ORIGINAL RESEARCH

An Assessment of Weight Loss Management in Health System Primary Care Practices

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Background: **Primary care practices can help patients address obesity through weight loss; however, there are many barriers to doing so. This study examined weight management services provided and factors associated with higher reported provision of services.**

Methods: **A survey was given to practice members in 18 primary care practices in a Colorado-based health system. The survey assessed weight management services to determine the amount and type of weight loss assistance provided and other factors that may be important. We used descriptive statistics to summarize responses and linear regression with generalized estimating equations to assess the association between the practice and practice member characteristics and the amount of weight management services provided.**

Results: **The overall response rate was 64% (254/399). On average, clinicians reported performing 73% of the services, and when grouped into minimal, basic, and extensive, the clinicians on average performed 87%, 68%, and 69% of them, respectively. In a multivariable model adjusted for demographics, factors associated with performing more services included perception of overall better practice culture and perception of weight management implementation climate.**

Conclusions: **Practice-associated factors such as culture and implementation climate may be worth examining to understand how to implement weight management in primary care. (J Am Board Fam Med 2022;00:000–000.)**

Keywords: **Body Composition, Colorado, Family Medicine, Linear Regression, Primary Health Care, Weight Loss**

Introduction

Obesity is a critical public health issue contributing to the leading causes of death in the United States.[1] Primary care serves as a common setting for addressing prevention and treatment of disorders caused by obesity, such as diabetes and hypertension, and many patients note weight management as a top priority.[2–6] There are many evidence-based treatments available for patients with obesity, including medications, diet and nutrition counseling, behavior change support, and surgery; however, these treatments are often not implemented in primary care.[7–10] Although clinicians note the high importance of treating patients' obesity as a standard of care,[11] barriers include insufficient clinician training/familiarity with obesity treatment; challenges with access for/prioritization of obesity treatment; lack of workable structures, workflows, and resources; and low/no reimbursement for direct provision of obesity care without other comorbidities.[12–15] Patients also face many barriers including stigma, lack of motivation, ability to successfully lose weight, and cost and lack of access to

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services.[16–19] However, recent research reveals that practices can, in fact, deliver obesity care if the barriers are identified and addressed.[12,20] With structures and supports in place, patients are achieving weight loss outcomes that have potential to slow the public health trends toward increasing obesity and the resulting comorbid conditions.[21–26]

Understanding more about what motivates primary care practice members toward providing obesity care and what steps could be taken to overcome perceived barriers is needed. This study reports on a survey completed by practice members at 18 diverse primary care practices in Colorado regarding their perceptions of the importance of obesity care in their practice, what services are currently provided, satisfaction with the care provided, challenges with providing obesity care, and interests in overcoming these challenges. These data add to the growing knowledge base about overcoming implementation challenges to address this public health problem.

Methods

PATHWEIGH Study

The data for this report were gathered as part of a National Institutes of Health–funded clinical trial on implementation of PATHWEIGH. PATHWEIGH strives to be a comprehensive approach including electronic medical record tool sets, weight management training for clinicians, and specialist consultation support. This study uses a type 1 hybrid effectiveness-implementation stepped-wedge cluster randomized design to compare adult patient-specific and implementation outcomes of a weight management intervention to standard of care in adult-serving primary care clinics in Colorado (n = 57).[27] This article reports on an analysis of the baseline surveys given to practice members at the primary care practices before the start of the intervention for the first cohort of 20 clinics. Two surveys were used: (1) a practice survey completed for each practice, and (2) a practice member survey that was administered to clinicians (ie, physicians and advanced practice providers including physician assistants and nurse practitioners), other providers, and staff within each practice.

Survey Instruments

The practice survey (Appendix 1) was developed to identify practice-level characteristics and behaviors. The purpose of the survey was to provide basic information on the characteristics of the practice including the patient population, location and type, quality improvement efforts, and current weight management services. It assessed the capacity of the clinic for implementation of a weight loss intervention by identifying the number of staff and clinicians, the current treatment and billing practices regarding weight management, and whether the practice was actively engaged in quality improvement practices. No standardized scales were used in this survey.

The practice member survey (Appendix 2) was developed to assess individual practice members' backgrounds and demographics, current perceptions of weight management importance and climate for implementation, current weight management activities provided for patients, and clinicians' background and experience with providing weight management and interest in learning more about providing weight management. Several scales were used to assess overall practice culture at the individual and practice level as well as burnout and work satisfaction of practice members. These scales were not related to weight management in the practice but intended to assess the overall milieu of the practice.

The Practice Culture Assessment Scale included 22 Likert scale items (1 = Strongly disagree to 5 = Strongly agree) that were used to compute scores for the subscales of Change Culture, Work Culture, and Chaos.[28–32] Subscale scores ranged from 0 to 100, and higher scores represented more of the concept. An Overall Culture score was also computed by averaging the scores of the 3 subscales (reverse coding the Chaos subscale), where a higher score indicated stronger practice culture. Change Culture items focus on how the practice approaches collaborative quality improvement, problem resolution, and change management. Work Culture items assess how practice members work together for a pleasant and productive practice environment and high-quality care, and Chaos items assess instability, disruption, and disorganization in the practice.[33] Practice culture is often found to be related to the ability of the practice to implement new initiatives and may be useful in understanding implementation of weight management efforts.[34,35]

Burnout and work satisfaction was assessed by asking practice members 3 questions about their level of burnout (1 = No burnout to 5 = Complete burnout),[36,37] if they felt personally rewarded by their work (1 = Not rewarded to 5 = Fully rewarded), and if

they were satisfied in their current practice (1 = No satisfaction to 5 = Complete satisfaction).[38] These attributes of employees can have an impact on their interest and ability to take on new initiatives such as a weight management intervention.[39–41] An overall Work Satisfaction score was computed by averaging the scores across the domains (reverse coding burnout), where a higher score indicated that respondents had greater satisfaction from their work.

