.

Literature Review

Methods

A review of the literature was conducted using the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and PubMed databases. An initial search in CINAHL of articles from 2016 to present, using the search terms “obesity AND interventions (or strategies or best practices or treatment or therapy or program or management),” yielded 22,628 results. This was further reduced to 313 articles using the additional search term “primary care” and selecting “all adult” in the “narrow by subject age” modifier. Inclusion criteria included publication within past five years, adults as the target population (ages 18 and older), and location in a primary care setting within the United States. Eight articles were included from this search: Bloom et al. (2018), Brown et al. (2020), Fruh (2017), Iwamoto et al. (2018), Lumsden et al. (2020), Rust et al. (2020), Thabault et al. (2016), and Wadden et al. (2020). One highly cited article by Thomas

et al. (2014) was found on the National Weight Control Registry website. An additional search in CINAHL was done to assess socioeconomic factors. The search was conducted using the terms "weight loss (or weight reduction or lose weight or obesity or overweight or weight management) AND intervention," narrowed by subjects, "all adult" and "socioeconomic factors," and yielded 55 results. One article, Yackobovitch-Gavin et al. (2015), was included from this search.

A PubMed database search, using the terms "obesity AND intervention AND adult primary care," from the year 2016 to present, with selection of only randomized controlled trials and systematic reviews, yielded 550 results. Inclusion criteria remained the same as the CINAHL search; however, one article was included that was done outside the United States because of its relevance to the topic (Aveyard et al., 2016). Five articles were included from this search, including: Aveyard et al. (2016), Bennett et al. (2018), Katzmarzyk et al. (2020), McVay et al. (2019), and Semlitsch et al. (2019). Minimal pharmacologic or surgical weight loss studies were found under a search of "obesity AND intervention" in the databases. An additional Google scholar search was conducted using "obesity medication prescribing" from the year 2017 and newer, and one article, Saxon et al. (2019), was included from this search.

A total of 16 articles were chosen for this review. Articles were assessed using the John's Hopkins Nursing Evidence-Based Practice Rating Scale (2005). There were four level I articles reviewed which were all randomized controlled trials and two level II articles including a pilot study and a non-randomized trial. There were eight level III articles of high-quality reviewed including two survey studies, two cohort studies, two longitudinal studies, one secondary analysis study and one systematic review of international guidelines. There were two level V articles of high quality reviewed including one quality improvement and one narrative review.

Several themes emerged from the literature review including clinical guideline recommendations, intensive treatment programs for weight management, pharmacologic and surgical interventions, and patient and provider perceptions of weight loss.

Results

Screening Guidelines and Protocols

BMI is recommended as a diagnostic tool for overweight and obesity, along with a targeted and comprehensive patient medical history, based on a systematic review of international evidence-based guidelines (Semlitsch et al., 2019). Nineteen guidelines were included (from years 2011-2019) in the review and the AGREE II appraisal model was used to critique the guidelines (Semlitsch et al., 2019). BMI is the recommended screening tool for overweight/obese status because it has been widely studied in the literature and is easy to use, despite controversy regarding BMI sensitivity and specificity for various age, gender, and racial groups (Batsis et al., 2016). Morbidity and mortality associated with BMI $\geq$ 25 are well documented from population-based studies (Batsis et al., 2016). Other measurements, such as increased waist circumference, have been linked to morbidity and chronic health conditions, but are not currently recommended as the primary screening method for overweight/obesity (Batsis et al., 2016).

Screening for overweight and obese status using BMI is routinely performed, often done automatically in the electronic health record (EHR). However, the discussion of BMI status and provision of interventions, is lacking in primary care (Harvard School of Public Health, 2020). A quality improvement project done by Rust et al. (2020), successfully implemented a clinical practice guide (CPG) to address obesity prevention and management in a primary care clinic. Though this study provides data for one specific clinic, it reveals that while most providers may

discuss weight management with their patients, they do not set weight-related health goals or assess patients' readiness to change, which are critical components of a weight management protocol (Rust et al., 2020). For this capstone project, a clinical practice guideline already existed at the clinic for providers to manage obesity, the Obesity Pathway, but it was not being utilized. Clinical practice guidelines are useful tools that apply evidence-based guidelines into clinical practice, especially for complex conditions such as obesity, but utilization of these clinical practice guidelines is necessary in order to be effective.

Obesity is a complex health condition that requires a multi-disciplinary approach to manage it effectively. Guidelines recommend the use of a multi-disciplinary team to manage weight and implement lifestyle (diet, exercise and behavior), pharmacologic and/or surgical interventions (Semlitsch et al., 2019). Additionally, therapeutic weight goals should be set to achieve a 5% to 10% reduction of baseline body weight over a 6–12-month treatment timeframe (Semlitsch et al., 2019). The challenge is the actual application of these guideline recommendations into everyday primary care practice.

Intensive Treatment Programs

Intense lifestyle and behavioral programs have been shown to improve weight loss and weight management of obese and overweight adults (Bennett et al., 2018; Katzmarzyk et al., 2020; McVay et al., 2019; Thabault et al., 2016). The *Track* study compared a digital obesity treatment to usual obesity care in primary care on weight loss over 12 months in patients with socioeconomic disadvantage and cardiovascular risk (Bennett et al., 2018). Track intervention included behavioral change goals that changed every two months (ie., walk 10,000 steps), weekly calls or texts to report progress and provide motivation, daily self-weighing, pop-up reminders in the EHR for providers, and coach outreach 18 times over 12 months for support and

training (Bennett et al., 2018). Patients in the Track intervention group lost an average of 4.1kg at six months, with 43% of patients in the Track intervention group losing >5% of their initial weight compared to only 6% of those in the usual care group losing >5% of their initial weight (Bennett et al., 2018). A secondary analysis of the Track study revealed a significant weight change associated with provider-documented counseling across all appointments from month 0-12, but patient self-report of counseling was not associated with increased weight loss (McVay et al., 2019). Additionally, higher ratings of provider empathy were associated with increased weight loss (-0.8kg average), but only during the 6-to-12-month time frame (McVay et al., 2019). The results support the idea that human contact with a digital weight loss intervention, and specifically provider empathy, leads to improved weight loss (Bennett et al., 2018; McVay et al., 2019).

Significant weight loss with intense behavioral programs can vary greatly depending on the study/intervention and length of time. One intensive behavioral therapy program in a primary care clinic had 39% of adult patients lose at least 5% of their baseline body weight over 6 months (Thabault et al., 2016). A longer, cluster-randomized trial to assess the effectiveness of a 24 month, high-intensity, lifestyle-based program in 452 adult patients compared to 351 patients receiving usual care, had greater weight loss in the intervention group, especially at 6 months (Katzmarzyk et al., 2020). The intervention included daily self-weighing, regular meetings with health coaches, as well as a provided diet/meal plan and 175 minutes of exercise per week (Katzmarzyk et al., 2020). The intervention group lost an average of 4.99% of their baseline weight, compared to the usual care group (0.48% of their baseline weight) (Katzmarzyk et al., 2020). Overall, black patients had less weight loss than other races, with no significant differences seen between age or gender (Katzmarzyk et al., 2020). There was no difference in

cardiovascular risk between intervention or usual care groups, but the intervention group had more improvements on several quality-of-life measurements compared to the usual care group (Katzmarzyk et al., 2020).

Active referral to high-intensity intervention programs is necessary when these programs are not available in primary care clinics. Aveyard et al. (2016) conducted the first trial that involved the screening and opportunistic intervention for people not seeking weight loss support and assessed its impact on weight over 12 months in a primary care setting. The intervention group had a significant average weight loss of 2.53kg compared to 1.04kg average in the control group, with 25% of the intervention group losing 5% of their initial body weight versus 14% in the control group (Aveyard et al., 2016). The study reflects a more general population because it was offered to all obese patients rather than those seeking help to lose weight (Aveyard et al., 2016). Additionally, it involved the referral of patients to weight management programs outside of the primary care clinic (Aveyard et al., 2016),

Studies show that a 5% reduction in body weight can result in improved health outcomes and reduction in associated co-morbidities for obese patients (Fruh, 2017). Studies indicate that high-intensity, weight loss interventions result in a significant number of patients achieving a 5% baseline body weight reduction (Aveyard et al. 2016; Bennett et al., 2018; Katzmarzyk et al., 2020; Thabault et al., 2016). High-intensity, weight loss interventions usually involve a multi-disciplinary team and may include both in-person and technology-based check-ins (phone calls, texts, emails, telehealth visits). Some studies, such as with Brown et al. (2020), suggest that a telemedicine approach alone may improve weight loss outcomes for obese patients. An average of 3.5% baseline weight loss was seen during a 16-week telemedicine weight management program for obese patients in rural primary care clinics (Brown et al., 2020). Though patients did

not achieve the ideal 5% baseline body weight loss, the trial was shorter (16 weeks), and the results suggest improved weight loss with telemedicine intervention (Brown et al., 2020). The trial was not randomized, and the telemedicine appointments were not individualized in patients' homes (rather in group settings at their respective, rural primary care clinics), but may be a beneficial model for primary care clinics without local access to adequate weight management programs (Brown et al., 2020).

Pharmacologic and Surgical Intervention

Pharmacologic intervention is recommended, in combination with lifestyle interventions, for patients with BMI ≥ 30 (or BMI ≥ 27 with associated co-morbidity), and surgical intervention for patients with BMI ≥ 40 (or BMI ≥ 35 with associated co-morbidity) (Perreault, 2020). There are several U.S. Food and Drug Administration (FDA) approved medications for weight loss, including orlistat, phentermine-topiramate, naltrexone-bupropion, and glucagon-like peptide-1 agonists (GLP-1) (Lumsden et al., 2020). Along with lifestyle changes, weight loss medications have been shown to improve weight loss, compared to lifestyle changes alone, and may also improve patient satisfaction with weight loss (Saxon et al., 2019). Several diabetes medications may also improve weight loss (metformin is used off-label and liraglutide is FDA approved) (Saxon et al., 2019). An RCT of liraglutide and intensive behavioral therapy (IBT) showed 61.5% of patients lost ≥ 5% weight over 56 weeks compared to 38.8% of patients with placebo and IBT (Wadden et al., 2020).

Despite evidence of weight loss medication effectiveness, weight loss medications are rarely prescribed by providers (0.6% - 2.6% of eligible patients), and the number of prescriptions has decreased in recent years based on retrospective studies (Saxon et al., 2019). Longitudinal studies of weight change and management have also shown low weight loss prescriptions, with

1% of all eligible patients being prescribed weight loss medications over a three-year period in a large academic health system (Lumsden et al., 2020). Bariatric surgery rates are similarly low, with 0.6% of eligible patients having bariatric surgery in the same longitudinal study (Lumsden et al., 2020).

Lack of provider education and comfort with weight-loss medications may contribute to low prescription rates (Iwamoto et al., 2018). A survey of primary care providers found that exercise may be overvalued, and weight-loss medications undervalued, but that educational intervention can improve provider comfort with weight-loss medication prescribing (Iwamoto et al., 2018). Educational intervention may also improve provider perception of medication effectiveness (Iwamoto et al., 2018).

Patient and Provider Perceptions

Patient and provider perceptions of weight loss and weight management can significantly impact motivation and interventions (Bloom et al., 2018; Iwamoto et al., 2018). Patients in a qualitative study identified several key themes to improve weight management in primary care: determine motivating factors, positive reinforcement and follow-up of providers, establishment of specific lifestyle changes and goals, and increased time for weight loss discussion at visits (Bloom et al., 2018). Surveys of providers have indicated pessimism in advising patients on weight-loss, and this view may not change despite educational intervention on weight management techniques (Iwamoto et al., 2018). Negative stereotypes of weight loss capability and patient motivation may impact provider perceptions, while patients may be hindered by provider bias and perceived lack of support (Bloom et al., 2018). Qualitative studies and small survey studies are helpful in assessing patient and provider perceptions but are not generalizable to large populations.

