

A Silent Response to the Obesity Epidemic

Decline in US Physician Weight Counseling

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Background: Guidelines recommend that physicians screen all adults for obesity and offer an intensive counseling and behavioral interventions for weight loss for obese adults. Current trends of weight-related counseling are unknown in the setting of the US obesity epidemic.

Objectives: To describe primary care physician (PCP) weight-related counseling, comparing counseling rates in 1995–1996 and 2007–2008.

Research Design: Data analysis of outpatient PCP visits in 1995–1996 and 2007–2008, as reported in the National Ambulatory Medical Care Survey.

Subjects: A total of 32,519 adult primary care visits with PCPs.

Measures: Rates of counseling for weight, diet, exercise, and a composite variable, weight-related counseling (defined as counseling for weight, diet, or exercise) between survey years. Adjusted analyses controlled for patient and visit characteristics.

Results: Weight counseling declined from 7.8% of visits in 1995–1996 to 6.2% of visits in 2007–2008 [adjusted odds ratios, 0.64; 95% confidence intervals, 0.53, 0.79]. Rates of receipt of diet, exercise, and weight-related counseling similarly declined. Greater declines in odds of weight-counseling receipt were observed among those with hypertension (47%), diabetes (59%), and obesity (41%), patients who stand the most to gain from losing weight.

Conclusions: Rates of weight counseling in primary care have significantly declined despite increased rates of overweight and obesity in the United States. Further, these declines are even more marked in patients with obesity and weight-related comorbidities, despite expectations to provide such care by both patients and policymakers. These findings have implications for determining deliverable, novel ways to engage PCPs in addressing the obesity epidemic.

Key Words: primary care, preventive medicine, weight counseling, obesity

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With 64% of US adults overweight or obese, approximately 145 million adults are affected by this epidemic, which has had profound economic and public health consequences.^{1–3} The United States Preventive Services Task Force (USPSTF) develops recommendations on a broad range of preventive health care services for primary care physicians (PCPs), and in 2003 recommended that physicians “screen all adult patients for obesity and offer intensive counseling and behavioral interventions to promote sustained weight loss for obese adults.”⁴ These recommendations were based on evidence that intensive counseling can promote modest sustained weight loss and improved clinical outcomes. Further, the USPSTF recommends intensive behavioral dietary counseling, delivered by PCPs or through their referral, for adult patients with known risk factors for cardiovascular and diet-related chronic disease, such as diabetes mellitus.⁵ Although counseling patients on healthier lifestyles has long been the purview of the PCP, these recommendations further highlighted the role of primary care visits in addressing the obesity epidemic. Indeed, patients themselves both desire and expect such counseling from their physicians.^{6,7} The recent implementation of the Patient Protection and Affordable Care Act has furthered these expectations by requiring all health insurance carriers to cover this and other USPSTF recommendations, with no patient deductible or copay.

Unfortunately, studies have shown that physicians do not conduct weight and weight-related counseling for the majority of their affected patients.^{8–11} Multiple barriers exist to providing such care: physicians are pessimistic that patients can change,¹² physicians have time limitations,^{13–14} and physicians’ training and skills for lifestyle counseling are thought to be inadequate.^{15–16} Further, PCPs have few tools available to assist their weight-counseling efforts. Primary care-based interventions for weight control are relatively ineffective for US adults and there are no widely disseminable behavioral interventions available to PCPs.^{17–18} There are also limited medication treatments for obesity, with several prescriptions withdrawn from the market due to safety concerns (eg, sibutramine in 2010).¹⁹

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The purpose of this study is to describe current trends in PCP weight-related counseling for patients, including those with obesity and weight-related comorbidities (ie, hypertension and diabetes mellitus), by comparing rates of counseling in primary care visits in 1995–1996 and 2007–2008. We hypothesized that, as overweight and obesity have become endemic, weight-related counseling would be occurring more frequently. However, with multiple barriers to counseling, including lack of effective treatments available to providers, we expected the counseling rates would still be suboptimal. If this were true, it would highlight the need to develop and test resources to which PCPs can refer patients for weight control.