Additional measures were used to determine current practices and readiness for weight management as an intervention, specifically. To assess current practices in the provision of weight management, clinicians were presented with 19 weight management services or tasks and were asked to indicate the frequency with which they provided the services (not at all, sometimes, very often), which were then dichotomized (not at all vs at least sometimes) for analysis. Based on divisions within how weight management is likely to be categorized in primary care practice, 3 groupings were created a priori based on what level of support for weight management they provided. Group 1 was minimal and included essentially identification of weight as an issue and brief one-time advising to patients. Group 2 was basic weight management treatment that was short term and limited in options. Group 3 was comprehensive support characterized by more use, more in-depth treatment options, and ongoing care over time including repeated visits and tracking. Questions related to direct provision of weight management services were only asked for respondents who had indicated that they were medical providers.

An Implementation Climate Scale for interventions was used to address the ability of a practice to effectively implement a weight management intervention in the primary care practice setting.[42] It included 6 questions within 3 constructs (Expected, Supported, Rewarded) with Likert scale responses from 1 = Not at all to 5 = To a great extent. An average score was computed for each individual and then averaged within a practice to present a practice-level climate score ranging from 1 to 5. Higher values indicate a better organizational climate for weight management, with a range from 1 to 5. Intraclass correlation coefficient (ICC) was estimated, where values closer to 1 indicate that climate perception is more strongly shared among practice members.

Data Collection

The practice survey was completed by a single practice administrator at each of 20 clinics. The practice member survey was administered to all clinicians and staff at each of the practices. The surveys were implemented in REDCap and were pretested with nonstudy practice clinicians and research team members to ensure that the survey questions were concordant with the study team's research questions. A personalized link was distributed by e-mail to all practice members at the 20 practices. To increase response to the survey, respondents were compensated with a $10 gift card, and 2 reminders were sent 3 weeks apart. Practice members also received compensation for participation in interviews (not reported here) and a lump sum amount to the practice for assistance with other data collection efforts such as observation and identification of patients for interviews.

Data Analysis

Descriptive statistics (means, medians, frequencies, percentages) were used to summarize responses. Spearman correlations were used to study relationships between the scale scores. We used linear regression to assess the association between the clinician characteristics and the amount of weight management provided. To account for potential correlation between survey respondents within the same practice, we used a generalized estimating equation approach with an independence covariance structure. Respondent demographics (age, gender, years of experience) and variables that had $P < 0.1$ in univariable analyses were included in a multivariable model. All analyses were performed using R version 4.0.4.

Results

Although all practices completed some surveys, 2 practices were omitted from the analysis because they declined to participate in the study. Among the remaining 18 clinics, the overall response rate was 64% (254/399), with an average response rate within practice of 68% among all practice members and 66% among clinicians, specifically. Of the respondents, 70 (28%) were clinicians, 8 (3%) were other providers (eg, behavioral health, pharmacy), 120 (47%) were clinical support staff, and 54 (21%) were administrative staff. Compared with the other

practice member roles, clinicians had the highest proportion of males (47%), those aged over 45 (58%), and those with a part-time position (37%) (Table 1). Clinicians also had the highest median years of experience (20; interquartile range [IQR]: 10 to 25). A large proportion of respondents (85%) indicated that they had personally wanted to or had tried to lose weight.

Current Status of Providing Weight Management

From the practice survey, out of the 18 clinics, only 6 (33%) indicated that their clinicians provided visits specifically for weight management, using brief advice and/or counseling to patients during these visits. Only 4 (22%) additionally had follow-up visits. In contrast, 15 (83%) practices indicated that their clinicians or other providers provide brief advice on weight loss during office visits for other conditions or specified purposes. A higher proportion of practices indicated that they made referrals for bariatric surgery (67%), referrals to weight loss programs (50%), prescribed weight loss medication (44%), and provided patient education material on weight loss (39%). No practices indicated that they provided medical supervision for meal replacement programs, information about insurance coverage of obesity treatments, or group weight loss programs on-site. For 9 practices (50%), the practice administrator was not aware of how weight loss services or visits were billed/paid for in the practice, and most (83%) did not know if their practice had experienced any difficulties with billing for obesity services from any payer.

From the practice member survey, clinicians were surveyed about their use of 19 listed services for weight management. Of the 19 listed services for weight management (Figure 1), on average clinicians indicated that they performed 73% (IQR: 63% to 83%) of the services. Of the services in group 1 (minimal), 2 (basic), 3 (superior), on average clinicians performed 87%, 68%, and 69% of the services, respectively, with 97% of providers indicating that they provide at least 1 service in each group. There were 36 (55%) providers that provided all services in group 1, 3 (5% of total) that provided all services in groups 1 and 2, and the same 3 that provided all 19 of the services. None of the clinicians indicated that they had obesity treatment certification, 40 (58%) had never received additional continuing medical education (CME) on how to provide obesity treatment or weight loss, and 25% said that they had received this CME but that it was not within the past 3 years.