Limitations of Weight Loss Trials

A major concern with weight loss trials is high attrition rates and predominantly Caucasian, female population. Although a few studies intentionally sought out underserved populations (Bennett et al., 2018; Katzmarzyk et al., 2020; Wadden et al., 2020), many have mostly female participants (Bennett et al., 2018; Lumsden et al., 2020; Katzmarzyk et al., 2020; Thabault et al., 2016; Thomas et al., 2014; Wadden et al., 2020; Yackobovitch-Gavan et al., 2015). Most of the studies reviewed also had higher follow-up rates compared to typical weight loss trials. The average 12-month weight loss trial has a follow-up rate of 63% (Aveyard et al., 2016). Aveyard et al. (2016) had a follow-up rate of 75% at 12 months, Katzmarzyk et al. (2020) had 83.4% of patients complete the 24-month trial, and Wadden et al. (2020) had 96% completion rate over 56 weeks, but Brown et al. (2020) only had a 62% completion rate at the end of 16 weeks. Multiple factors may contribute to high attrition rates, including dissatisfaction with weight loss, and these must be further evaluated in future clinical trials.

Sociodemographic Considerations

Personal, sociodemographic, and treatment-related factors associated with attrition at different stages in a 10-week weight-loss program were investigated as part of a longitudinal clinical intervention study (Yackobovitch-Gavan et al., 2015). The most significant predictor of dropout was a smaller reduction in BMI at the beginning of the trial, with a 0.5 average BMI unit reduction in the first two weeks being associated with better program compliance (Yackobovitch-Gavan et al., 2015). Of the 30% who did not complete the program, 55% of them dropped out during the last week of intervention, likely related to psychological factors of not achieving desired weight loss goal (Yackobovitch-Gavan et al., 2015). Similarly, a 10-year longitudinal study of weight loss maintenance in people who have successfully lost weight found

that patients with greater initial weight loss maintained larger weight losses over the 10-year timeframe (Thomas et al., 2014). Gender, race/ethnicity, and education were not significant factors in sustained weight loss, but initial weight loss was significant (Thomas et al., 2014). These longitudinal studies suggest that early encouragement and improvement in high-intensity, weight-loss interventions can improve patient outcomes and sustain weight management over time. Additional RCTs are necessary that address weight loss and weight maintenance from high-intensity programs in multiple populations (such as various gender, racial, and socioeconomic groups).

Conclusion

Universal overweight and obesity screening of adult patients in primary care with BMI and the use of multi-disciplinary interventions (such as lifestyle recommendations; referral to high-intensity, weight management programs; weight-loss medications; and/or surgical referral) for weight loss are part of current recommended guidelines (Semlitsch et al., 2019; Saxon et al., 2019). Routine check-ins and frequent follow-ups are also necessary to ensure program compliance, and check-ins may be especially important at the beginning of the intervention (Bennett et al., 2018; Yackobovitch-Gavan et al., 2015). To incorporate these guidelines into everyday practice, policies and procedures must be implemented and utilized. Provider education on how to assess, manage, refer, and talk to their patients about obesity and weight loss is also essential. (Bleich et al., 2015). For this capstone project, providers were re-educated on the Obesity Pathway (a step-by-step algorithm) to improve the screening and intervention of overweight and obese patients in one primary care clinic.

Theoretical Framework/Evidence Based Practice Model

Graham et al.'s (2006) Knowledge-To-Action (KTA) framework was used for this

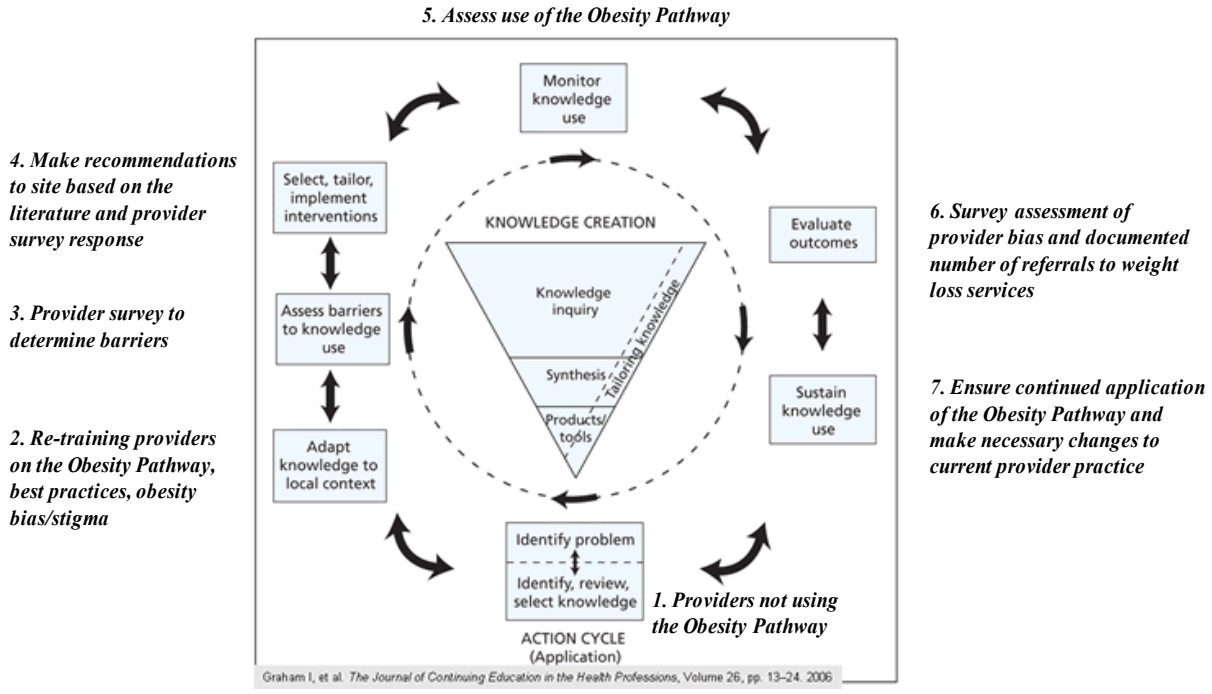
project. The KTA model exists to address the research/knowledge-practice gap and is applicable to quality improvement (QI) projects in healthcare and involves multiple cycles. KTA involves the process of knowledge creation and action within a cyclical and fluid process. Knowledge creation includes knowledge inquiry (first-generation knowledge or existing knowledge), knowledge synthesis (second-generation knowledge or aggregation of existing knowledge), and knowledge tools or products (third-generation knowledge or compilations of the knowledge such as with clinical practice guidelines). Knowledge creation is depicted as a funnel within the action cycle. The action component is a cycle of knowledge implementation into clinical practice. The action cycle involves identifying a problem and associated knowledge, adapting the knowledge to the specific setting, assessing the barriers to implementation, tailoring the intervention to the setting, monitoring the knowledge use, evaluating outcomes, and sustaining the knowledge use. (See *Appendix B*).

In this project, a review of the literature and current evidence-based practices on weight screening and intervention encompassed the knowledge creation. The Obesity Pathway existed as previous knowledge, and the action cycle was the re-training of primary care providers and the actual application of the Obesity Pathway into clinical practice. The action component included several steps: identifying the problem of providers not utilizing the *Obesity Pathway*; adapting the knowledge to the specific setting with the re-training of the providers; assessing the barriers to implementation via provider survey; tailoring the intervention to the setting by making recommendations based on literature and provider response; monitoring the knowledge use by assessing the use of the *Obesity Pathway*; evaluating outcomes via survey assessments of bias and determining the number of patients referred to weight loss services; and sustaining the

knowledge use by ensuring continued application of the *Obesity Pathway* and making necessary changes to current practice. (See *Figure 1*).

Figure 1

Assessing Use of the Obesity Pathway within the KTA Framework



Note. The steps involve a cyclical and fluid process, as depicted with the arrows.

The next step for this project is to share the findings with providers at the clinic and make recommendations to improve weight management screening and intervention at the clinic.

Methods

Goals & Objectives

The goals of this project were to improve provider use and knowledge of the Obesity Pathway, reduce overweight and obesity stigma or bias, improve provider comfort with weight management discussion and intervention, and assess use of the Obesity Pathway. Additional

objectives were to increase the universal screening of obesity and overweight status and to increase referrals to weight loss services for all adult patients seen in the primary care clinic. A primary goal was for 80% (8 out of 10) of clinic providers to complete the pre- and post-surveys and watch the PowerPoint education training. To meet the objective of reducing weight bias and stigma, a goal was set for the NEW Attitudes Scale survey scores to be 25% higher after intervention. Provider comfort with weight management discussion and intervention was indicated based on post-intervention survey responses. Increased use of the Obesity Pathway was indicated on post-surveys, with a goal of 80% of providers reporting "yes" on post-survey question number one ("did you watch the PowerPoint training video?"). (See *Table 1*).

Table 1

Project Goals and Objectives

Goals and Objectives	Desired Outcomes	Actual Outcomes
-Providers will participate in a PowerPoint training on the Obesity Pathway, weight bias/stigma, and weight management discussion/best practices, as well as participate in surveys about these topics	-At least 80% of providers would respond to the surveys and watch the PowerPoint presentation	-50% of providers responded to the initial surveys -20% (n=2) of providers replied to the post-satisfaction survey; both reported watching the PowerPoint presentation -The PowerPoint training video was viewed four times
-Providers will demonstrate improved attitudes and decreased bias toward overweight and obese patients	-NEW Attitudes Scale scores will be 25% higher after intervention (higher scores indicate more positive attitudes) (Ip et al., 2013) -Providers will have greater comfort levels in managing overweight/ obesity post-intervention,	-40% (n=4) of providers responded to post-NEW Attitudes surveys -NEW Attitudes Scale scores improved by 5-7% - Providers reported overall positive results on ability to treat patients with overweight/obesity on the NEW Attitudes Scale, and

	as indicated on survey results	showed improvements on post-survey results
-Providers will utilize the Obesity Pathway and all of their adult patients will be screened based on BMI and offered tailored interventions for weight management as indicated in the Obesity Pathway	-Increased use of the Obesity Pathway on post-surveys, with 80% of providers reporting "agree" on post-survey question #1 -25% of overweight/obese patients would be counseled on weight management and have documented intervention (or declination of weight management discussion)	-No providers reported "agree" on either pre- or post-survey question #1, indicating neutral or no use of the Obesity Pathway in their current practice -1% of patients with BMI ≥ 25 (overweight) and 3.2% of patients with BMI ≥ 30 (obese) were referred to nutrition or weight loss services during the study timeframe

Note. Improvements on post-survey results do not reflect statistical significance due to limited data. Data documenting patient counseling, weight management intervention, or declination of weight management discussion was unable to be obtained from the EHR for this project.

Project Site and Population

The project was implemented in a primary care clinic in a suburb of Seattle, Washington. The clinic consists of ten providers: six medical doctors, three advanced registered nurse practitioners, and one physician's assistant. All clinic providers were recruited via email and with assistance from their colleague/the project mentor. The clinic offers primary care services, including family medicine (newborn, pediatric, adolescent, adult and geriatric care), chronic disease management, health wellness and education, and minor surgical procedures. Clinic providers were the target population for this project, but adult clinic patients, ages 18 – 65 with overweight or obese status (BMI ≥ 25), are targets for the Obesity Pathway.

