Views of Primary Care Physicians Regarding the Promotion of Healthy Lifestyles and Weight Management Among Their Patients

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ABSTRACT

• Objective: To assess primary care physicians’ practices, knowledge, and beliefs regarding their efforts to promote healthy lifestyles and weight management among their patients.

• Methods: Study participants consisted of 25 primary care physicians from a regional primary care practice-based research network that includes 37 university-affiliated patient-centered medical homes and 2 nearby unaffiliated primary care sites. Participating physicians completed an online modified version of the Physician Survey of Practices on Diet, Physical Activity, and Weight Control–Adult Questionnaire.

• Results: The majority (88%) of participating physicians strongly believed it was their responsibility to promote a healthy diet, physical activity, and healthy weight loss and weight maintenance among patients. The 3 most commonly endorsed barriers were (a) not enough time, (b) minimal patient interest in improving his/her weight, and (c) lack of adequate weight-loss referral resources. The top 3 physician-perceived practice improvements that would be helpful with these practices were (a) better tools to communicate diet, physical activity, or weight problems to patients or family; (b) better mechanisms to connect patients to weight-loss referral resources; and (c) better counseling tools to guide patients regarding lifestyle modifications. 76% of the participating physicians correctly identified the BMI cutoff ranges for adult obesity, but only 32% did so for childhood obesity.

• Conclusion: It is important to provide primary care physicians with knowledge, effective tools, and resources to promote healthy lifestyles and weight loss and weight management among their patients.

Key words: obesity; primary care physicians; weight loss; weight management.

More than two-thirds of adults in the United States are overweight, with approximately 35% considered obese (defined as a body mass index ≥ 30) [1]. Obesity is associated with many of the leading causes of death in the United States (ie, diabetes, heart disease, stroke, and some types of cancer) and with poor mental health outcomes and reduced quality of life [2]. Racial/ethnic minorities and individuals with low incomes are disproportionately impacted by obesity and obesity-related diseases and negative health outcomes [3–5].

The US Preventive Services Task Force (USPSTF) recommends screening for obesity and intensive behavioral counseling, which are often the responsibilities of primary care providers [6]. Despite these recommendations, research suggests that primary care providers rarely screen their patients for obesity or refer them for intensive behavioral counseling despite evidence that doing so would improve patient health outcomes [5–7]. Lack of time to address weight issues during clinical visits, lack of training in weight management counseling, and lack of availability of intensive weight loss programs to which they can refer their patients are some of the reasons cited for not counseling patients about weight management [8].

Primary care providers deliver more hours of patient care than other providers, yet these providers have been

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unable to deliver medical interventions capable of producing even modest weight loss [10]. Obesity treatment options delivered in primary care settings have limited success, likely due to the low intensity of these treatment options. Many studies have shown that most obesity treatments in health care settings typically consist of scheduled monthly or quarterly visits that are 10 to 15 minutes in duration [11], despite evidence that more intense treatments are needed. Specifically, a systematic review of the obesity treatment literature performed by the USPSTF revealed that high-intensity, multicomponent behavioral interventions that include face-to-face counseling on diet and physical activity and behavioral therapy more than once a month for 3 months are needed to produce significant weight loss (8–15 lb) among adult patients in primary care settings [12].

Since many of the characteristics of multicomponent behavioral interventions for treating obesity are both patient-centered and involve self-management, the patient-centered medical home (PCMH) seems to be the ideal setting to deliver these interventions [13]. Specifically, PCMHs provide patient-centered care that is wide-ranging, team-based, and coordinated across all elements of the health care system and the patient’s community [14]. These sites specifically provide primary care, which is the type of care that obesity disparity patient groups such as racial/ethnic minorities, sexual minorities, groups with low incomes, and the medically underserved are more likely to utilize [15].