Perceptions about Providing Weight Management

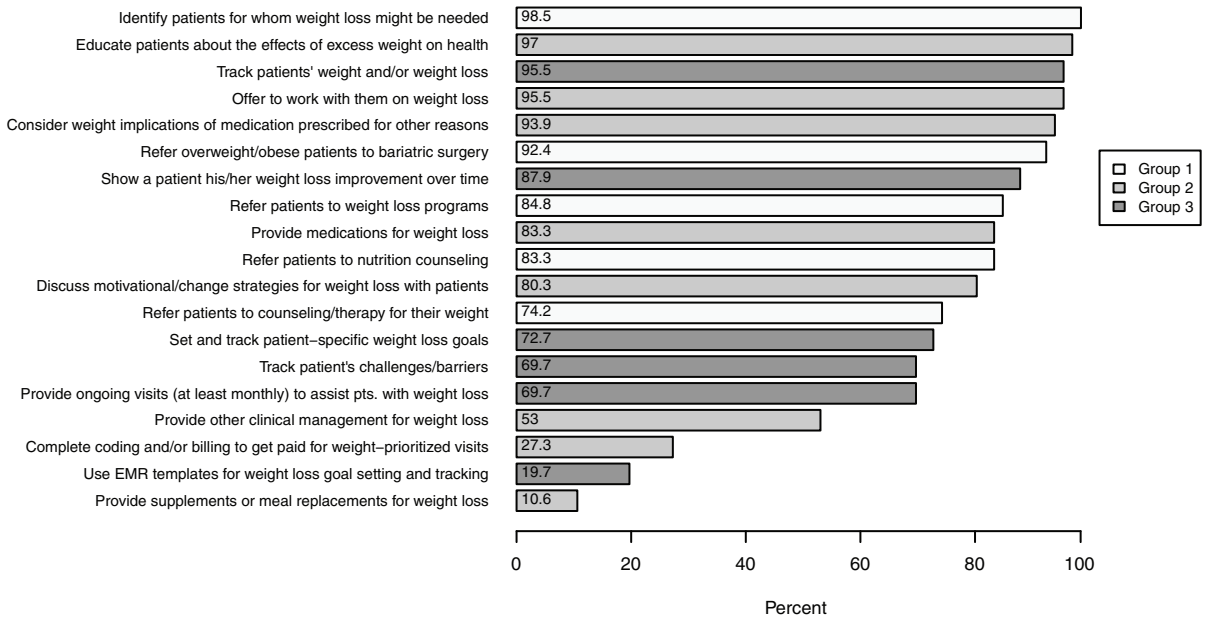
Clinicians and other medical providers were asked about their satisfaction with their practice's ability to help patients with weight management, for which 38% indicated that they were somewhat satisfied, 29% said they were not satisfied, and 21% responded that it depended on the patient. They had an average score of 4.3 (IQR: 4 to 5) on a

Table 1. Respondent Characteristics, Overall and by Role

Characteristic	n	Overall (n = 254)	Clinician (n = 70)	Other Medical Provider (n = 8)	Staff/Other (n = 176)
Gender	252				
Female		212 (84%)	37 (53%)	8 (100%)	167 (96%)
Male		40 (16%)	33 (47%)	0 (0%)	7 (4%)
Age	253				
Under 30		50 (20%)	0 (0%)	2 (25%)	48 (27%)
30 to 45		110 (43%)	29 (41%)	4 (50%)	77 (44%)
46 to 60		81 (32%)	38 (54%)	1 (12%)	42 (24%)
Over 60		12 (5%)	3 (4%)	1 (12%)	8 (5%)
Years of experience	253	11 (5, 20)	20 (10, 25)	6 (4, 8)	10 (4, 19)
Full-time equivalent	250				
Ful -time (90% or higher)		211 (84%)	43 (63%)	6 (75%)	162 (93%)
Part time (less than 90% total)		39 (16%)	25 (37%)	2 (25%)	12 (7%)
Experience with personal weight loss	253	214 (85%)	54 (77%)	6 (75%)	154 (88%)

n (%); median (interquartile range); clinicians include physicians and advanced practice providers including physician assistants and nurse practitioners.

Figure 1. Percentage of clinician respondents that indicated that they provided each of the weight management services. Groups indicate the level of weight loss services conducted (1: minimal, 2: basic, 3: superior). Abbreviation: EMR, electronic medical record.



Likert scale question (1 = Totally disagree to 5 = Totally agree) asking about agreement with the statement that weight loss for patients with overweight or obesity is something that a primary care practice should provide as part of comprehensive primary care. When provided with a list of concerns about making weight management a priority (Table 2), the most reported concern by clinicians was that they did not have time in their schedule (70%). For clinical support staff, their reasons were that they did not have weight management workflows set up in their practice (46%), which was also indicated as a concern by administrative staff (31%).