METHODS

Data Source

We utilized data from 1995–1996 and 2007–2008 National Ambulatory Medical Care Survey (NAMCS), a national survey aimed at providing reliable information about the provision of ambulatory medical care services in the United States. Each survey year a multistage probability design initially selects an independent sample of non-federally funded, community and office-based physician practices throughout the United States.²⁰ The NAMCS then collects data from a random sample of outpatient visits to those physicians. We limited the current analyses to office visits made by adults (age, 17 y or older) to PCPs (general/family practitioner and general internal medicine).¹⁰ Complete descriptions of the survey and sampling design can be found at <http://www.cdc.gov/nchs/about/major/ahcd/ahcd1.htm>. NAMCS data has been validated against other sources of ambulatory medical care data.²¹

Patient and clinical data are collected for each selected visit by physicians, office staff, or US Census Bureau representatives and recorded on a standard form. Data are collected on demographics (eg, age, sex, and race/ethnicity), expected source of payment (eg, insurance), continuity of care variables (eg, whether the patient has been seen previously in the practice), and clinical data, including reason for visit, physicians' diagnoses, health education provided, and patient management (eg, diagnostic procedures and medications/immunizations).^{20,22}

Variable Definitions

The primary independent variable was study years 1995–1996 versus 2007–2008. Other independent variables included demographics that have been shown to be associated with counseling, specifically, age, sex, race/ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, or other), expected source of payment for the visit (private insurance, public insurance, other, none), region (Northeast, Midwest, South, West), and setting (urban, rural).^{11,23,24} Visit characteristics known to be associated with counseling receipt were additionally included: provider specialty (general/family practitioner vs. internal medicine), whether the patient had been seen previously, visit duration, smoking status, and whether the patient had obesity and other comorbid conditions.¹¹ A diagnosis of obesity is a major pre-

dictor of weight-counseling receipt, with prior studies showing a 10-fold increased odds.¹¹ Other examples of variables associated with increased rates of counseling include: increased visit duration, visits with internists (as compared with family practitioners), and the presence of comorbid conditions.^{9,11} An overall comorbidity risk status, which included a diagnosis of obesity, was obtained as described by Bleich et al,²³ using clinical guidelines from the National Heart, Lung, and Blood Institute and International Classification of Disease, Ninth-Revision diagnostic codes.

The 3 primary outcomes of interest were: whether the physician ordered or provided health education counseling for weight, diet, or exercise. In addition, we created a composite variable, "weight-related counseling," to indicate whether at least 1 of the 3 counseling domains (weight, diet, or exercise) were ordered or provided. The rationale for using this composite variable was to be inclusive in accounting for not only weight counseling, but also diet or exercise, as these are related aspects of weight-counseling physicians alternatively might report.

Statistical Analysis

Sample weights were applied to account for the complex sampling design and to allow extrapolation to national estimates with proper estimates of standard errors and variance. Separate logistic regressions were used to describe associations between study years and covariates with each of the counseling outcomes (weight, diet, exercise, and composite weight-related counseling). Explanatory variables that were at least somewhat associated ($P < 0.10$) with the dependent counseling variable or those described in the literature as covariates^{11,23,24} were entered into a multiple logistic regression model for that counseling outcome. Patient and provider characteristics that differed between study years were additionally adjusted for in the model to remove the influence of changes in prevalence between study years. Adjusted odds ratios (OR) and 95% confidence intervals (CI) from the logistic regression models were used to describe the independent association of an explanatory variable with the outcome measure after controlling for all other covariate variables in the model. In addition, logistic regression was used to determine adjusted odds of receipt of counseling for patient subgroups with weight-related comorbidities (physician-reported hypertension, diabetes, and obesity). All analyses were performed in SAS statistical software, version 9.1.3 (SAS Institute, Cary, NC). This study was determined to be exempt from review by the Penn State College of Medicine Institutional Review Board.

