

## ABSTRACT

- Obesity is an epidemic in the United States and has been rising due to poor diet, exercise, and lifestyle choices. Primary care physicians (PCP) at community health centers (CHC) can be instrumental in combating obesity, especially in low socioeconomic status (SES) patients. However, due to time constraints and complex comorbidities, PCP at CHC are unable to effectively address their patients' weight. Instead, many refer their patients to see a nutritionist or behavioral health specialists. However, due to SES factors, patients often are unable to attend these visits. The specific aim of this study was to determine whether a team-based approach to weight management during the same office visit would improve weight management in obese patients at a CHC. In the prospective study, patients were first seen by their PCP for their standard of care, followed by ten-minute visits with a behavioral health and nutritionist specialist. Afterward, patients filled out a post-survey questionnaire regarding this "team-based approach" to weight management and followed up every year to recheck BMI. Both quantitative and qualitative data were collected. Results showed that each question scored at least 4.8/5. Many patients found this approach very helpful, and the majority of comments were positive. One-year follow-up revealed a change in BMI that was not statistically significant, but results might have been skewed due to the COVID pandemic. The two-year follow-up also did not reveal a statistically significant change in BMI. In conclusion, we recommend the use of this team-based approach model for weight management at CHC with supplemental interventions throughout the year.

## BACKGROUND

- In the United States, the prevalence of obesity in 2017-2018 was 42.4% and in King County, WA, the obesity rate was 55.5%.
- CHC are federal-supported healthcare systems that provide care to a variety of patient populations, including patients from low SES backgrounds.
- Approximately 48% of patients from CHC have BMI > 25; however only 45.2% of those patients report their PCP addressed their weight in-depth.
- Reasons include time constraints and the complex comorbidities patients present, in which PCP at CHC are unable to address all subject matters in short 15-minute visits.
- Because of this, physicians utilized a "team-based approach" by referring their patients to nutritionists and behavioral health specialists.
- However, patients are unable to attend these visits because of SES factors, such as lack of transportation and not being able to miss additional time off work.
- Thus, scheduling two or three separate visits for weight counseling can be difficult for some patients.

## OBJECTIVES

- To determine whether a team-based approach for weight management during the same office visit would improve weight management for obese patients at CHC.
- To effectively educate patients to identify barriers in their lives in regards to their weight-management.
- To effectively educate patients on healthy food options and alternatives in their diet.
- To increase patient's satisfaction with weight-management from healthcare providers at CHC.

## METHODS

- This was a prospective study measuring the effectiveness of a team-based approach for weight management, which consists of a PCP, behavioral health specialist, and nutritionist representative.
- This study was conducted at HealthPoint Auburn North in King County, WA, between December 2019-March 2021.
- Patients were recruited from a single healthcare provider's population base before their visit through phone or during clinic visit.
- Inclusion criteria included patients over the age of 18 and a BMI over 30.
- Patients first met with their PCP for standard of care, followed by 10-minute visits with a behavioral health and nutritionist separately. Afterwards, a post-survey questionnaire was filled.
- Survey consisted of 4 questions with a score ranging from 1-5, 1 being the lowest and 5 the highest. It also included a comments section for qualitative data.
- Patients enrolled from December 2019-March 2020 were followed up every year to compare changes in BMI since the initial visit.
- These patients also had an annual follow-up phone interview to discuss long-term effectiveness of this study design
- Mean and standard deviation were calculated for each question score.
- Paired T-test was utilized to compare BMI's from initial visit to present, whether it was one-year or two-year follow-up.

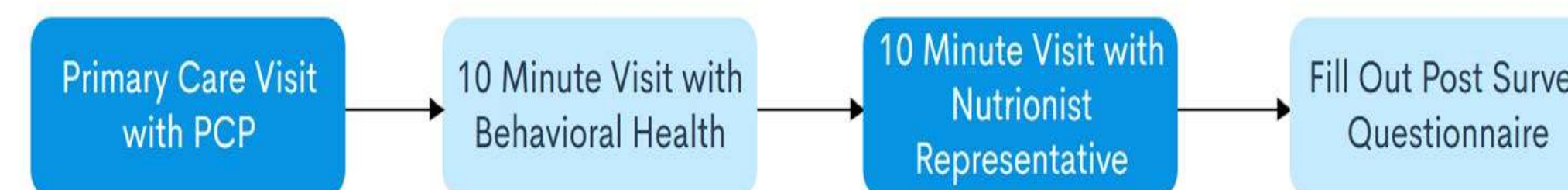


Figure 1. Sequence of Events of Initial Visit

## RESULTS

- In total, 40 patients were enrolled in the study (22 females and 18 males). Mean age in years(SD) and BMI(SD) were 52.3.4(11.16) and 34.67(2.5), respectively.
- The mean score(SD) for the first post-survey question regarding overall satisfaction was 4.8(0.41).
- The mean score(SD) for the second post-survey question regarding behavioral health specialist was 4.80(0.41).
- The mean score(SD) for the third post-survey question regarding the nutritionist representative was 4.80(0.41).
- The mean score for the fourth post-survey question regarding motivation for weight-loss was 4.85(0.36).
- There was no significant difference in change in BMI between initial and post one-year visit, 33.59 vs 33.79 (p=0.41).
- There was no significant difference in change in BMI between initial and post second-year visit, 33.59 vs 34.01 (p=0.52).