Climate for Implementing Weight Management

In the practice survey, all of the 18 practices indicated that they had quality improvement activities happening in their practice. Most practices (67%) indicated that they had a practice leader who drives forward quality improvement. Many (61%) also had a process for identifying quality improvement goals and tracking progress toward goals. More than half (56%) of the practices indicated that they had at least some or great success when quality improvement efforts were attempted in their practice, and 33% indicated that it varied by the specific effort.

In the practice member surveys, respondents completed a scale assessing climate for implementing weight management in their practice. The median Implementation Climate Scale for weight management across the sites was 2.4 (IQR: 2.2 to 2.7; range: 1.9 to 3.1), which indicates a moderate climate for performing weight loss management. We assessed the reliability of this practice-level construct in our sample and found that within a practice there was variability in the responses of practice members (ICC = 0.34). There was moderate positive correlation ($\rho = 0.27$) between the individual and practice-level measures of implementation climate. There was moderate negative correlation ($\rho = -0.10$) between implementation climate at the practice and the number of quality improvement initiatives occurring in the practice, indicating that practices with more quality improvement activities happening had a lower implementation climate for weight management.

For the practice culture (not specific to weight management), the respondents overall had high Change Culture (median: 75; IQR: 65 to 82.5), moderate Work Culture (median: 59.4; IQR: 50 to 68.8), and low Chaos (median: 31.3; IQR: 18.8 to 50). The Chaos subscale had the greatest variability across the different practices, with median Chaos score within practices ranging from 18.8 to 56.3.

Table 2. Top Concerns for Providing Weight Management, by Role

Characteristic	Clinician (n = 70)	Other Medical Provider (n = 8)	Staff/Other (n = 176)
I/our providers don't have time in their schedule	49 (70%)	4 (50%)	48 (27%)
We don't have weight management workflows set up in our practice	38 (54%)	2 (25%)	73 (41%)
I/our providers don't know how	30 (43%)	0 (0%)	15 (9%)
I/our providers don't feel like patients will be able to successfully change and lose weight	27 (39%)	1 (12%)	19 (11%)
We don't have time to set up a new program	21 (30%)	1 (12%)	17 (10%)
We won't get paid/will lose money	14 (20%)	0 (0%)	7 (4%)
Our patients will not want their providers to bring up weight loss with them	10 (14%)	2 (25%)	33 (19%)
I/our providers are not interested in providing weight management	6 (9%)	0 (0%)	10 (6%)
None of the above are concerns	5 (7%)	2 (25%)	59 (34%)
Other	4 (6%)	0 (0%)	9 (5%)

The overall Practice Culture was moderate (median: 66.7; IQR: 55.6 to 76.3).

For the 3 domains assessing burnout and work satisfaction, 40% of respondents indicated experiencing at least some burnout, the majority of respondents (83%) agreed/strongly agreed that they felt that their work was personally rewarding, and most respondents (77%) agreed/strongly agreed that they were satisfied in their current practices. Clinicians experienced a greater sense of burnout (59% indicated at least some burnout), felt less rewarded (71% agreed/strongly agreed), and were less satisfied (64% agreed/strongly agreed) than the other roles. There was strong positive correlation ($\rho = 0.55$) between individual-level perception of overall Practice Culture and their Work Satisfaction score.

Learning about Weight Management

The vast majority of clinicians (96%) indicated that they would be interested in learning more about at least 1 of the presented weight management topics. The highest-ranked topics were recommendations about diet and eating plans and organizing workflows to accommodate weight management. Of the suggested ways to learn about weight management, 69% indicated that they would like to learn using a single 2-hour e-learning module and get CME credit, 53% wanted someone to come to the practice to provide information, 41% wanted resources in a program like UpToDate (a subscription-based online clinical reference), and 33% wanted to be able to call another clinician experienced in weight management to ask questions.

Factors Associated with the Provision of Weight Management

Using regression analyses with a generalized estimating equation framework to account for clustering, we studied what clinician and practice factors contribute to how much weight management is provided. We define this outcome as the total number of weight management services selected from the list of 19 services and a free-text field for "Other" (range: 0 to 20). In bivariable analyses (Table 3), being female, individual-level perception of practice culture, and individual-level perception of implementation climate were associated ($P < .05$) with providing more services. In a multivariable model adjusted for respondent age, gender, and years of experience (Table 3), the mean number of services provided by clinicians was greater for women ($P < .001$), those aged 45 years or younger ($P = .07$), and those with a better perception of their practice's change culture ($P = .004$) and better implementation culture ($P = .07$).

Discussion

In this study of weight management efforts, we found clinicians reported providing many services already such as identifying weight as a health issue, providing education on weight and its effects on health, referring to other services for weight loss, and providing education and support for weight loss efforts. However, few clinicians reported providing

Table 3. Generalized Estimating Equation Results for Association of Clinician and Practice Factors with Amount of Weight Care Management Provided (n = 63)