Measurement Instruments

Pre- and post-surveys were administered to all clinic providers anonymously via Microsoft

Forms online. The Nutrition, Exercise, and Weight Management (NEW) Attitudes Scale survey was used to determine provider attitudes and biases toward obesity and weight management. The NEW Attitudes Scale was designed for medical students but could be applicable to any healthcare provider who assesses and treats obese patients (Ip et al., 2013). This scale has good validity and reliability with moderate internal consistency and uses a 5-point Likert scale rating to score question responses (Ip et al., 2013). The NEW Attitudes Scale is unique because it emphasizes clinical application rather than bias alone (Ip et al., 2013). The test-retest reliability or correlation coefficient of the NEW Attitudes Scale was 0.89 (Ip et al., 2013).

Satisfaction surveys included nine to 13 questions, with a mix of 5-point Likert scale and open-ended response questions. Satisfaction surveys assessed pre- and post-intervention feelings of ability to assess and treat overweight/obese patients, availability of resources, and barriers and facilitators. The post-satisfaction survey also assessed likeability and useability of the Obesity Pathway. (See *Appendices C and D*).

Data Collection Procedure

Surveys were administered pre- and post-implementation of the provider training. The surveys were completed anonymously online by providers via Microsoft Forms. The pre- and post-surveys were matched using an assigned number chosen by the provider (any random 4-digit number). Pre-intervention surveys (including the NEW Attitudes Scale and satisfaction surveys) were sent via email to all providers by the project mentor on September 23, 2021 and requested to be completed by October 10, 2021. The email also contained the link for providers to watch the PowerPoint Zoom presentation. Re-education of providers on the Obesity Pathway and associated topics was completed via this pre-recorded PowerPoint Zoom presentation conducted by the DNP student. The PowerPoint Zoom presentation, titled “Overweight and

Obesity Screening and Intervention: Provider Training," consisted of a refresher training on the Obesity Pathway, best practices for weight management, obesity bias/stigma, ways to overcome barriers in weight management, and motivational interviewing. Providers were instructed to complete the pre-surveys prior to watching the PowerPoint training, and to complete both the pre-surveys and the training by October 10, 2021. A reminder email, containing the actual PowerPoint slides, was sent by the project mentor on October 6th. (PowerPoint presentation see *Appendix E*).

After completion of the pre-surveys and the PowerPoint training, providers were asked to complete post-surveys. The two post-surveys, the NEW Attitudes Scale and satisfaction surveys, were sent via email to all providers by the project mentor on December 1, 2021 and requested to be completed by December 12, 2021. A technical error with the link for the post-satisfaction survey was discovered by the DNP student on December 7th, and a new email was sent by the project mentor on December 9th to all providers with the corrected link to complete the post-intervention surveys, with an extended deadline of December 22nd. An additional reminder email was sent by the project mentor on December 16th for providers to complete the post-intervention surveys.

In addition to survey data, patient data on overweight/obesity intervention was also collected. EHRs of all patients seen in the clinic for an annual appointment or other non-acute appointment just prior to and during the project timeline (August – December 2021) was reviewed. The number of documented referrals to nutrition or weight loss services for all patients with BMI ≥ 25 was recorded by clinic staff. Only de-identified data was reviewed and analyzed by the DNP student per clinic policy and for the protection of patient health information.

Data Analysis

Given the anticipated small sample size (≤ 10 providers), descriptive statistics were used for this QI project. Demographic data was not collected due to small sample size and the need to preserve anonymity of survey responses. Overall frequency, means, and ranges were evaluated for pre- and post-surveys completed by providers. Data collected from the patient EHRs was extracted into Microsoft Excel and de-identified by facility staff. The de-identified data was reviewed and analyzed by the DNP student and reported in an aggregate format. Qualitative data regarding provider feelings on obesity, treatment and the usability of the policy, were also reviewed and discussed as part of the data analysis.

Ethical Considerations/Protection of Human Subjects

This doctoral project was submitted to the University of Massachusetts Amherst Institutional Review Board (IRB) as well as the primary care clinic organization's IRB and did not meet criteria for human subject research or IRB review (see *Appendices F and G*). Data from the EHRs at the facility was accessed only by facility staff and the descriptive data was de-identified prior to the DNP student obtaining the data for analysis.

Primary care providers were educated and surveyed anonymously regarding the Obesity Pathway and their attitudes surrounding obesity. Surveys were submitted online by providers using Microsoft Forms and were accessed by the DNP student. All results were coded and aggregated, and did not include identifying information. There was minimal risk to the healthcare providers, and the potential benefits of improving patient health with this QI project outweighed the risks of sensitive discussion of personal biases and fears.

Results

Five providers out of 10 clinic providers responded to both initial surveys between

September 23rd and October 22nd. Four providers responded to the NEW Attitudes Scale post-survey and two providers responded to the post-evaluation survey from December 1st – December 21st. One provider, as determined by random ID code, completed all of the pre- and post-surveys. The PowerPoint Zoom education video was viewed four times.

Providers reported overall positive attitudes on the NEW Attitudes Scale, with pre-survey scores ranging from +17 to +70 (mean of +45.4) and post-survey scores ranging from +23 to +70 (mean of +53.5). All three providers who completed both of the NEW Attitudes Scales (both the pre- and post-surveys) showed improvement in scores on the post-assessment, with a range of 5-7% increases in scores. Only one of these three providers completed the post-satisfaction survey and reported watching the training videos (both the PowerPoint Zoom presentation and the site's previous staff meeting recording on the Obesity Pathway); so, it is unknown if the other two providers watched the training videos. Statistical significance cannot be determined regarding completion of the training and improvement in NEW Attitudes Scale responses due to limited data.

There was one negative response on one pre-survey question assessing obesity bias on the NEW Attitudes Scale, but two providers responded with neutral results on two of the bias questions. Overall, providers expressed more positive attitudes about patients being able to eat healthy diets and be counseled on nutrition effectively compared to attitudes about patients' ability to exercise and be counseled on exercise. Providers reported overall positive results on ability to treat patients with overweight/obesity as evidenced by positive results on the two questions: "I feel confident treating overweight/obese patients" (average score of +1.2) and "I feel effective in helping overweight/obese patients manage their weight" (average score of +0.4)

and showed a slight increase in positive attitudes on these two questions on the post-survey results (average score of +1.5 and +1, respectively). (See *Table 2*).

Table 2

NEW Attitudes Scale Results

Question [b]	Average Score (*Pre*)	Average Score (*Post*)	Improved? [a]
1. There is no excuse for a patient to be overweight/obese (-3)	+3.6	+2.25	No
2. It is usually sufficient to give a person brief, clear advice about weight management (1)	-1.4	-1	Yes
3. People can eat a healthy diet if they choose to do so (-2)	0	-0.5	No
4. Counseling about nutrition does not change behavior (-2)	+2	+2	Same
5. I believe if I eat a healthy diet it would make me an effective role model (2)	+0.8	+2.5	Yes
6. I find it rewarding to talk to someone about nutrition (2)	+1.6	+2	Yes
7. I have a personal desire to counsel patients about nutrition (2)	+1.2	+2	Yes
9. The American food culture contributes to the overweight/obese problem (1)	+1.8	+1.5	No
10. Patients are likely to follow an agreed upon plan to increase their exercise (1)	-0.4	0	Yes
11. Even if I counsel them, patients will continue their poor exercise habits (-3)	0	+0.75	Yes
12. I have a personal desire to counsel patients about exercise (2)	+2	+1.5	No
13. Overweight individuals tend to be lazy about exercise (-4)	+2.4	+4	Yes
16. I believe patients can maintain weight loss (2)	+1.2	+2	Yes

17. I think obese patients are motivated to change their lifestyle (2)	+1.2	+1.5	Yes
18. I feel effective in helping overweight/obese patients manage their weight (2)	+0.4	+1	Yes
19. I believe that my patients will follow through with a weight management program (2)	+0.8	+1	Yes
20. I feel confident treating overweight/obese patients (2)	+1.2	+1.5	Yes
21. I think treating overweight/obese patients is not worth the time (-5)	+8	+8.75	Yes
22. Weight management counseling takes too much time (-3)	0	+1.5	Yes
23. I do feel a bit disgusted when treating a patient who is obese (-5)	+8	+8.75	Yes
24. If a patient is overweight/obese, I feel awkward discussing his/her weight (-2)	+2	+0.5	No
25. The person and not the weight is the focus of weight management counseling (2)	+2	+3	Yes
27. Patients take their weight seriously (1)	+1	+0.75	No
29. I have a personal desire to counsel patients about weight management (2)	+2	+1.5	No
30. Overweight/obese individuals lack will power (-4)	+4.8	+5	Yes

Note. Scale response for each question based on: −2 (*strongly disagree*), −1 (*disagree*), 0 (*neutral*), 1 (*agree*) or 2 (*strongly agree*). Each question is scaled (scale number is listed in parentheses after each question) with negative points reflecting negative attitudes and positive points reflecting positive attitudes. To calculate total, multiple response scale rating by the scale number (in parentheses after each question) (Ip et al., 2013).

[a] Improvement in scores does not indicate statistical significance.

[b] Several questions were omitted in the table due to scoring insignificance (question score of 0). There was a total of 17 questions (out of 25 scored questions) on the NEW Attitudes Scale that showed improvements in scores from the pre- to post-survey. However, statistical significance of score improvement could not be determined due to small sample size.

Providers did not report using the Obesity Pathway often in their practice, based on "disagree" and "neutral" responses on both pre- and post-satisfaction surveys. Four providers reported not knowing how to find the Obesity Pathway and made recommendations for embedding it within the EHR for ease of use. Three providers recommended better flagging of BMI in the EHR to address screening and weight management intervention. All five providers reported adequate resources and referral options as a facilitator to managing overweight/obesity on pre-surveys. Three providers reported time as a barrier to discussing weight management. Additional barriers reported by the providers included patients not wanting to talk about their weight and feeling that there are inadequate methods to manage weight loss effectively.

Two providers responded to the post-satisfaction survey and reported watching the PowerPoint training and an additional clinic-provided training (a previous, pre-recorded staff meeting on the Obesity Pathway, which was linked in the PowerPoint training as additional education). All providers answered the optional question of "are you happy with your own weight, at this time" with a "disagree" or "neutral" response, with one provider changing this to "agree" on the post-satisfaction survey. Providers who answered the optional question of "how many years have you been in practice for" reported a minimum of four years and maximum of 16 years.

Patient data was reviewed to determine documented intervention for overweight/obesity management. The only data that could be extracted from patient EHRs for this project was the number of referrals to nutrition or weight loss services based on BMI. Of the 3,893 patients with overweight/obesity seen in the clinic around the project timeframe (August – December 2021), 94 of those patients, or 2.4%, were referred to nutrition or weight loss services. Of note, this data included patients of all ages, and not just an adult population. There were 1468 office visits of patients with overweight BMI ($25 \leq BMI < 30$) during this timeframe and 15, or 1%, were referred to nutrition services. There were 2425 office visits of patients with obese BMI ($BMI \geq 30$) during this timeframe, and 79, or 3.2%, were referred to nutrition or weight loss services. The highest number of referrals for patients with obesity was noted during the month of October ($n = 24$). The project was initiated in late September/early October, but the significance of an increase in referrals during this time is unclear, due to limited data. The minimal number of patient referrals did not meet the project goal of 25% of patients with overweight/obesity having documented weight management intervention. However, additional weight-management intervention data was not reviewed for this project due to restrictions of accessible data from patient EHRs.

Discussion

The primary goal of this project was to increase provider use of an existing Obesity Pathway. Additional goals of this project included improving provider obesity bias and attitudes regarding weight management, as well as increasing the number of documented interventions for weight management and the number of referrals to weight loss services. Use of the Obesity Pathway was not improved with this project, but provider attitudes on obesity and weight management were overall positive and showed improvements over the project timeline. The

number of patient referrals to weight loss services was minimal during the project and needs to be improved.