Providing multicomponent behavioral interventions for obesity in PCMHs and other primary care sites will increase the likelihood of participation among the aforementioned obesity disparity groups. Despite the potential benefits of obesity treatment interventions offered in primary care settings, particularly for obesity disparity groups, the role of primary care providers in providing such treatment interventions is not clear [16]. We surveyed primary care physicians who primarily worked in PCMHs to assess their practices, knowledge, views/beliefs, perceived barriers, and perceived needed clinic practice improvements relative to promoting healthy lifestyles and weight management among their patients.

METHODS
Participants
Primary care physicians were recruited from among a regional primary care practice-based research network that includes 37 PCMHs affiliated with an academic health center and 2 nearby primary care sites not affiliated with an academic health center. Fifty-two physicians at these centers received an invitation via email to participate in our online survey study. The invitation email included (a) a study endorsement note from the chair of the Community Health and Family Medicine Department affiliated with the PCMHs, (b) instructions about how to participate in the study, and (c) a link to the study. Participation inclusion criteria specified in the online informed consent form were: (a) working as a physician affiliated with the practice-based research network, (b) having access to a computer with internet connection, (c) being able to communicate in written English, and (d) providing written consent to participate in the study. Physicians were not provided compensation for participating in the study.

Survey Instrument
To assess physicians’ views and practices, we used a modified version of the Physician Survey of Practices on Diet, Physical Activity, and Weight Control–Adult Questionnaire [17]. The survey was sponsored by the National Cancer Institute in collaboration with several other NIH institutes and the CDC for evaluating current clinical practices among physicians, including the degree to which physicians evaluate their patients for obesity and offer them guidance designed to increase adherence to a health-promoting lifestyle (eg, recommendations on diet, weight, and physical activity). Additionally, the questionnaire assesses physicians’ perceived barriers to patient assessment, evaluation, and management. It also includes questions about physicians’ healthy lifestyle–related knowledge. In 2010, Smith and colleagues utilized the questionnaire with a nationally representative sample of primary care physicians (n = 1211) to investigate primary care physicians’ clinical practices in relation to overweight and obesity [18]. To our knowledge, no other physician survey has been developed to assess current engagement in recommended clinical practices, barriers to engaging in recommended practices, as well as beliefs and knowledge regarding helping patients follow a health-promoting lifestyle. The original survey also includes questions regarding the physicians’ personal health status and health behaviors.

For our study, we modified the survey by removing questions regarding the physicians’ (a) perceived general health and well-being, (b) current dietary practices, (c) current level of engagement in physical activity, and (d) current engagement in professional activities unrelated to patient care (eg, research, teaching). Our modi-
fied survey included 7 questions asking about current practices regarding screening for obesity and referral of patients to weight management interventions. Two questions asked about physicians’ perceived barriers to helping patients adhere to a health-promoting lifestyle and maintain a healthy weight. Physicians were asked to rate their top 3 barriers from among a list of 11 pre-identified barriers and to rate their top 3 desired practice-related improvements from among a list of 10 pre-identified improvements. Physicians were given the option to provide additional barriers or improvements that were not already pre-identified. Seven questions assessed physicians’ views/beliefs related to helping patients achieve and maintain a health-promoting lifestyle and a healthy weight. These questions utilize a rating scale where 1 = strongly agree, 2 = agree somewhat, 3 = neither agree nor disagree, 4 = disagree somewhat, and 5 = strongly disagree. Four questions assessed physicians’ healthy lifestyle–related knowledge (BMI ranges/percentiles for adults/children, diet and exercise guideline recommendations [recommended amounts of moderate physical activity and servings of fruits and vegetables for adults]) and 11 questions ask about the physician (height, weight, demographics, and practice population).

Survey Administration
The survey was administered anonymously through Qualtrics, a secure, online survey platform. The survey was administered online to increase anonymity, increase response rate, and diminish potential physician-perceived barriers to participating in the study. The participating physicians were provided with a link that enabled them to access the survey. The survey excluded questions that required disclosure of identifying information. Survey data from Qualtrics were exported to an SPSS file that was stored on a password protected, secured computer in the research lab of the principal investigator for this study.