Characteristic	Unadjusted			Adjusted[†]		
	Estimate*	SE	*P* Value	Estimate*	SE	*P* Value
Clinician level						
Male (ref: female)	−1.79	0.55	0.001	−2.04	0.49	<0.001
Age >45 (ref: ≤45)	−0.17	0.70	0.80	−1.42	0.78	0.07
Years of experience 6 to 15 yrs (ref: ≤5 yrs)	−0.50	0.89	0.57	−0.43	0.99	0.66
≥15 yrs (ref: ≤5 yrs)	−0.04	1.20	0.97	0.72	1.17	0.53
Practice culture	0.06	0.02	<0.001	0.05	0.02	0.004
Implementation climate	1.33	0.60	0.03	1.11	0.61	0.07
Work satisfaction	0.41	0.41	0.31	–	–	–
Satisfaction with practice provision of weight management (scale from 1 to 5)	−0.17	0.19	0.36	–	–	–
Appropriateness for practice provision of weight management (scale from 1 to 5)	−0.11	0.59	0.85	–	–	–
Practice level						
# Quality improvement activities conducted	−0.17	0.14	0.23	–	–	–
Practice culture	0.04	0.06	0.49	–	–	–
Implementation climate	−0.97	1.45	0.50	–	–	–
Joy and burnout	0.27	1.38	0.85	–	–	–

*Coefficient estimates correspond to a unit increase in the mean number of services provided for a 1 unit/level increased in the predictor.
[†]The multivariable model is adjusted for respondent demographics and variables that had $P < .1$ in the univariable analyses; SE = robust standard error.

ongoing care for weight management such as using ongoing tracking and other clinical management. This sample of clinicians and other practice members did not report a high level of satisfaction with the assistance they are currently providing in this area, although there was a high level of interest in learning more and support for providing weight management as a standard of care.

These results also make clear the importance of contextual factors in association with services provided by clinicians for weight management. Practice culture and gender were significant factors related to the total number of weight management services. Higher implementation climate for weight management and younger age (≤45 years old) were marginally associated ($P = .07$) with providing additional weight management services. This indicates that practices could improve in the culture for implementation of weight management by receiving more recognition and support (elements of implementation climate) for providing weight management services. Support could be in the form of removal of common barriers noted such as not having enough time or not having workflows set up for weight management. Creating a supportive culture for weight management could also look like offering recognition and encouragement of clinicians learning the most effective approaches for treatment of obesity or offering visits prioritized on weight. In addition, having dedicated staff who champion the use of services that promote weight management could also contribute to improving the practice environment with support for weight management.[43] Supportive culture as an element of implementation is consistent with the abundant literature on other practice improvements in primary care such as medical home transformation.[34,44,45]

These results are consistent with other previous research on the existence of barriers to implementation of weight management services but extends understanding to why these barriers exist. The practice survey found that, even though all of these practices had support for quality improvement, this support varied. Lack of support for quality improvement could thwart efforts for any type of quality improvement effort.[46] However, we also found that practices with a larger number of ongoing quality improvement projects were more

likely to have a less positive implementation climate for weight management and fewer weight management services provided by its clinicians. This suggests that in these practices their priorities were already aligned elsewhere and/or that they lack capacity to take on new initiatives. This is consistent with previous research that priority and capacity are both important factors to implementation.[47] Realigning priorities at the practice level could overcome this challenge by becoming informed on the benefits that weight loss could have for many patient metrics such as Health care Effectiveness Data and Information Set (HEDIS).

One area where our results differed from others was the financial impact of weight management services. Lack of reimbursement is a common barrier; however, this was not stated as such in our study. "We will not get paid/will lose money" was selected as a barrier by only 20% of clinicians, 0% of other providers, and 4% of staff. We wonder if in these health system practices, practice team members are insulated from the financial aspects of billing and coding by having system-level support for this area rather than being more directly involved themselves. In terms of weight management services in our list, "Complete coding or billing to provide weight prioritized visits" was only answered by 27.3% of clinicians. Perhaps many clinicians provide one-time advice and assistance and simply use billing under other conditions using standard evaluation and management codes. This could have important implications for implementation aspects of getting more adoption of these services in primary care.

Limitations include that these data represent the responses of practice members in 1 health system in 1 state. Although the practices were geographically dispersed and represent different patient populations, they may not represent all primary care practices nationally. The results may have been different if the full sample had completed the survey; results may be biased toward those more interested or available to comment on the topic of weight management. Results may have also been biased by respondents having more favorable impressions of their activity than are actually true. The PATHWEIGH study is a study of weight management provided to adults. The issues with provision of services to children and adolescents may be different, and these results do not reflect those differences. These data were collected during the COVID-19 pandemic (March-June 2021), which may have influenced response rates and results given other priorities at the time and the need to administer the surveys all online.

Conclusions

Providing more assistance with weight loss is needed in primary care to address the rising rates of overweight and obesity in the United States. The study illustrates factors that may make implementation of weight management a challenge and point to solutions for addressing this issue. Recommendations may include providing a more supportive environment for clinicians to practice weight management such as by providing additional help, encouraging enhanced training, and/or recognizing successful weight management efforts and outcomes. Realigning priorities at the practice level could help motivate practice clinicians and staff to participate more in providing these services, perhaps by highlighting the benefits that weight loss could have for many patient metrics such as HEDIS. Further research should investigate if interventions that address these challenges directly result in greater attention to weight management and better results for patients' health status in terms of prevention of obesity-related comorbidities.

To see this article online, please go to: http://jabfm.org/content/36/1/000.full.

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Appendix

Appendix 1. PATHWEIGH weight management study practice survey

Introduction: This survey is to provide background information about this practice for the PATHWEIGH Weight Management Study. All information is confidential and will not be shared with others. Please complete only one survey for this practice. We recommend the practice manager and medical director complete this survey.