Providers did not report using the Obesity Pathway often in their practice, and reported that it was too challenging to find and reference. The use of guidelines and policies/procedures is necessary to assist providers with weight management intervention, but is useless if providers are unaware of how to access it. Studies on obesity clinical practice guidelines have recommended embedding these guidelines within the EHR for improved outcomes (Rust et al., 2020). Some providers made recommendations for embedding the pathway within the EHR, which is something the site is currently working on.

Despite the lack of Obesity Pathway use, providers did report overall positive attitudes regarding obesity. The NEW Attitudes Scale scores can range from -118 to +118, with positive scores indicating more positive attitudes (Ip et al., 2013). In the Ip et al. (2013) study, scores ranged from -37 to +78 with a mean score of 24.4. In this project, pre-survey scores ranged from +17 to +70 (mean of +45.4), and post-survey scores ranged from +23 to +70 (mean of +53.5), implying overall positive attitudes. Providers reported overall positive attitudes regarding ability to treat overweight/obese patients, but the numbers were still low and close to a neutral or "0" response (+0.4 and +1 on pre- and post-survey, respectively). Provider pessimism on weight management interventions can negatively impact both provider and patient perceptions of weight loss ability (Iwamoto et al., 2018). If providers do not have confidence in their ability to treat overweight/obese patients, this can be problematic for patients with overweight/obesity. Additionally, providers had an overall neutral response regarding the amount of time it takes to counsel patients on weight management (0 and +1.5 on pre- and post-survey, respectively). Time for weight management counseling has been indicated as a barrier by providers and patients

(Bleich et al., 2015; Bloom et al., 2018). If providers do not feel weight counseling is worth the time and/or feel that weight counseling takes too much time, this can significantly impact weight management discussions and interventions.

Despite overall positive attitudes, there were several negative or neutral attitudes reflected on some of the questions, specifically those related to patients' ability to choose to eat a healthy diet, and patients' ability to follow-through with adequate exercise. Some studies have indicated that primary care providers may overvalue exercise, especially compared to other weight loss strategies (Iwamoto et al., 2018). Diet and exercise are critical components of weight loss, but multi-disciplinary approaches are recommended for weight management; additionally, guidelines recommend the use of a multi-disciplinary team to achieve adequate weight loss goals of 5-10% (Semlitsch et al., 2019).

In addition to lifestyle and behavioral interventions, pharmacologic intervention is recommended for patients with BMI $\geq$ 30 (or BMI $\geq$ 27 with associated co-morbidity), and surgical intervention for patients with BMI $\geq$ 40 (or BMI $\geq$ 35 with associated co-morbidity) (Perreault, 2020). This project did not assess weight loss medication prescribing at the clinic, but the number of referrals to nutrition and/or weight loss services was evaluated, and these numbers are comparable to the literature. Referrals for bariatric surgery can be as low as 0.6% of eligible patients (Lumsden et al., 2020). Approximately 3.2% of patients with obesity (BMI $\geq$ 30) were referred to nutrition or weight loss services (which counsels on bariatric surgery) during the project timeframe. It is unknown if more of these patients were referred during a previous time or if some patients denied referrals, but it is evident that improvements in referral rates are necessary.

On evaluation surveys, five providers reported adequate resources and referral options as a facilitator to managing overweight/obesity, but three providers reported time as a barrier to discussing weight management. This is a bit contradictory, as referral to other specialists can decrease the amount of time the primary care provider needs to spend on weight management discussion. Additionally, weight management should involve a collaborative team in order to achieve a multi-disciplinary approach, as indicated in evidence-based guidelines (Semlitsch et al., 2019).

Providers noted the barrier of patients not wanting to talk about their weight. Four out of five providers reported feeling comfortable talking to patients about their weight, but three reported that patients do not want to discuss their weight, and one stated a barrier to weight discussion is "discomfort with approaching the subject." It is unclear if this one provider was indicating patient or provider discomfort with approaching the subject. However, if providers feel they are comfortable with weight management discussion, regardless of reported patient discomfort, a greater number of weight management discussions should be happening. Studies have indicated that patients want providers to talk to them about their weight, provide weight management guidance and weight-loss support (Harvard School of Public Health, 2020; Iwamoto et al., 2018). This contradicts provider report of patients not wanting to discuss their weight. Incorporating a patient questionnaire to assess willingness to discuss weight and readiness for change would be beneficial, and may encourage providers to initiate weight-management conversations (Rust et al., 2020). One provider recommended this type of patient questionnaire on the satisfaction survey.

Provider perception of patients not wanting to talk about their weight can significantly hinder weight management discussions, but provider pessimism of effective weight management

options further impacts these discussions. One provider stated “I don’t think we have great methods to treat weight management,” despite noting a facilitator of weight loss and nutrition service referrals for weight management. Studies have indicated provider pessimism in advising patients on weight-loss, despite adequate provider education on weight management techniques (Iwamoto et al., 2018). Providers reporting inadequate ways to manage weight loss effectively may indicate this type of pessimism. Additionally, though it was not mentioned by providers on survey, the significant cost of some newer and more effective weight loss medications (such as GLP-1 medications) may contribute to negative perceptions of weight management options (Iwamoto et al., 2018). Negative stereotypes of patient motivation and ability to lose weight also impact both provider and patient perceptions (Bloom et al., 2018).

Interestingly, all of the providers reported a neutral or unhappy response to the question of “are you happy with your own weight at this time,” with the exception of one provider who changed this to “agree” on the post-satisfaction survey. Diet and exercise are the most common interventions prescribed for weight management, and other effective interventions, such as medication prescribing, are often undervalued by providers (Iwamoto et al., 2018). Lifestyle and behavioral changes are challenging for most patients to make, and the need for concrete, individualized interventions for these types of changes is necessary; in addition to continued support and motivation over an extended period of time (in order to implement the changes effectively) (Bloom et al., 2018). The pessimism of providers counseling patients on weight management may relate to the challenges of implementing lifestyle and behavioral changes effectively, as well as to their own dissatisfaction with personal weight management. In order to implement effective lifestyle interventions, patient referrals to multi-disciplinary teams (nutrition, weight loss programs, bariatric surgery consultation, etc.) is necessary, and the

combination of additional interventions (weight loss medications, bariatric surgery) is also necessary to achieve adequate and sustained weight loss.

A primary facilitatory for this project was the assistance of the project mentor, one of the providers in the clinic, for recruitment of the providers. Other facilitators included recent training and introduction of The Obesity Pathway (initiated just a couple years ago), and easy referral to an in-network, weight loss clinic. There were several challenges during this project, including the COVID-19 pandemic which impacted the ability to conduct the provider training in-person, decreased the number of in-person healthcare visits, and impacted the ability of patients to utilize in-person weight loss support groups and/or exercise facilities. Provider recruitment and retention was lower than anticipated, despite several communications between the project mentor and the providers, as well as the offering of a small incentive for completion of all the surveys.

Conclusion

There is a lack of adequate screening and intervention for patients with overweight or obese status in primary care, and this contributes to significant patient morbidity and mortality. This project sought to improve provider use of an existing Obesity Pathway to screen and intervene on overweight/obese patients in one primary care clinic. Weight management is a complex health problem, fraught with inadequate understanding of weight management interventions; underutilization of multi-disciplinary teams and referrals, medications and bariatric surgery; and obesity bias and stigma in healthcare. Providers reported minimal use of the Obesity Pathway, and this is evidenced by the lack of referrals to weight loss services and nutrition. Though providers reported overall positive attitudes toward patients with obesity, as evidenced by NEW Attitudes Scale survey results, they still reported some neutral or negative attitudes surrounding obesity and the ability of patients to manage their weight loss. Pessimistic

attitudes were also evident based on provider report of inadequate weight loss management techniques and lack of time to discuss weight management, despite report of adequate resources and referral options for patients.

Recommendations

Based on the project findings, there are several recommendations for the clinic to improve the screening and intervention of all patients with overweight and obese BMI. Several improvements should be made to the EHR. The addition of a link to the Obesity Pathway or the embedding of the actual algorithm/steps of the pathway within the coding or documentation components of the patient chart would improve ease of use. Also, better flagging of patient BMIs in the chart would ensure providers acknowledge or discuss patients' weight at wellness visits. The use of care gaps is already ubiquitous in the EHR, and adding a weight management care gap for those with overweight or obese BMI would be beneficial. Adding a question on patient forms about patients' willingness to discuss their weight and readiness for change at their wellness visit may also increase the number of conversations on weight management. Additionally, the clinic could set target goals for weight management interventions (medication prescribing numbers, referral numbers) based on BMI status, similarly to the set target goals for chronic disease management.

There are several improvements that could be made for future QI projects. The expansion of the project to include several clinic sites would improve the number of responses and subsequent data analysis. A more in-depth provider training, involving several in-person training sessions, would likely improve project outcomes and increase actual use and application of the Obesity Pathway into everyday practice. Direct involvement of additional providers in the project, such as with the development of a practice counsel, may also improve project outcomes.

Due to restrictions of ability to access EHR data, this project did not collect robust data for analysis of several important factors, including pharmacologic prescribing numbers, provider discussion of lifestyle recommendations, or documented discussion of weight management with all patients with overweight or obese status (or patient declination of wanting to discuss weight management). More robust data could be incorporated into future projects with greater assistance from clinic staff who would be directly involved in the project. Additionally, a future longitudinal study could review patient BMI changes based on intervention types. Future research is necessary to adequately address the lack of screening and intervention on patients with overweight or obese status in primary care. Improvements must be made to manage patient weight loss effectively, and reduce the incidence of morbidity and mortality associated with overweight and obese conditions.

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Appendix A: *Obesity Pathway*

Adult Obesity Pathway

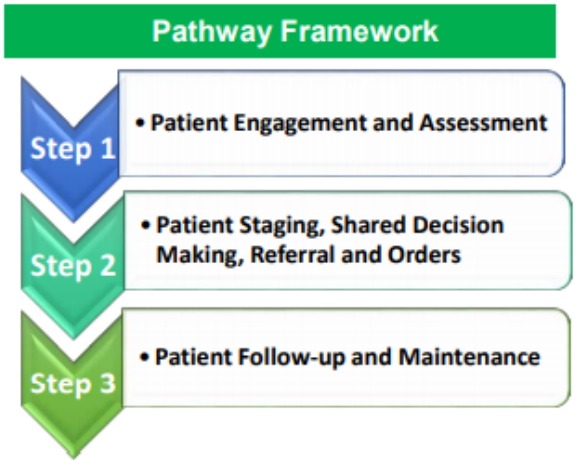
Step by Step to Obesity Management

Obesity is a chronic disease that requires long term management. More than one third of adults in the United States are obese. Increased BMI is associated with a decreased life expectancy, and obesity leads to many comorbidities such as Type 2 diabetes, sleep apnea, gallbladder disease, heart disease, hypertension, dyslipidemia, and kidney disease. Weight-related discussions with health care providers have been shown to influence patients to engage in weight loss efforts. This pathway was developed at Providence St. Joseph Health to incorporate best practice recommendations in managing patients with obesity in primary care.

Key components of this pathway

Summary of pathway components:

1. **Assess** patient weight status.
2. **Engage** patients with higher than normal BMI regarding willingness to work on weight management
3. **Use** the tools provided to have productive discussions with patients to promote healthy weight
4. **Establish** a plan of care to help patients reach weight loss goals.
5. **Ensure** follow up for reassessment and ongoing support.