Data Analysis
Frequency analyses were applied to survey responses to determine the participating physicians’ endorsed barriers to and views regarding evaluating and managing patients’ weight, healthy eating, and physical activity; physicians’ views related to helping patients achieve and maintain a health-promoting lifestyle and a healthy weight; and physicians’ healthy lifestyle–related knowledge. Nonparametric t tests were conducted to examine differences in survey responses of the participating physicians in association with their sex (male or female), race (Asian vs. white/Caucasian), and BMI (BMI < 25 and BMI ≥ 25).

Approval for the study was obtained through the institutional review board of the University of Florida Health Science Center.

RESULTS
Participants
Twenty-five physicians out of 52 invited completed the survey (48% response rate). The vast majority of the study participants were PCMH-affiliated (92%–96%). Participating physicians ranged in age from 29 to 67 years old. Sixteen (64%) participating physicians identified as female, 7 (28%) participating physicians identified as male, and 2 (8%) participating physicians did not indicate a sex. Twenty (80%) participating physicians identified as being white, 3 (12%) participating physicians identified as being Asian/Asian American, and 2 (8%) did not indicate a race or ethnicity. Twenty-two (88%) participating physicians were employees of a large medical group affiliated with an academic medical center, 1 (4%) was employed in a physician-owned practice, and 2 (8%) did not indicate their main primary care practice location. Table 1 provides additional demographic data.

Participants endorsed a number of perceived barriers to helping patients adhere to a health-promoting lifestyle and maintain a healthy weight. The most common barriers reported, as shown in Table 2, include (a) not enough time (72%); (b) patients not interested in improving their weight (52%); and (c) lack of adequate referral resources for diet, physical activity, and weight management (48%). The participating physicians also endorsed certain practice-related improvements that they felt would help them improve their patients’ engagement in health-promoting behaviors (healthy eating and physical activity) and weight. These improvements, as shown in Table 3, include (a) better tools to communicate diet, physical activity, or weight problems to patients or family (48%); (b) better mechanisms to connect patients to specific referral sources (44%); and (c) better counseling tools to guide patients towards lifestyle modification (36%).

Overall, 88% of participating physicians strongly agreed that it was their responsibility to promote a healthy diet, physical activity, and weight loss and healthy weight maintenance among their patients. In contrast, 4% of the participating physicians strongly disagreed with this statement.
Approximately 88% of the participating physicians agreed that patients were more likely to adopt healthier lifestyles if their health care providers counseled them to do so (44% strongly agreed, 44% agreed somewhat). A majority of participating physicians endorsed the view that there are effective strategies and/or tools to (a) help patients eat a healthy diet (56% strongly agreed, 24% agreed somewhat), (b) engage in adequate amounts of physical activity (56% strongly agreed, 20% agreed somewhat), and (c) maintain a healthy weight or lose weight (48% strongly agreed, 32% agreed somewhat). Some participating physicians expressed ambivalence about whether or not they were effective at helping their patients (a) eat a healthy diet (16% neither agreed nor disagreed), (b) engage in adequate amounts of physical activity (12% neither agreed nor disagreed), and (c) maintain a healthy weight or lose weight (20% neither agreed nor disagreed). A total of 8% of participating physicians did not endorse the belief that they were effective at helping their patients maintain a healthy weight or lose weight.

Most participating physicians at least somewhat agreed that they were effective in encouraging patients to engage in health-promoting activities (44% strongly agreed, and 44% agreed somewhat), whereas 4% neither agreed nor disagreed that they were effective in providing this encouragement. Interestingly, many participating physicians endorsed the view that they would be able to provide more credible and effective counseling to patients if they (the physicians themselves) ate a healthy diet (68% strongly agreed, 20% agreed somewhat) and engaged in adequate amounts of physical activity (68% strongly agreed, 20% agreed somewhat). A minority of participating physicians (4%) neither agreed or disagreed with this perspective.