I. Practice Contact Information

Practice Name:_____

Street Address:_____

City:_____ Zip:_____

Main Phone: (_____)_____ Main Fax: (_____)_____

Main Practice Contact Person: _____Title:_____

Direct Phone: (_____)_____ Email: _____

II. Practice Characteristics

1. Does this practice serve as a training site for any of the following? Select **all** that apply.
   ❒ Residents ❒ Medical Students ❒ Other Health Professionals: _____
   ❒ None of these

2. How many of each category of provider is involved in direct patient care (either by in person or telehealth)? Please place the number of individuals (regardless of FTE) in the blank to the left. If providers deliver care in the practice less than one half-day per month, do not include them in the count.
   Note: if a role fills various functions (ie, a person would be considered in multiple categories), pick the category with the most time devoted and do not double count people.
   _____ Physicians

   _____ Resident physicians

   _____ Certified clinical nurse specialist, nurse practitioner, or advanced practice nurses

   _____ Physician assistants

   _____ Registered nurses

   _____ Registered dietitians

   _____ Behavioral health providers such as psychologist or clinical social worker who provide counseling/therapy for mental health issues

   _____ Social workers who provide social work functions such as care coordination or resource assistance

   _____ Other workers like care navigators or coordinators who provide care coordination or resource assistance (non-degreed in social work)

   _____ Pharmacists

   _____ Other, please specify: _____

III. Weight Management Program

1. What types of services are regularly (once or more per month) provided to patients in your practice with regard to weight loss assistance? Select **all** that apply.
   ❑ Physicians or other providers provide brief advice to individual patients during office visits for other conditions or specified purposes (such as health maintenance, chronic disease management, or other visits)
   ❑ Physicians or other providers provide brief advice and/or counseling to individual patients during visits that are specifically for the treatment of obesity (ie, a "weight prioritized" visit)
   ❑ Physicians or other providers provide counseling to individual patients during visits that are specifically for the treatment of obesity (ie, "weight prioritized") and have follow-up visits over time
   ❑ Group weight loss program is held on-site at the practice, or in the building
   ❑ Weight loss medication is prescribed
   ❑ Patient education material on weight loss is provided
   ❑ Material or information is provided that describes insurance coverage of obesity treatments
   ❑ Referrals are made for bariatric surgery
   ❑ Medical supervision is provided for meal replacement programs or services
   ❑ Referrals are made to weight loss programs and services (excluding bariatric surgery)
   ❑ Other weight loss or obesity treatment services: _____
   ❑ ***None of the above are provided***
   Please describe further if desired: _____

2. What type of practitioners within your practice currently directly provide weight loss assistance to patients? Again, weight loss services are those services that involve the activities above in question 1—and are beyond providing one-time brief advice or a pamphlet or written information only. Select **all** that apply.
   - ❑ Physicians
   - ❑ Certified clinical nurse specialists, nurse practitioners, or advanced practice nurses
   - ❑ Physician assistants
   - ❑ Registered nurses
   - ❑ Registered dietitians
   - ❑ Psychologists
   - ❑ Social workers
   - ❑ Other, please specify: _____
   - ❑ None of these provide weight management services

3. Which providers are planned to implement PATHWEIGH? Include all clinicians who will be directly involved in providing weight management counseling/treatment/assistance to patients.
   [include space for name of provider, credentials, and role]

4. How are the weight management services or visits (or any weight prioritized visits) financed/paid for? Select **all** that apply.
   - ❒ Fee for service reimbursement from payer(s)
   - ❒ Per member per month reimbursement from payer(s)
   - ❒ Practice/practice organization uses quality incentives to cover costs
   - ❒ Practice/practice organization profits are put toward covering costs
   - ❒ Weight loss professionals are paid for by an entity other than the practice (please describe)
     _____
   - ❒ Patients self-pay for services
   - ❒ Other (please describe) _____
   - ❒ Unknown

5. Does your practice bill under any specific weight management/obesity treatment codes?
   ❒ No ❒ Yes; what codes (if known): _____
   ❒ Unknown

6. Has your practice experienced any of the following difficulties with billing for obesity services from any payer? Select **all** that apply.
   - ❑ Billing for weight loss treatment and not getting paid for it
   - ❑ Getting paid a very low rate for weight loss treatment
   - ❑ Not sure when it is appropriate to bill for weight loss treatment
   - ❑ Not sure how to bill for weight loss treatment
   - ❑ Receiving complaints from patients when they get direct billed because weight loss was not a covered benefit under their insurance
   - ❑ Other: _____
   - ❑ Unknown

7. What do you think, if in place, would help weight management services to go better?
   _____

IV. Practice Quality Improvement Efforts

1. Which of the following quality improvement activities are happening in your practice? Select **all** that apply.
   - ❑ Work with a quality improvement coach/facilitator
   - ❑ Have a quality improvement committee
   - ❑ Have a practice leader(s) who drive forward quality improvement
   - ❑ Have a process for identifying quality improvement goals and track progress toward goals
   - ❑ Use a quality improvement process such as Lean, Six Sigma, PDSA cycles, or other
   - ❑ Have a system for using data to measure progress toward quality improvement goals
   - ❑ Have a system or committee for patient and family input and involvement
   - ❒ Other (please describe) _____
   - ❒ None of these are happening

2. What major initiatives is the practice working on right now that are very important and taking time?
   _____

3. When quality or process improvement efforts are attempted in this practice, there has been…Check **one** answer.
   - ❒ Little success
   - ❒ Some success
   - ❒ Great success
   - ❒ Varies by specific effort (eg, some successful, some not)
   - ❒ Unknown

4. As we begin to work with your practice about implementation of weight management, are there any other factors or suggestions you have for the implementation team? _____

Thank you for completing this questionnaire!