## RESULTS

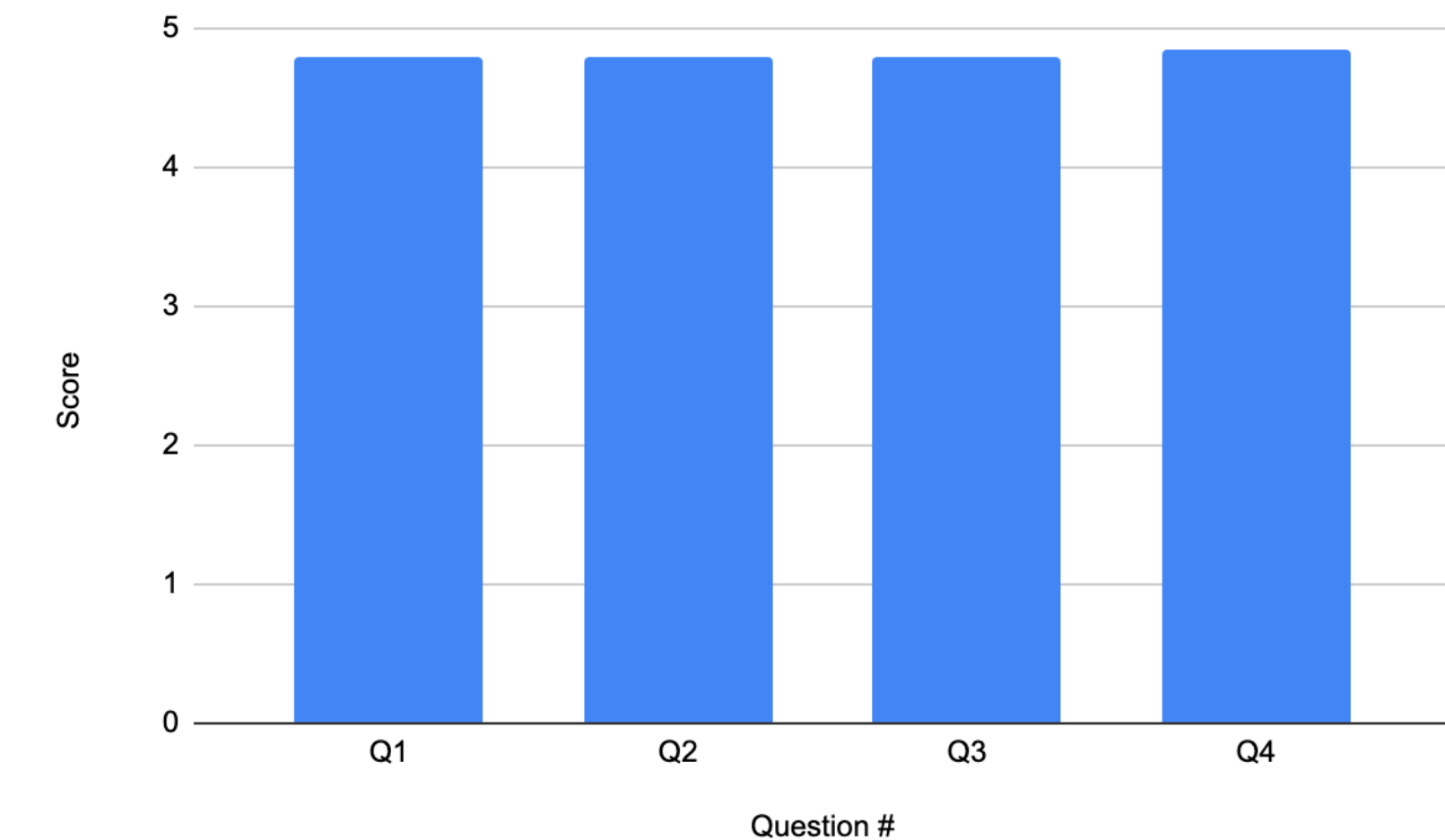


Figure 2. Mean scores for each question in questionnaire

### Figure 3. Quotes from Patients

Quotes
"It was refreshing to speak to new healthcare providers."
"All three providers had different viewpoints and strength of focus."
"After speaking with the behavioral health specialist, I finally understand why it was hard for me to change my unhealthy habits."
"This is a lot of new information, and I hope to implement them in my life."
"I felt like 10-minutes is not an adequate enough time"
"Although it was nice, some of the information was redundant and I already know some of it."
"COVID-19 definitely affected by plans to lose weight. I was not able to exercise and gained weight just eating at home."

## CONCLUSIONS

- Patients rated high scores in the post-survey questionnaire, with mean score averages all being higher than 4.8/5.
- Overall, most patients at the initial visit said that this team-based approach provided additional and helpful information about weight management when compared to speaking with their PCP alone in the past.
- COVID-19 played a significant factor in both the one-year and two-year follow-ups on participants in terms of their BMI.
- Limitations and confounding factors of the study included: small sample size, selection bias, standardization of the study, and COVID-19.
- We recommend expanding the current study to include a larger sample size, to have multiple CHC sites, and the addition of interventional interventions to effectively measure the long-term assessment of team-based approach during post-COVID-times.