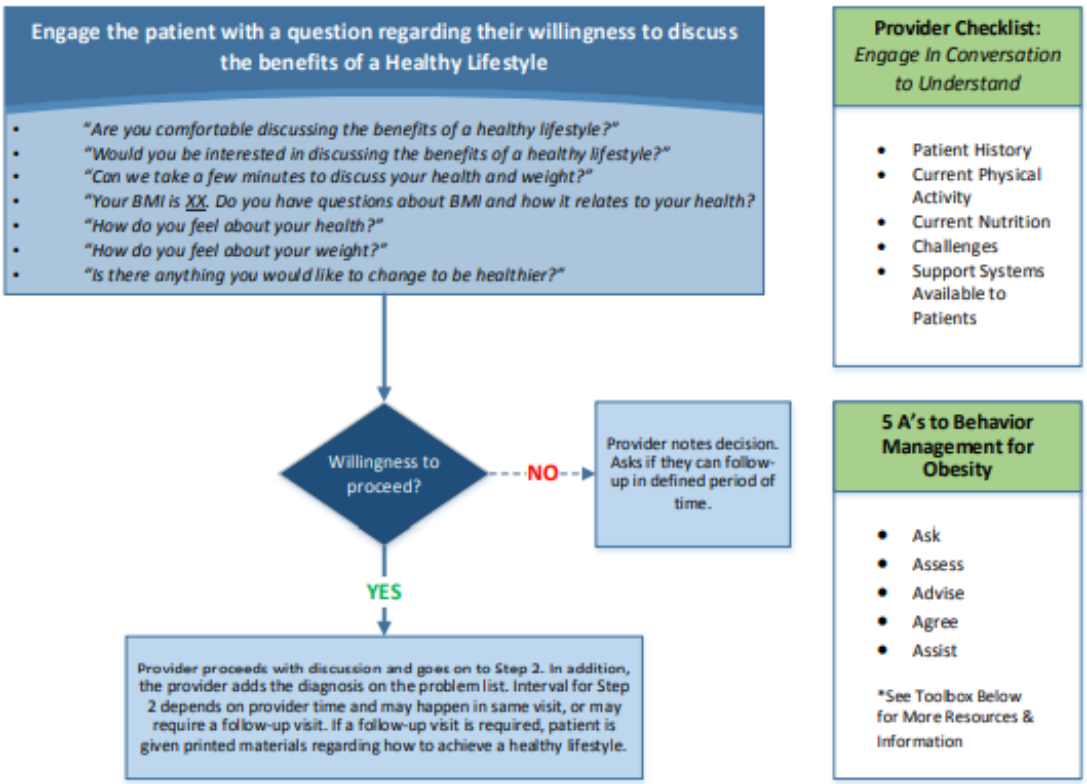


Tools	Resources
Provider Education	Provider Education PowerPoint
Workflow	Obesity Workflow
2013 AHA/ACC/TOS Guideline	Management of Overweight and Obesity in Adults

Step 1: Patient Engagement & Assessment

The goal of this step is to start a conversation about the benefits of a healthy lifestyle with adult patients coming into primary care with a BMI that is ≥ 35. If they are willing to have further conversation, follow the pathway. If they are not, record "reason" in Epic and postpone to a future visit.

Based on outcome of the discussion with the provider, the patient would be advised on a treatment regimen in Step 2 and work with the care team to set goals.



Tools	Resources
5A's Behavior Management Approach	5A's Scripting
Motivational Interviewing	Counseling Techniques of Motivational Interviewing
Conversation Starters	Conversation starters document

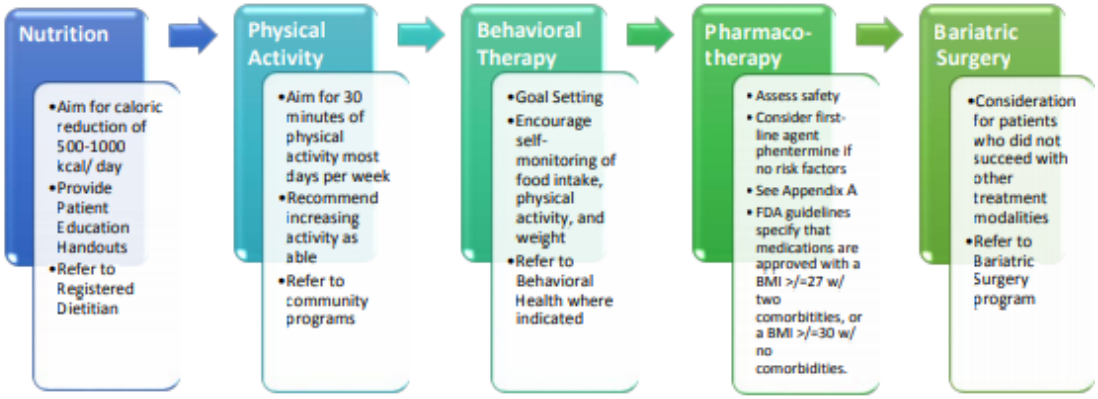
Step 2: Patient Staging, Shared Decision Making, Referral and Orders

The clinical intent is to have the patient confirm that they are ready to move forward with a defined treatment plan. If agreed, utilize the chart below to stage patient and determine treatment modalities. Review options using shared decision making to find those that would be best suited for reaching their goals, reviewing the pros and cons of each. If the patient is not able to make a decision at this visit, plan for follow-up at a future encounter.

As appropriate:

- Refer patient to programs and specialists identified in the agreed-to-treatment plan
- Schedule follow-up appointments as agreed to with patient
- Commit to tracking and reporting plan
- Understand and use appropriate billing codes

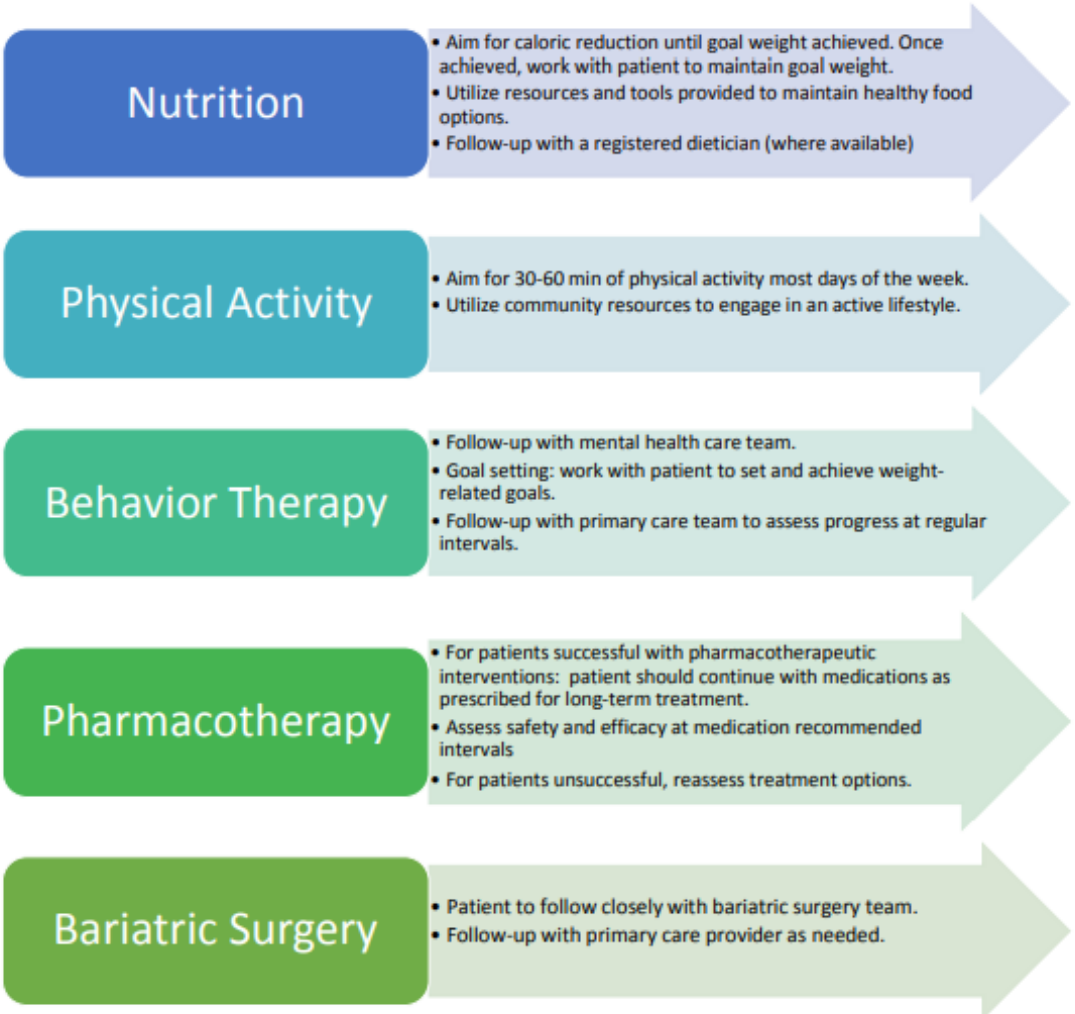
Patients should be coached on lifestyle changes and provided with resources to make steps toward achieving a healthy weight. Pharmacotherapy may be considered in addition to lifestyle changes where indicated. For patients with a BMI ≥ 40, or those with a BMI ≥ 35 plus comorbidities who are unsuccessful with lifestyle and medication interventions, referral for bariatric surgery may be warranted.



Tools	Resources
Patient Education Resources	NIH Facts About Healthy Weight – Factsheet on weight management CDC Website on Weight Management – Comprehensive information on weight loss • CDC – Improving Your Eating Habits • CDC – Healthy Weight • CDC – Getting Started on Losing Weight • CDC – Physical Activity USDA Choose MyPlate – A guide in choosing healthy portions EatRight – Academy of Nutrition and Dietetics Videos – Videos on nutrition and exercise
Pharmacotherapy Options (Medication Information Table)	Appendix A
Obesity Medicine Association	Obesity Algorithm: Clinical Guidelines for Obesity Treatment

Step 3: Patient Follow-up and Maintenance

Follow-up is the most important step for the continuity of care for a patient, as this is where a patient is most likely to fall down on their journey to a healthy lifestyle. For each treatment regimen there is a follow-up plan with interval definitions for time and topic. Recommended follow up frequency for patients with a BMI of 35 + without comorbidities is at least annually. For patients who have a BMI of 35 + with comorbidities, it is recommended to follow up at least every six months.