RESULTS

For the 4 survey years, 32,519 records from the NAMCS sample met our eligibility criteria. Table 1 provides patient and provider characteristics by survey year (1995–1996 vs. 2007–2008). As compared with 1995–1996, patients in 2007–2008 were older and more likely to have a very high overall comorbidity risk status, including being nearly 2 times as likely to have diabetes, a finding reflective of national trends in diabetes prevalence.²⁵ Further, patients were more likely to have private or public insurance, longer

TABLE 1. Patient and Provider Characteristics by Survey Year

Variables	Survey Year Visits [n (%)] [†]		P*
	1995–1996 (n = 15,753)	2007–2008 (n = 16,766)	
Age (y)			
18–44	5673 (36.5)	5812 (31.3)	<0.001
45–64	4845 (30.2)	6489 (37.8)	
65+	5235 (33.4)	4465 (30.9)	
Sex			
Female	9563 (60.2)	10,092 (59.4)	0.445
Male	6190 (39.8)	6674 (40.6)	
Race			
White	12,599 (77.6)	10,847 (71.9)	0.035
Black	1603 (11.0)	2217 (10.8)	
Hispanic	1056 (7.4)	2690 (12.4)	
Other	495 (4.0)	1012 (5.0)	
Insurance			
Private	6951 (42.8)	7444 (53.8)	<0.001
Public	4236 (28.3)	648 (33.8)	
Other	1268 (8.0)	800 (2.9)	
None	3298 (20.9)	2474 (9.5)	
Region			
Northeast	2969 (18.4)	2874 (18.2)	0.376
Midwest	4292 (25.0)	4139 (21.2)	
South	4670 (30.4)	5548 (39.8)	
West	3822 (26.1)	4205 (20.8)	
Urban			
Yes	12,118 (74.5)	14,266 (84.4)	0.131
No	3635 (25.5)	2500 (15.6)	
Provider			
GP/FP	8956 (59.4)	11,807 (57.4)	0.541
Internal medicine	6797 (40.6)	4959 (42.6)	
Patient seen before			
Yes	14,178 (90.0)	15,140 (91.7)	0.046
No	1575 (10.0)	1626 (8.3)	
Visit time			
0–14	4991 (35.3)	2052 (13.1)	<0.001
15–19	5091 (32.4)	7275 (44.3)	
20+	5671 (32.3)	7439 (42.7)	
Overall comorbidity risk status			
None	4408 (28.9)	4732 (25.8)	0.003
Low	406 (2.4)	362 (2.1)	
High	8142 (51.1)	8247 (51.8)	
Very high	2797 (17.6)	3425 (20.3)	

*P-values from weighted χ^2 analysis taking into consideration the complex sampling stratification and clustering.

[†]All percentages are population percentages estimated from a weighted analysis taking into consideration the complex sampling stratification and clustering.

FP indicates family practice; GP, general practice.

visit duration, and more likely to be Hispanic. Physician-reported rates of obesity did not differ between years and were much lower than population estimates (10.9% in 1995–1996 vs. 10.5% in 2007–2008).²⁶

Weight counseling declined from 7.8% of visits in 1995–1996 to 6.2% of visits in 2007–2008 (Table 2). After adjustment for age, sex, race, insurance, region, urban setting, physician specialty, whether the patient was seen before, visit duration, and comorbidity risk status, patients were still significantly less likely to receive weight counseling in 2007–2008 as compared with 1995–1996 (adjusted OR, 0.64; 95% CI, 0.53, 0.79). Figure 1 compares weight-counseling rates and rates of obesity, obtained from the Behavioral Risk Factor Surveillance System (BRFSS).²⁶ Additional patient

TABLE 2. Patient and Provider Characteristics and Associations With Weight Counseling