Appendix 2. PATHWEIGH weight management study practice member survey

Introduction: The purpose of this survey is to learn about you, this practice, and what is provided in relation to patients with overweight and obesity. This survey is coded for confidentiality, and your individual responses will not be shared with others. It should take about 10 minutes to complete.

I. Background & Demographics

1. Please check the appropriate box to describe your role in the practice.
   ❒ Physician ❒ Advanced practice provider (NP, PA) ❒ Nurse/RN
   ❒ Medical assistant/LPN ❒ Behavioral health (PhD, MSW) ❒ PAR or front desk/scheduling
   ❒ Care manager ❒ Other patient care (RDN, PharmD) ❒ Administration
   ❒ Other

2. What is your gender? ❒ Male ❒ Female ❒ Nonbinary ❒ Prefer to not answer

3. What is your age range? ❒ Under 30 ❒ 30-45 ❒ 46-60 ❒ Over 60
   ❒ Prefer to not answer

4. How many years have you been working in health care? _____ years ❒ Prefer to not answer

5. What is your percent full-time equivalent (FTE) in the clinic? ____ % FTE ❒ Prefer to not answer

6. Have you ever personally wanted to and/or tried to lose weight?
   ❒ No ❒ Yes ❒ Prefer to not answer

II. Weight Management Provided to Patents in this Practice

1. How satisfied are you with this practice's ability to help patients manage their weight/address weight loss and maintenance? Select the one **best** answer.
   ❒ Not satisfied ❒ Somewhat satisfied ❒ Very satisfied ❒ Depends on the patient
   ❒ I'm not sure/don't know

2. To what extent do you agree with this statement: "Weight loss for patients with overweight or obesity is something that a primary care practice should provide to their patients as part of comprehensive primary care." Circle **one** number.
   Totally disagree 1 2 3 4 5 Totally agree

3. What are your concerns about starting/providing weight management at this practice? Select **all** that apply.
   ❒ I/our providers don't have time in their schedule
   ❒ We won't get paid/will lose money
   ❒ I/our providers don't know how
   ❒ I/our providers don't feel like patients will be able to successfully change and lose weight
   ❒ I/our providers are not interested in providing weight management
   ❒ We don't have weight management workflows set up in our practice
   ❒ Our patients will not want their providers to bring up weight loss with them
   ❒ We don't have time to set up a new program
   ❒ Other (please describe) _____
   ❒ None of the above are concerns

4. What do you think, if in place, would help providing weight management to go better?
   _____

The following items assess the climate for implementing weight loss in this practice. Please circle one number for each item listed below.

Weight loss assistance to patients in this practice	Not at all		Some-what		To a great extent
5. I am expected to provide (or assist in providing if not a clinical role) weight loss assistance to a certain number of patients.	1	2	3	4	5
6. I am expected to help this practice with providing weight loss assistance to patients.	1	2	3	4	5
7. I get the support I need to identify patients (or assist in identifying patients) who might need weight loss assistance.	1	2	3	4	5
8. I get the support I need to do my part with assisting patients with losing weight.	1	2	3	4	5
9. I receive recognition when I provide (or help provide) weight loss assistance to patients.	1	2	3	4	5
10. I receive appreciation when I provide (or help provide) weight loss assistance to patients.	1	2	3	4	5

For physicians, nurse practitioners, and physician assistants only (if other, skip to section III, Practice Culture)

11. Overall, how confident are you with your ability to provide high-quality weight management assistance to your patients?
    NOT confident 1 2 3 4 5 Completely confident

12. Overall, how effective do you believe you are with helping your overweight and obese patients to lose weight and keep it off?
    NOT effective 1 2 3 4 5 Completely effective

13. Do you have obesity treatment certification?
❑ No ❒ Yes; what certification (if known): _____
❑ Don't know/prefer to not answer

14. Have you gotten additional CME on how to provide obesity treatment or weight loss?
❒ No, never ❒ Yes, but not for a long time ❒ Yes, within the past 3 years
❒ Don't know/prefer to not answer

15. To what extent do you provide these services for patients with overweight or obesity? Please check **one** box for each item listed below.