Appendix A: Obesity Pharmacotherapy Options – Drug Information Table

	FIRST-LINE THERAPY* **(Please refer to the section below on guideline recommendations of long term usage)*	**SECOND-LINE THERAPIES** *(selection of a second-line agent should be individualized based on drug interactions, possible side effects, other comorbidities and price/availability of insurance coverage and/or savings cards)*				
	Phentermine	**Orlistat**	**Phentermine-Topiramate**	**Lorcaserin**	**Naltrexone-bupropion**	**Liraglutide**
Mechanism of Action	Suppresses appetite	Inhibits fat absorption	Phentermine: suppresses appetite; Topiramate: unknown	Suppresses appetite, promotes satiety	Suppresses appetite and cravings	Slows gastric emptying, increases satiety
Contraindications	Hyperthyroidism, glaucoma, agitation, pregnancy, breastfeeding	Pregnancy or breastfeeding	Hyperthyroidism, glaucoma, agitation, pregnancy, breastfeeding, MAO-I within 14 days	CrCl < 30 mL/min, pregnancy	ESRD, pregnancy, breastfeeding, MAO-I within 14 days, uncontrolled HTN, seizure d/o, eating d/o, alcohol withdrawal	Personal or family h/o medullary thyroid cancer (MEN 2), pregnancy, breastfeeding,
Warnings/Use with Caution	CV disease, h/o drug abuse,	--	CV disease, h/o drug abuse, depression	CrCl 30 - 50 mL/min, severe hepatic impairment	Avoid in patients taking opioids	H/o pancreatitis, moderate-to-severe renal impairment
Drug Interactions	MAO inhibitors	Cyclosporine (should be taken at least 3 hrs before or after orlistat), warfarin, fat-soluble drugs (i.e. amiodarone, antiepileptics, antiretrovirals, levothyroxine - check individual drugs for dose adjustments), oral contraceptives may be less effective if severe diarrhea occurs	MAO inhibitors, opioid or other CNS depressants including alcohol	Serotonergic agents (i.e. SSRI, SNRI, MAO-I, St. John's wort, triptans, bupropion, dextromethorphan)	Bupropion, chronic opioid use or acute opioid withdrawal, linezolid, may increase levels of CYP2D6 substrates (i.e. paroxetine, sertraline, risperidone, metoprolol)	Other hypoglycemic agents
Adverse Reactions	Nervousness, insomnia, dry mouth, HA, elevated BP and/or HR, constipation	Abdominal pain, fecal urgency, steatorrhea, fecal incontinence, hepatoxicity, oxalate nephropathy	Dry mouth, dizziness, constipation, nephrolithiasis, increased HR, angle-closure glaucoma, acute myopia, dysgeusia	Dry mouth, dizziness, somnolence, HA, GI disturbance	N/v, constipation or diarrhea, HA, dizziness, insomnia, dry mouth	N/v, diarrhea, constipation, hypoglycemia, gallbladder disease, pancreatitis
Monitoring	BP, HR	Renal function, INR if on warfarin	Pregnancy test at baseline and monthly for women of childbearing	BG levels in pts with DM, s/s of serotonin syndrome	Adjust for renal and hepatic impairment	Symptoms of thyroid tumors, s/s of pancreatitis

			age; adjust for renal function; electrolytes (esp K+ and bicarbonate)			
Average Cost/Month*	$12	OTC: $45; Rx: $530 - $640	$199	$212 - $291	$212-$234	$1,095 - $1,250
Weight Loss Efficacy (% of participants who lost at least 5% of BW/10% BW)	--	35-75%/14-41% *(data from systematic review)*	62-70%/--	38-47%/--	48-50.5%/--	36%/23%
Weight Loss Efficacy (% lost over placebo/lifestyle group)	6%	2.9%	8-9%	3-3.7%	4.2-4.8%	6%
Weight Loss Efficacy (kg lost over placebo/lifestyle group)	3.6 kg over 2 - 24 weeks; 8.2 kg at 36 weeks	OTC: 2.5 kg; Rx: 4.4 kg at 1 year, 3.3 kg at 2 years, 2.8 kg at 4 years	9 kg at 1 year	3.3 kg at 1 year	4.9 kg at 1 year	5.6 kg at 56 weeks
Dosing	15, 30, or 37.5 mg daily before breakfast or 1 - 2 hours after	Oral: 60 or 120 mg TID during or within 1 hour of a fat-containing meal	Oral: 3.75/23 mg daily x 14 days, then 7.5/46 mg daily; if <3% weight loss at 12 wks, increase to 11.25/69 mg daily x 14 days, then 15/92 mg daily thereafter	Oral: IR: 10 mg BID, XR: 20 mg daily	Oral: 8/90 mg daily x 7 days, then 8/90 mg BID x 7 days, then 16/180 mg qam and 8/90 mg qpm x 7 days, then 16/180 mg BID thereafter	SubQ: 0.6 mg daily, increase by 0.6 mg weekly to daily target dose of 3 mg
Comorbidities Consideration	--	Preferred agent in binge-eating disorder, avoid in nephrolithiasis	Upon discontinuation, taper off slowly, especially if pt has seizure disorder	Avoid in patients with depression already taking a serotonergic agent	Contraindicated in uncontrolled HTN	Has been studied in post-bariatric surgery patients
Off-Label Usage	*See comments below*	--	*See comments below*	--	*See comments below*	--
Misc.	Schedule IV, avoid abrupt discontinuation	Recommend multivitamin with A, D, E, K and beta-carotene 2+ hrs before or after orlistat	Schedule IV, REMS info at www.qsymlarems.com - prescribers & pharmacies must be certified; encourage adequate fluid intake to reduce risk of nephrolithiasis	Schedule IV	--	REMS info at www.saxendarems.com

* = average cash price; prices may vary greatly based on insurance coverage and availability of drug manufacturer savings cards

Off-label uses – please note that the below guidance is not approved by the FDA but rather based on expert opinion and reflects common practice trends given the cost inhibition of some of the brand name options listed above

1. **Phentermine Long-Term Use (off label)**
   - Phentermine has been widely prescribed for more than 20 years and there is currently minimal evidence of any serious long-term side effects. It is reasonable for clinicians to prescribe phentermine long term as long as the patient:
     - has no evidence of serious CV disease,
     - does not have serious psychiatric disease or h/o substance abuse,
     - does not demonstrate clinically significant increase in HR or BP while taking phentermine and
     - demonstrates a significant weight loss while using the medication

     (Adapted from statement in Endocrine Society Clinical Practice Guideline)
   - Same monitoring, side effects and contraindication as listed above for short-term use.

2. **Topiramate +/- Phentermine (off label)**
   - Start with topiramate 12.5 mg QHS (1/2 of 25 mg tablet) x 7 – 14 days and then increase by 12.5 mg every 7 – 14 days up to 75 – 100 mg QHS based on tolerability and efficacy
   - This can be used alone or in combination with phentermine
   - Same monitoring, side effects and contraindications as listed above

3. **Naltrexone + Bupropion (off label)**
   - Start with bupropion SR 150 or bupropion XL 150 mg or bupropion IR BID or TID up to max dose of 450 mg daily
   - Start with ½ of naltrexone 25 mg tablet (12.5 mg dose) for 1 week then increase to 25 mg daily or 12.5 mg BID and increase to 37.5 mg (1.5 tabs daily)
   - Either agent can be used in combination with the other or alone
   - Same monitoring, side effects and contraindications as listed above for individual agents

Long-Term Phentermine (adapted from statement in Endocrine Society Clinical Practice Guideline)
Phentermine has been widely prescribed for more than 20 years and there is currently minimal evidence of any serious long-term side effects. It is reasonable for clinicians to prescribe phentermine long term as long as the patient: 1) has no evidence of serious CV disease, 2) does not have serious psychiatric dz or h/o substance abuse, 3) does not demonstrate clinically significant increase in HR or BP while taking phentermine and 4) demonstrates a significant weight loss while using the medication

References:

1. Apovian CM, Aronne LJ, Bessesen DH, et al. Pharmacological Management of Obesity: An Endocrine Society Clinical Practice Guideline, J Clin Endocrinol Metab. 2015;100(2):342–362.
2. Drugs for Weight Loss. Pharmacist's Letter. 2017: Clinical Resource #: 330111. http://pharmacistsletter.therapeuticresearch.com/pl/ArticleDD.aspx?cs=&s=PL&pt=2&fpt=31&dd=310202&pb=PL&searchid=63141393&segment=8079. Accessed February 3, 2018.
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5. Bersoux S, Byun TH, Chaliki SS, et al. Pharmacotherapy for obesity: What you need to know. Cleve Clin J Med. 2017;84(12):951-958.
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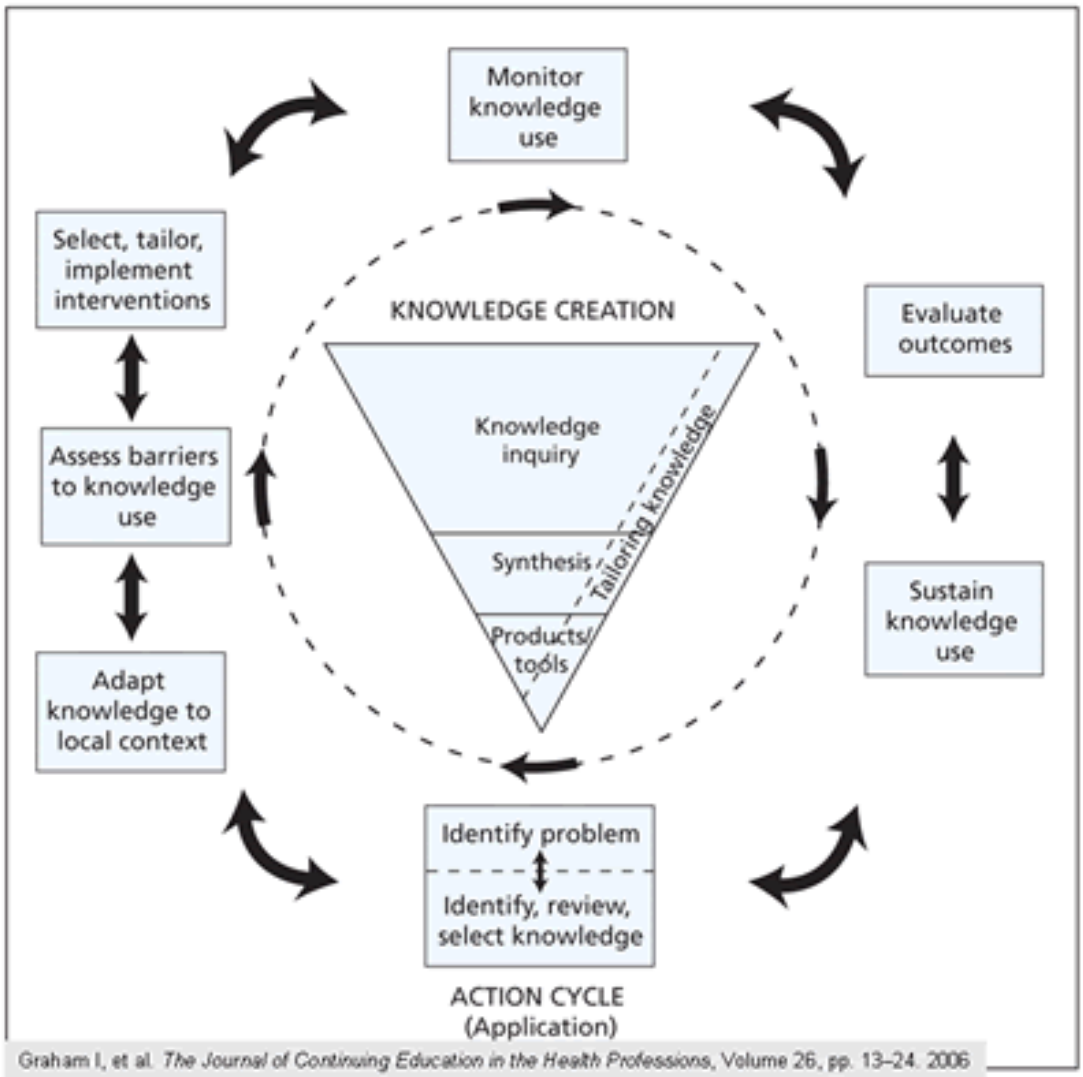
7. Belviq [package insert]. Woodcliff Lake, NJ: Eisai, Inc. 2012
8. Contrave [package insert]. Deerfield, IL: Takeda Pharmaceuticals America, Inc. 2014.
9. Qsymia [package insert]. Mountain View, CA: VIVUS, Inc. 2012
10. Saxenda [package insert]. Plainsboro, NJ: Novo Nordisk, Inc. 2014

Appendix B: Knowledge to Action Framework



Graham I, et al. *The Journal of Continuing Education in the Health Professions*, Volume 26, pp. 13–24. 2006