In regards to participating physicians’ healthy lifestyle–related knowledge about current BMI ranges for adults or percentile ranges for children, most participating physicians were able to accurately identify the correct BMI cutoff ranges for overweight (80%) and obese (76%) adults. However, only 32% of participating physicians were able to correctly identify BMI percentile ranges for children; however, nearly all of the participating physicians saw mainly adult patients. Lastly, 76% of participating physicians were able to correctly identify the recommended amounts of moderate physical activity for adults 18 years of age and older, and only 56% were able to correctly identify the recommended amount of servings of fruits and vegetables.

There were no significant race-related differences in participating physicians views/beliefs, healthy lifestyle–related knowledge, and perceived barriers to helping patients engage in health promoting behaviors and weight management. There were no significant sex-related dif-
ferences in these variables with the exception that women were more likely to respond that they did not know the BMI percentile range at which children or adolescents were considered to have a healthy weight (37.5% of women vs. 0% of men, \( P = 0.03 \)). A similar percentage of men (66.7%) and women (64.7%) who chose among the 4 percentile range options (rather than endorsing “Don’t know”) chose an incorrect answer. Lastly, there were no significant self-reported BMI-related differences in participating physicians’ views/beliefs, healthy lifestyle–related knowledge, and perceived barriers to helping patients engage in health-promoting behaviors and weight management.

**DISCUSSION**

Given the high percentage of adults in the United States who are overweight or obese and the associated health risks, it is paramount that primary care physicians advise their patients to manage their weight and adopt a health-promoting lifestyle. Research studies indicate that such advice is effective [18,19]. Furthermore, it has been found that most overweight and obese patients want more assistance with weight management than they are receiving from their primary care physicians [21]. This study thus explored primary care physicians’ knowledge, beliefs, and perceived barriers that may prevent them from providing such assistance. The primary care setting is the site where obesity disparity groups (eg, racial/ethnic minorities, groups with low household incomes) are most likely to receive care [22,23].

Most of the PCMH-affiliated physicians in this study agreed that they had the responsibility to promote weight-loss/management and healthy lifestyles among their patients. Consistent with prior research [9], the majority of the physicians in this study felt they were effective in their ability to counsel patients to eat a healthy diet and engage in physical activity. To illustrate, in a prior study [9], 77% of primary care providers thought that they could provide useful dieting tips to patients, and in this study, 80% believed they were effective in helping patients eat a healthy diet. However, despite this confidence in their ability to provide advice about healthy diets and physical activity, the providers in

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**Table 2. Providers’ Barriers to Engaging Patients in Health-Promoting Behaviors**

<table>
<thead>
<tr>
<th>Barriers</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not enough time</td>
<td>18</td>
<td>72.0</td>
</tr>
<tr>
<td>Patients are not interested in improving their diet, physical activity, or weight</td>
<td>13</td>
<td>52.0</td>
</tr>
<tr>
<td>Lack of adequate referral services for diet, physical activity, and weight</td>
<td>12</td>
<td>48.0</td>
</tr>
<tr>
<td>Too difficult for patients to change their behavior</td>
<td>9</td>
<td>36.0</td>
</tr>
<tr>
<td>Lack of effective tools and information to give to patients</td>
<td>4</td>
<td>16.0</td>
</tr>
<tr>
<td>Fear of offending the patient</td>
<td>3</td>
<td>12.0</td>
</tr>
<tr>
<td>Lack of effective treatment options</td>
<td>2</td>
<td>8.0</td>
</tr>
<tr>
<td>Inadequate reimbursement</td>
<td>2</td>
<td>8.0</td>
</tr>
<tr>
<td>Not part of my role</td>
<td>2</td>
<td>8.0</td>
</tr>
<tr>
<td>I am not adequately trained in this area</td>
<td>1</td>
<td>4.0</td>
</tr>
<tr>
<td>Too difficult to evaluate and manage</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note. Bolded response items indicate top 3 commonly cited barriers.*