❒ I am not involved in any of the items listed below

	Not at All	Sometimes	Very Often
a) Identify patients for whom weight loss might be needed	❒	❒	❒
b) Educate patients about the effects of excess weight on health	❒	❒	❒
c) Offer to work with them on weight loss	❒	❒	❒
d) Provide ongoing visits (at least monthly) to assist pts with weight loss	❒	❒	❒
e) Track patients' weight and/or weight loss	❒	❒	❒
f) Show a patient his/her weight loss improvement over time	❒	❒	❒
g) Set and track patient-specific weight loss goals	❒	❒	❒
h) Use EMR templates for weight loss goal setting and tracking	❒	❒	❒
i) Discuss motivational/change strategies for weight loss with patients	❒	❒	❒
j) Track patient's challenges/barriers	❒	❒	❒
k) Refer patients to counseling/therapy for their weight	❒	❒	❒
l) Refer patients to nutrition counseling	❒	❒	❒
m) Refer patients to bariatric surgery	❒	❒	❒
n) Refer patients to weight loss programs	❒	❒	❒
o) Provide medications for weight loss	❒	❒	❒
p) Consider weight implications of medication prescribed for other reasons	❒	❒	❒
q) Provide supplements or meal replacements for weight loss	❒	❒	❒
r) Provide other clinical management for weight loss	❒	❒	❒
s) Complete coding and/or billing to get paid for weight prioritized visits	❒	❒	❒
t) Other: _____	❒	❒	❒

16. When you have a patient who asks you for help with weight loss, what do you do now to help them?
_____

17. Which of the following would you be interested in learning more about? Select **all** that apply.
❒ How to prescribe/appropriate medications for weight management
❒ Which medications cause weight gain and therapeutic alternatives
❒ How to bring up the subject of weight without upsetting the patient
❒ How to organize workflows to accommodate weight management
❒ Options for how to organize weight management in a busy practice
❒ Recommendations around specific diet and eating plans, as well as which ones work and do not work
❒ Helping patients who are struggling with weight management
❒ Resources to refer patients to for weight loss
❒ Apps, tools, and other materials to use with patients for weight loss
❒ How to bill for/get paid for weight management
❒ How to organize and track weight management with patients over time in the EMR
❒ Other: _____
❒ I am not interested in any of these

18. In which of the following ways would you like to learn? Select **all** that apply.
❒ A 2-hour e-learning module on providing weight management to patients where I get CME credit
❒ Having someone come to our practice and provide information on how to do weight management
❒ Being able to call another provider experienced in weight management to ask questions
❒ Have resources in a program like UpToDate (or other)
❒ Other (please describe) _____
❒ I would not like to learn in any of these ways

19. If you have any other comments about weight loss for patients in the practice, please describe.
_____
_____

III. Practice Culture

For each of the following questions, please indicate your level of agreement or disagreement with each statement as it applies to this practice. For each item, select one item on the scale ranging from strongly disagree to strongly agree.

1 = strongly disagree (SD), 2 = disagree (D), 3 = neither agree nor disagree (N), 4 = agree (A), 5 = strongly agree (SA)					
	SD	D	N	A	SA
1. After making a change, we discuss what worked and what didn't.	1	2	3	4	5
2. My opinion is valued by others in this practice.	1	2	3	4	5

3. People in this practice understand how their jobs fit into the rest of this practice.	1	2	3	4	5
4. This practice is almost always in chaos.	1	2	3	4	5
5. I can rely on the other people in this practice to do their jobs well.	1	2	3	4	5
6. This practice puts a great deal of effort into improving the quality of care.	1	2	3	4	5
7. This practice encourages everybody's input for making changes.	1	2	3	4	5
8. We regularly take time to consider ways to improve how we do things.	1	2	3	4	5
9. The practice leadership makes sure that we have the time and space necessary to discuss changes to improve care.	1	2	3	4	5
10. This practice is very disorganized.	1	2	3	4	5
11. When there is conflict or tension in this practice, those involved are encouraged to talk about it.	1	2	3	4	5
12. People in this practice are thoughtful about how they do their jobs.	1	2	3	4	5
13. This practice uses data and information to improve the work of the practice.	1	2	3	4	5
14. Our practice encourages people to share their ideas about how to improve things.	1	2	3	4	5
15. People in this practice pay attention to how their actions affect others in the practice.	1	2	3	4	5
16. The leadership in this practice is available to discuss work related problems.	1	2	3	4	5
17. When we experience a problem in the practice we make a serious effort to figure out what's really going on.	1	2	3	4	5
18. Our practice has recently been very stable.	1	2	3	4	5
19. Things have been changing so fast in our practice that it is hard to keep up with what is going on.	1	2	3	4	5
20. The leadership of this practice is good at helping us to make sense of problems or difficult situations.	1	2	3	4	5
21. Most of the people who work in our practice seem to enjoy their work.	1	2	3	4	5
22. The practice leadership promotes an environment that is an enjoyable place to work.	1	2	3	4	5

IV. Burnout and Joy in Practice

1. Using your own definition of "burnout," please indicate which statement best describes your situation working at this practice. Check **one** box below.

❒ I enjoy my work. I have no symptoms of burnout.
❒ Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out.
❒ I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion.
❒ The symptoms of burnout that I'm experiencing won't go away. I think about frustrations at work a lot.
❒ I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help.
❒ Prefer not to answer

Please answer these questions about your work satisfaction.

1 = strongly disagree (SD), 2 = disagree (D), 3 = neither agree nor disagree (N), 4 = agree (A), 5 = strongly agree (SA)					
	SD	**D**	**N**	**A**	**SA**
1. I find my current work personally rewarding.	1	2	3	4	5
2. Overall, I am satisfied in my current practice.	1	2	3	4	5

Thank you for taking the time to complete this confidential survey.
Your input is very much appreciated!