Appendix C: NEW (Nutrition, Exercise, Weight management) Attitudes Scale

1. There is no excuse for a patient to be overweight/obese *(-3)*
2. It is usually sufficient to give a person brief, clear advice about weight management *(1)*
3. People can eat a healthy diet if they choose to do so *(-2)*
4. Counseling about nutrition does not change behavior *(-2)*
5. I believe if I eat a healthy diet it would make me an effective role model *(2)*
6. I find it rewarding to talk to someone about nutrition *(2)*
7. I have a personal desire to counsel patients about nutrition *(2)*
8. Patients understand the connection between nutrition and cancer *(0)*
9. The American food culture contributes to the overweight/obese problem *(1)*
10. Patients are likely to follow an agreed upon plan to increase their exercise *(1)*
11. Even if I counsel them, patients will continue their poor exercise habits *(-3)*
12. I have a personal desire to counsel patients about exercise *(2)*
13. Overweight individuals tend to be lazy about exercise *(-4)*
14. Patients understand the connection between exercise and cancer *(0)*
15. Patients think lack of exercise can be a serious health risk *(0)*
16. I believe patients can maintain weight loss *(2)*
17. I think obese patients are motivated to change their lifestyle *(2)*
18. I feel effective in helping overweight/obese patients manage their weight *(2)*
19. I believe that my patients will follow through with a weight management program *(2)*
20. I feel confident treating overweight/obese patients *(2)*
21. I think treating overweight/obese patients is not worth the time *(-5)*
22. Weight management counseling takes too much time *(-3)*
23. I do feel a bit disgusted when treating a patient who is obese *(-5)*
24. If a patient is overweight/obese, I feel awkward discussing his/her weight *(-2)*
25. The person and not the weight is the focus of weight management counseling *(2)*
26. Patients know the health risks related to their weight *(0)*
27. Patients take their weight seriously *(1)*
28. Patients understand the connection between weight and cancer *(0)*
29. I have a personal desire to counsel patients about weight management *(2)*
30. Overweight/obese individuals lack will power *(-4)*
31. Patients think being overweight/obese is a serious health risk *(0)*

*Scale Rating for each question:

−2 (strongly disagree), −1 (disagree), 0 (neutral), 1 (agree) or 2 (strongly agree)

*Each question is scaled (scale number is listed in parentheses after each question) with negative points reflecting negative attitudes and positive points reflecting positive attitudes

*To calculate total, multiple response scale rating by the scale number (in parentheses after each question)

(Ip et al., 2013)

Appendix D: Provider Survey

Pre Survey

1. Do you utilize the Obesity Pathway in your current practice for all patients with obesity?*
2. If no to above, what prevents you from using the Obesity Pathway?

_____

3. Do you feel comfortable talking to patients about their weight and weight loss?*
4. Do you feel you have adequate resources to treat and manage patient weight loss?*
5. What barriers exist that prevent adequate discussion of weight management with patients?

_____

6. What facilitators exist to help patients with weight loss/management?

_____

7. How could we help improve the screening/intervention of overweight and obese patients?

_____

Optional Questions:

8. How many years have you been in practice for?_____
9. Are you happy with your own weight, at this time? Y or N _____

Post Survey

1. Did you review the PowerPoint education video on The Obesity Pathway? Y or N _____
2. Do you utilize the Obesity Pathway in your current practice for all patients with overweight/obesity?*
3. If no to above, what prevents you from using the Obesity Pathway?

_____

4. Is the Obesity Pathway easy to use?*
5. Do you feel comfortable talking to patients about their weight and weight loss?*
6. Do you feel you have adequate resources to treat and manage patient weight loss?*
7. What barriers exist that prevent adequate discussion of weight management with patients?

_____

8. What facilitators exist to help patients with weight loss/management?

_____

9. How could we help improve the screening/intervention of overweight and obese patients?

_____

10. How do you feel the Obesity Pathway could be improved?

_____

11. Any other feedback?

_____

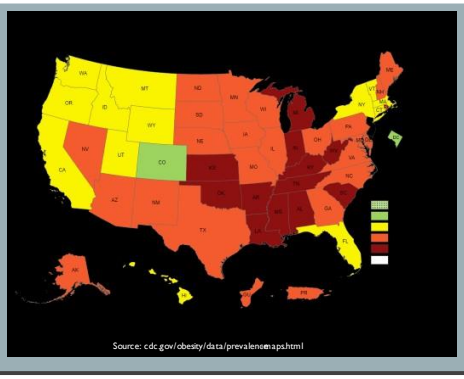
Optional Questions:

12. How many years have you been in practice for?_____
13. Are you happy with your own weight, at this time? Y or N _____

*Scale rating for each question without an open-ended response:

1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) or 5 (strongly agree)

Appendix E: Provider Training PowerPoint



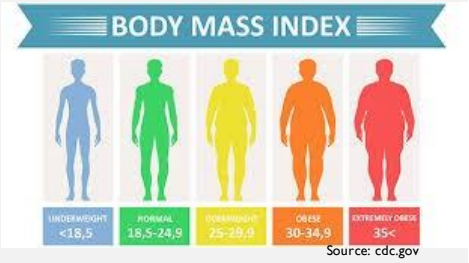
OVERWEIGHT AND OBESITY SCREENING AND INTERVENTION: PROVIDER TRAINING

By: Catherine Lehtinen
University of Massachusetts Amherst
DNP-FNP capstone

OBESITY PREVALENCE AND COSTS

- Over 1/3rd of adults in the U.S. are obese (BMI ≥ 30)
- 2/3rds of adults in U.S. are overweight (BMI ≥ 25)
- 1/3rd of patients w/ obesity report their healthcare providers did not discuss their obesity or tell them they are overweight
- Costs
  - $1.4 trillion in 2018
    - Direct medical care costs $370 billion
    - Indirect (lost wages) $1.02 trillion

(Harvard School of Public Health, 2020; Lopez et al., 2020



Source: cdc.gov

LITERATURE REVIEW

- Universal BMI screening of patients for overweight or obesity
- Screening occurring but without specific plan/intervention
  - Multi-disciplinary interventions, collaborative care
  - Intense lifestyle and behavioral programs to manage weight
  - Routine check-ins and frequent follow-ups

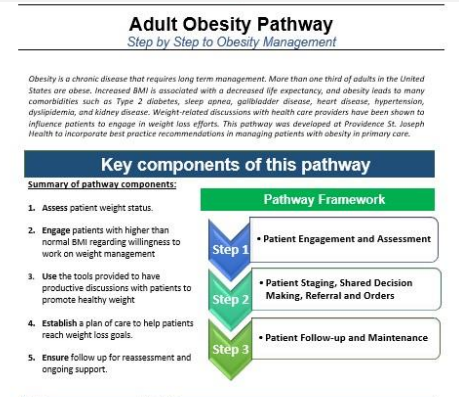

Wex.Antioch.edu

- 5% reduction in body weight improves patient outcomes, reduces morbidity
- Early weight loss associated with increased and sustained loss

(Semlitschet al., 2019; Thomas et al., 2014)

******NOTE:* **Site statistics slide removed for final write-up**

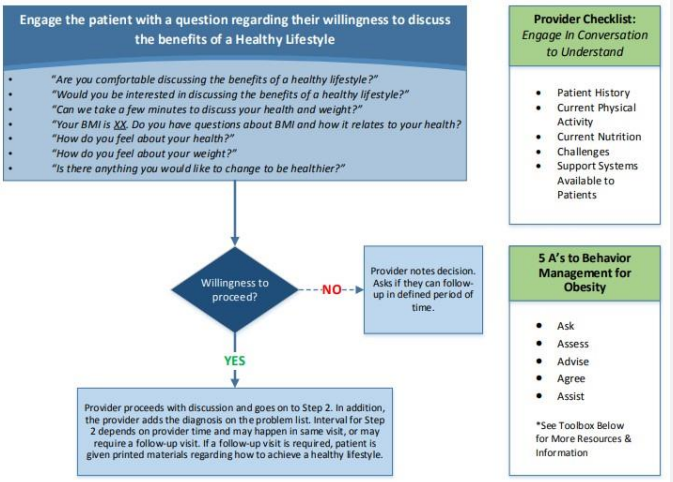
THE OBESITY PATHWAY



Step 1: Patient Engagement & Assessment

The goal of this step is to start a conversation about the benefits of a healthy lifestyle with adult patients coming into primary care with a BMI that is ≥ 35. If they are willing to have further conversation, follow the pathway. If they are not, record "reason" in Epic and postpone to a future visit.

Based on outcome of the discussion with the provider, the patient would be advised on a treatment regimen in Step 2 and work with the care team to set goals.



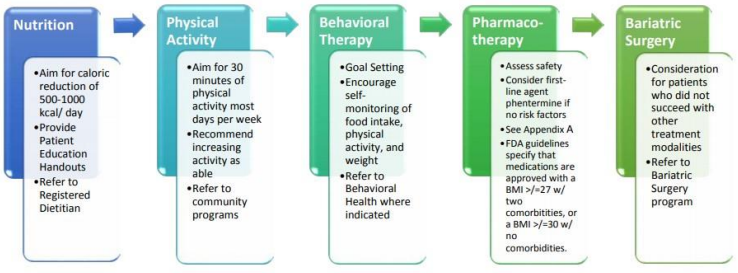
Step 2: Patient Staging, Shared Decision Making, Referral and Orders

The clinical intent is to have the patient confirm that they are ready to move forward with a defined treatment plan. If agreed, utilize the chart below to stage patient and determine treatment modalities. Review options using shared decision making to find those that would be best suited for reaching their goals, reviewing the pros and cons of each. If the patient is not able to make a decision at this visit, plan for follow-up at a future encounter.

As appropriate:

- Refer patient to programs and specialists identified in the agreed-to-treatment plan
- Schedule follow-up appointments as agreed to with patient
- Commit to tracking and reporting plan
- Understand and use appropriate billing codes

Patients should be coached on lifestyle changes and provided with resources to make steps toward achieving a healthy weight. Pharmacotherapy may be considered in addition to lifestyle changes where indicated. For patients with a BMI ≥ 40, or those with a BMI ≥ 35 plus comorbidities who are unsuccessful with lifestyle and medication interventions, referral for bariatric surgery may be warranted.