**Table 3. Providers’ Needs for Improving Patient Engagement in Health-Promoting Behaviors**

<table>
<thead>
<tr>
<th>Needs</th>
<th>n</th>
<th>%</th>
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<tr>
<td>Better tools to communicate diet, physical activity, or weight problems to patient or family</td>
<td>12</td>
<td>48.0</td>
</tr>
<tr>
<td>Better mechanism to connect patient to specific referral services</td>
<td>11</td>
<td>44.0</td>
</tr>
<tr>
<td>Better counseling tools to guide patients toward lifestyle modification</td>
<td>9</td>
<td>36.0</td>
</tr>
<tr>
<td>Easy-to-understand patient management guidelines</td>
<td>8</td>
<td>32.0</td>
</tr>
<tr>
<td>Better reimbursement for counseling</td>
<td>8</td>
<td>32.0</td>
</tr>
<tr>
<td>Ways to more easily identify problems with diet, physical activity, and weight</td>
<td>5</td>
<td>20.0</td>
</tr>
<tr>
<td>Better information systems to document and track goals in the medical record</td>
<td>4</td>
<td>16.0</td>
</tr>
<tr>
<td>Better information systems to identify appropriate referral services</td>
<td>4</td>
<td>16.0</td>
</tr>
<tr>
<td>More training for you in evaluating and managing patient diet, physical activity, and weight</td>
<td>3</td>
<td>12.0</td>
</tr>
<tr>
<td>More training for your staff in evaluating and managing patient diet, physical activity, and weight</td>
<td>2</td>
<td>8.0</td>
</tr>
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</table>

*Note. Bolded response items indicate the top 3 commonly cited improvements.*
both this and in another prior study [25] were less confident in their ability to actually help patients lose weight. Only 64% of the providers in the present study felt they could be effective in assisting patients with losing weight or maintaining a healthy weight. Although this percentage is higher than the 44% of physicians found in a prior study [25] who felt confident in their ability to treat obesity, both studies clearly point to a need to decrease barriers that physicians face in helping clients lose weight.

A key finding of this study was the consensus among the participating physicians regarding what they perceived to be the common barriers to helping patients adhere to a health-promoting lifestyle. Consistent with past research [8,9], the 3 most common barriers cited by the participating physicians were that they did not have enough time, patients were not interested in improving their weight, and adequate referrals for diet, physical activity, and weight were lacking. Additional barriers endorsed included a lack of effective tools and information to give patients, and a fear of offending patients. Another barrier identified by the participating physicians is the perception that patients had difficulty in changing behaviors necessary for maintaining a healthier lifestyle.

When asked what would facilitate conversations with patients, the top 3 responses given were better tools to communicate diet, physical activity, or weight problems to patients or family members; better mechanisms to connect patients to specific referral sources; and better counseling tools to guide patients towards engagement in healthy lifestyles. Of note is the significant overlap between the perceived barriers and the needed facilitation tools. The clearest example of this overlap is that physicians noted a lack of adequate referral sources to be a barrier and that better mechanisms to connect patients to specific referral sources would facilitate their treatment of patients. Weight management referrals for patients in rural areas and for non-Hispanic black adults and Hispanic adults, among whom obesity is most prevalent in the United States [3,25], are particularly needed. Addressing this need is consistent with national calls to reduce/eliminate obesity and other disparities that plague the U.S. health care system. One promising avenue to facilitate weight management referrals is the development, evaluation, and wide dissemination of remote weight-loss support interventions, particularly in rural, racial/ethnic minority, and low-income communities. Indeed, several recent articles demonstrate the success of such weight management programs across diverse patient populations [27–29].

Many of the physicians who participated in the study (72%) endorsed lack of time as a significant barrier to discussing weight and weight-related behaviors with their patients. Therefore, finding time-efficient strategies to involve physicians in weight management interventions may prove particularly beneficial. One such evidence-based behavioral counseling framework—the 5As framework—has been endorsed by the Centers for Medicare and Medicaid Services and the USPSTF for use with obese patients during a typical 20-minute visit [28].

The second highest-rated barrier, perceived patient lack of motivation, warrants additional discussion. Despite over half of the physicians surveyed citing this as a barrier, previous studies have shown that the majority of overweight patients believe they should lose weight and are interested in losing weight [21]. This study highlights a potential discrepancy between physicians’ perceptions of patients’ interest in weight-loss and their patients’ actual interest. It is possible that this discrepancy can be avoided by training physicians on how to be culturally sensitive when addressing weight with their patients. Moreover, such cultural sensitivity training may be of great use, given that 12% of physicians in this study were apprehensive about discussing weight with their patients due to fear of offending them. Such training typically involves teaching physicians how to talk with patients in ways that enable patients to feel comfortable, trusting, and respectful in patient-physician/provider interactions [29].

Two other findings pertaining to providers deserve mention. Specifically, 88% of physicians believed that effectively encouraging patients to adhere to a healthy lifestyle included personally engaging in health-promoting activities. However, of the physicians surveyed, 64% were overweight/obese. Given the high percentage of physicians in this study that were overweight/obese and these physicians’ belief that their personal engagement in health-promoting activities is important to encourage patient engagement in a healthy lifestyle, it seems that future efforts are needed to facilitate health-promoting behaviors among physicians—efforts that may in turn aid them in encouraging their patients to adhere to a healthy lifestyle.

Finally, this study assessed physicians’ healthy lifestyle–related knowledge about current BMI ranges for adults and BMI percentile ranges for children, and recommended amounts of moderate physical activity and
servings of fruits and vegetables for adults. Most physicians were able to correctly identify the adult BMI cutoff ranges for overweight and obesity and to identify the correct answers to questions about physical activity and fruits and vegetable consumption guidelines for adults. However, only 32% of physicians were able to correctly identify BMI percentile ranges for children and/or adolescents. This is understandable given that most of the physicians in this study provide care to adult patients. However, considering that in 2012 more than one-third of children and adolescents were overweight or obese [1], it is important that all physicians have knowledge of BMI percentile ranges for children and adolescents so that minimally they can convey this information to their adult patients who are parents. The USPSTF defines children and adolescent overweight as an age- and gender-specific BMI between the 85th and 94th percentiles, and children and adolescent obesity as an age- and gender-specific BMI ≥ 95th percentile [31]. Such knowledge of BMI cutoffs is needed in order for providers to comply with the USPSTF recommendation to screen all adults and children aged 6 years and older for obesity, and then offer or refer those with an obesity diagnosis to intensive multicomponent behavioral interventions [31–33].

While novel, the study also had several limitations. First, due to self-selection of participants, physicians who felt more confident in their abilities to address overweight or obesity with their patients might have been more likely to respond. Second, participating physicians may have given socially desirable responses to questions (ie, responses that present a favorable image of themselves) rather than true/accurate responses. Future studies could incorporate a social desirability scale in order to detect and control for any socially desirable responding [33]. Another limitation was the small sample size and the limited variability in geographic location of the participating physicians. Thus, the experiences of these physicians may not be generalizable to physicians in other geographic regions. Future similar studies to the present study are needed and such studies should use a larger and randomly selected sample of physicians that is racially/ethnically diverse. Finally, a limitation of this study is the 48% participation rate. Factors that may have contributed to this participation rate include lack of compensation for physicians and the likelihood that physicians may have extremely busy schedules that may discourage them from participating. However, it is important to note that the 48% participation rate of this study is better than the 25.6% participation rate in another similar study [25]. Future similar studies to the present study likely need to include strong incentives for physicians to be study participants.

Conclusion
Our study indicates that many primary care physicians may not talk with their patients about engaging in healthy eating, physical activity, and weight management because of perceived barriers that prevent them from doing so, rather than because of a lack of perceived responsibility to do so or a perception that counseling patients on these issues would be ineffective. This finding highlights the importance of providing physicians with the tools and resources needed to overcome the aforementioned barriers to fostering health-promoting lifestyles and a healthy weight among their patients and the importance of involving physicians in identifying these barriers and ways to overcome them.

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