Appendix A: Obesity Pharmacotherapy Options – Drug Information Table

	FIRST-LINE THERAPY* *[recommended to use first]	SECOND-LINE THERAPIES *(selection of a second-line agent should be individualized based on drug interactions, possible side effects, other comorbidities and price/availability of insurance coverage and/or savings cards)*				
	Phentermine	**Orlistat**	**Phentermine-Topiramate**	**Lorcaserin**	**Naltrexone-bupropion**	**Liraglutide**
Mechanism of Action	Suppresses appetite	Inhibits fat absorption	Phentermine: suppresses appetite; Topiramate: unknown	Suppresses appetite, promotes satiety	Suppresses appetite and cravings	Slows gastric emptying, increases satiety
Contraindications	Hyperthyroidism, glaucoma, agitation, pregnancy, breastfeeding	Pregnancy or breastfeeding	Hyperthyroidism, glaucoma, agitation, pregnancy, breastfeeding, MAO-I within 14 days	CrCl < 30 mL/min, pregnancy	ESRD, pregnancy, breastfeeding, MAO-I within 14 days, uncontrolled HTN, seizure d/o, eating d/o, alcohol withdrawal	Personal or family h/o medullary thyroid cancer (MEN 2), pregnancy, breastfeeding,
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Drug Interactions	MAO inhibitors	Cyclosporine (should be taken at least 3 hrs before or after orlistat), warfarin, fat-soluble drugs (i.e. amiodarone, antiepileptics, antiretrovirals, levothyroxine - check individual drugs for dose adjustments), oral contraceptives may be less effective if severe diarrhea occurs	MAO inhibitors, opioid or other CNS depressants including alcohol	Serotonergic agents (i.e. SSRI, SNRI, MAO-I, St. John's wort, triptans, bupropion, dextromethorphan)	Bupropion, chronic opioid use or acute opioid withdrawal, linezolid, may increase levels of CYP2D6 substrates (i.e. paroxetine, sertraline, risperidone, metoprolol)	Other hypoglycemic agents
Adverse Reactions	Nervousness, insomnia, dry mouth, HA, elevated BP and/or HR, constipation	Abdominal pain, fecal urgency, steatorrhea, fecal incontinence, hepatoxicity, oxalate nephropathy	Dry mouth, dizziness, constipation, nephrolithiasis, increased HR, angle-closure glaucoma, acute myopia, dysgeusia	Dry mouth, dizziness, somnolence, HA, GI disturbance	N/v, constipation or diarrhea, HA, dizziness, insomnia, dry mouth	N/v, diarrhea, constipation, hypoglycemia, gallbladder disease, pancreatitis
Monitoring	BP, HR	Renal function, INR if on warfarin	Pregnancy test at baseline and monthly for women of childbearing age; adjust for renal function; electrolytes (esp K+ and bicarb) bicarbonate] K+ and bicarbonate)	Rx levels in pts with DM, s/s of serotonin syndrome	Adjust for renal and hepatic impairment	Symptoms of thyroid tumors, s/s of pancreatitis
Average Cost/Month*	$12	OTC: $45; Rx: $330 - $640	$100	$212 - $291	$212-$254	$1,095 - $1,250
Weight Loss Efficacy (% of participants who lost at least 5% of BW/10% BW)	--	35-75%/14-41% (data from systematic review)	62-70%/--	47%/--	48-50.5%/--	36%/23%
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Comorbidities Consideration	--	Preferred agent in binge-eating disorder, avoid in nephrolithiasis	Upon discontinuation, taper off slowly, especially if pt has seizure disorder	Avoid in patients with depression already taking a serotonergic agent	Contraindicated in uncontrolled HTN	Has been studied in post-bariatric surgery patients
Off-Label Usage	*See SMART Phrase*	--	*See SMART Phrase*	--	*See SMART Phrase*	--
Misc.	Schedule IV, avoid abrupt discontinuation	Recommend multivitamin with A, D, E, K and beta-carotene 2+ hrs before or after orlistat	Schedule IV, REMS info at www.qsymirems.com - prescribers & pharmacies must be certified; encourage adequate fluid intake to reduce risk of nephrolithiasis	Schedule IV	--	REMS info at www.saxendarems.com

* = average cash price; prices may vary greatly based on insurance coverage and availability of drug manufacturer savings cards

References:

1. Apovian CM, Aronne LJ, Bessesen DH, et al. Pharmacological Management of Obesity: An Endocrine Society Clinical Practice Guideline, J Clin Endocrinol Metab. 2015;100(2):342–362.

Off-label uses – please note that the below guidance is not approved by the FDA but rather based on expert opinion and reflects common practice trends given the cost inhibition of some of the brand name options listed above

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     (Adapted from statement in Endocrine Society Clinical Practice Guideline)
   - Same monitoring, side effects and contraindication as listed above for short-term use.

2. **Topiramate +/- Phentermine (off label)**
   - Start with topiramate 12.5 mg QHS (1/2 of 25 mg tablet) x 7 – 14 days and then increase by 12.5 mg every 7 – 14 days up to 75 – 100 mg QHS based on tolerability and efficacy
   - This can be used alone or in combination with phentermine
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3. **Naltrexone + Bupropion (off label)**
   - Start with bupropion SR 150 or bupropion XL 150 mg or bupropion IR BID or TID up to max dose of 450 mg daily
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Long-Term Phentermine (adapted from statement in Endocrine Society Clinical Practice Guideline)
Phentermine has been widely prescribed for more than 20 years and there is currently minimal evidence of any serious long-term side effects. It is reasonable for clinicians to prescribe phentermine long term as long as the patient: 1) has no evidence of serious CV disease, 2) does not have serious psychiatric dz or h/o substance abuse, 3) does not demonstrate clinically significant increase in HR or BP while taking phentermine and 4) demonstrates a significant weight loss while using the medication

ISSUES WITH OBESITY CARE

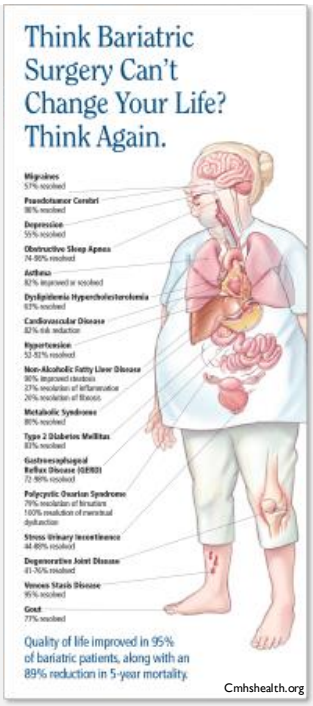
- Weight loss goals
  - Average weight loss goals are set at 20%, literature recommends 5-10%
- Follow-up
  - Only 24% of patients w/ obesity had scheduled followup appointments
- Over-emphasis on personal responsibility
  - 82% of patients w/ obesity feel weight loss is their own responsibility
  - Patients already "know what they need to do to manage weight"

(Kaplan et al., 2018)

ISSUES WITH OBESITY CARE

- Lack of weight loss medication prescribing
  - Patients with BMI ≥ 30 or BMI ≥ 27 with associated comorbidity
- Only 1-2% of eligible patients get bariatric surgery
  - Despite data showing significant (and sustained) weight loss, co morbidity resolution and minimal procedure complications
  - Patients BMI ≥ 40 or BMI ≥ 35 with associated co-morbidity
- Prevention
  - Patients with overweight BMI should also be screened and provided with appropriate intervention

(Boyles, 2020)



OVERCOMING BARRIERS

- No time to discuss weight loss?
  - Schedule a separate appointment or REFER!
    - Patient Engagement Center
    - Behavioral Health
    - WeightLoss Services
    - YMCA – Diabetes Prevention Program or Lose to Win Program
    - Weight Watchers
    - HMR Home Meal Replacement
    - Clinical pharmacists, nutritionists

(Broyles, 2020)

OVERCOMING BARRIERS

- Utilize Resources
  - *The Obesity Pathway*
  - Referral
  - Consultation with pharmacist
  - Obesity Smart Set link from the BMI widge
  - Coding for obesity
- Approaching the conversation about weight management
  - Overcoming implicit bias
  - Sensitive language

(Boyles, 2020)

WEIGHT BIAS

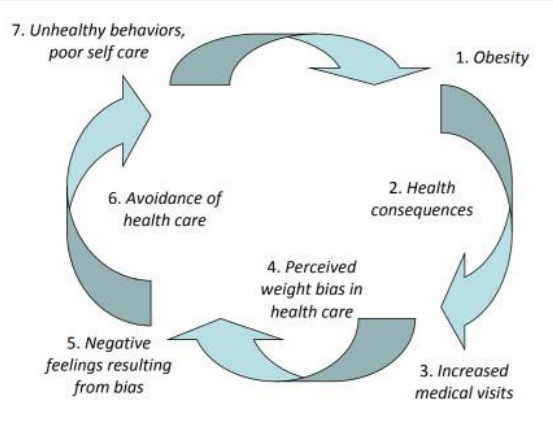

Magonlinelibrary.com

- Usually Implicit Bias
- 2 out of 3 physicians have low expectations for patients achieving and maintaining weight loss
- Assumption that obesity is a result of personal choice and willpower
  - Assumption of poor treatment compliance
- Patients with overweight/obesity who feel stigmatized may avoid healthcare
- For more information and continuing education credit visit:

https://uconnruddcenter.org/wp-content/uploads/sites/2909/2020/07/CME-Complete-with-links.pdf

(Puhl & Suh, 2020)

WEIGHT BIAS: CYCLE OF BIAS AND OBESITY



(Puhl & Suh, 2020)

HOW TO TALK TO PATIENTS ABOUT WEIGHT LOSS

- Language: avoid terms like "obese, fat, heavy, weight problem, large size"
  - Try "unhealthy" or "excess" weight
  - Person-first: "people with (unhealthy weight)"
- Empathy
- Avoid negative comments or facial expressions (weighing patient)
- Shift to positive focus
  - From "self-control" to "daily health habits"
  - From "excuses" to "triggers"
  - From "overindulge" to "ways to feel satisfied"
- Reinforce support systems – the patient is not alone in this

Health.Harvard.edu

(Puhl & Suh, 2020; UConn Rudd Center for Food Policy & Obesity, 2020)

MOTIVATIONAL INTERVIEWING

- Always validate the patient's feelings
  - "I hear what you are saying…"
- Reinforce the patient's sense of control
  - "It's up to you to decide (when you are ready, what changes you will make)"
- Pre-Contemplation Stage
  - Simply state how lifestyle changes can improve his/her health
  - Leave it open for future conversations
- Contemplation Stage
  - Review the pros/cons of making a change
- Preparation Stage
  - Help problem solve (obstacles and triggers), set small goals, identify supports

(UConn Rudd Center for Food Policy & Obesity, 2020)

QUESTIONS?

- For additional information, please see POD meeting regarding the Healthy Weight Initiative:*********
- UConn Rudd Center
- Please contact me below for any additional questions or follow-up thoughts!

Catherine Lehtinen, RN

DNP-FNP student

508-415-6167

clehtinen@umass.edu

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Appendix F: Site IRB Exemption Letter

PROJECT DETERMINATION

Date:	June 18, 2021
To:	Catherine Lehtinen, RN clehtinen@umass.edu
Cc:	Emily Balser, MD Mary Ellen Burke, DNP, MSN, RN, CNM mburke@nursing.umass.edu
From:	******* Manager, Behavioral and Minimal Risk Panel
Project Title:	"Improvement of Overweight and Obesity Screening and Intervention in Primary Care"

This represents the IRB determination for the above referenced project.

The IRB has determined that this project, as submitted, does not meet the definition of human subjects' research and does not require IRB review as defined in the federal regulations.

The determination is based upon the information submitted only, revisions must be submitted to the IRB prior to implementation.

This determination does not exempt you from following hospital policies and procedures as they relate to conduct of this project. It is your responsibility to ensure compliance with those policies.

Appendix G: UMass IRB Exemption Letter

UMassAmherst

Human Research Protection Office

Mass Venture Center
100 Venture Way, Suite 116
Hadley, MA 01035
Telephone: 413-545-3428

Memorandum – Not Human Subjects Research Determination

Date: July 22, 2021

To: Catherine Lehtinen, College of Nursing

Project Title: *Improvement of Overweight and Obesity Screening and Intervention in Primary Care*

HRPO Determination Number: 21-136

The Human Research Protection Office (HRPO) has evaluated the above named project and has made the following determination based on the information provided to our office:

☐ The proposed project does not involve research that obtains information about living individuals [45 CFR 46.102(f)].

☐ The proposed project does not involve intervention or interaction with individuals OR does not use identifiable private information [45 CFR 46.102(f)(1), (2)].

☒ The proposed project does not meet the definition of human subject research under federal regulations [45 CFR 46.102(d)].

Submission of an Application to UMass Amherst IRB is not required.

Note: This determination applies only to the activities described in the submission. If there are changes to the activities described in this submission, please submit a new determination form to the HRPO prior to initiating any changes. ***Researchers should NOT include contact information for the UMass Amherst IRB on any project materials.***

A project determined as "Not Human Subjects Research," must still be conducted ethically. The UMass Amherst HRPO strongly expects project personnel to:

- treat participants with respect at all times
- ensure project participation is voluntary and confidentiality is maintained (when applicable)
- minimize any risks associated with participation in the project
- conduct the project in compliance with all applicable federal, state, and local regulations as well as UMass Amherst Policies and procedures which may include obtaining approval of your activities from other institutions or entities.

Please do not hesitate to call us at 413-545-3428 or email humansubjects@ora.umass.edu if you have any questions.

Iris L. Jenkins

Iris L. Jenkins, Assistant Director
Human Research Protection Office