Variable	%*	Weight Counseling	
		Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Survey years			
1995–1996	7.8	1.0 (Reference)	1.0 (Reference)
2007–2008	6.2	0.79 (0.64, 0.96) [†]	0.64 (0.53, 0.79) [‡]
Age (y)			
18–44	6.4	1.24 (1.03, 1.51) [†]	2.62 (2.10, 3.25) [‡]
45–64	8.9	1.78 (1.49, 2.12) [†]	1.98 (1.62, 2.41) [‡]
65+	5.2	1.0 (Reference)	1.0 (Reference)
Sex			
Female	6.7	0.95 (0.84, 1.08)	1.05 (0.92, 1.20)
Male	7.1	1.0 (Reference)	1.0 (Reference)
Race			
White	7.0	1.0 (Reference)	1.0 (Reference)
Black	7.7	1.12 (0.87, 1.42)	1.03 (0.79, 1.32)
Hispanic	5.9	0.83 (0.63, 1.09)	0.80 (0.60, 1.06)
Other	6.0	0.85 (0.50, 1.45)	1.04 (0.62, 1.77)
Insurance			
Private	7.4	0.95 (0.75, 1.21)	0.96 (0.77, 1.20)
Public	5.6	0.71 (0.55, 0.91) [§]	0.80 (0.62, 1.03)
Other	7.8	1.01 (0.70, 1.43)	0.91 (0.64, 1.31)
None	7.7	1.0 (Reference)	1.0 (Reference)
Region			
Northeast	8.3	1.45 (1.06, 1.99) [†]	1.49 (1.11, 2.01) [§]
Midwest	7.9	1.37 (1.02, 1.84) [†]	1.38 (1.05, 1.82) [†]
South	6.2	1.06 (0.78, 1.45)	1.14 (0.86, 1.52)
West	5.8	1.0 (Reference)	1.0 (Reference)
Urban			
Yes	7.4	1.55 (1.17, 2.05) [§]	1.62 (1.23, 2.12) [‡]
No	4.9	1.0 (Reference)	1.0 (Reference)
Provider			
GP/FP	6.6	0.89 (0.73, 1.09)	1.03 (0.84, 1.28)
Internal medicine	7.3	1.0 (Reference)	1.0 (Reference)
Patient seen before			
Yes	6.9	1.07 (0.86, 1.34)	1.01 (0.82, 1.26)
No	6.5	1.0 (Reference)	1.0 (Reference)
Visit time			
0–14	4.6	1.0 (Reference)	1.0 (Reference)
15–19	6.4	1.43 (1.12, 1.82) [§]	1.58 (1.25, 1.99) [‡]
20+	8.6	1.96 (1.55, 2.46) [‡]	2.12 (1.68, 2.66) [‡]
Comorbidity risk status			
None	1.6	1.0 (Reference)	1.0 (Reference)
Low	35.2	33.22 (23.34, 46.99) [‡]	36.26 (25.53, 51.42) [‡]
High	6.7	4.36 (3.42, 5.58) [‡]	6.83 (5.16, 9.03) [‡]
Very high	11.6	7.99 (6.05, 10.59) [‡]	14.27 (10.49, 19.30) [‡]

Odds ratios from weighted logistic regression taking into consideration the complex sampling stratification, adjusted odds ratios adjust for all other variables in the table

*All percentages are population percentages estimated from a weighted analysis taking into consideration the complex sampling stratification and clustering.

[†]P < 0.05.

[‡]P < 0.001.

[§]P < 0.01.

CI indicates confidence intervals; FP, family practice; GP, general practice; OR, odds ratios.

and provider characteristics and their associations with weight counseling are shown in Table 2. Predictors of weight-counseling receipt were similar between study years. Weight-counseling receipt was more likely in younger patients in the Northeast or Midwest and urban setting, and those with a longer visit duration. Comorbidity risk status, which included a diagnosis of obesity, had the greatest influence on counseling receipt. Patients with low comorbidity

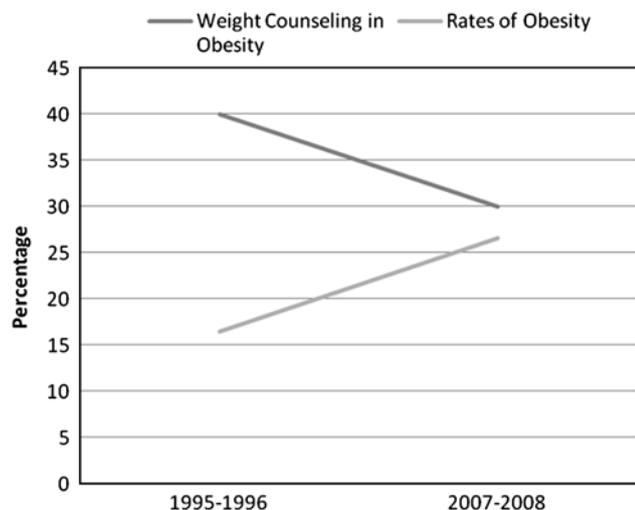


FIGURE 1. Rates of counseling and conditions in 1995–1996 as compared with 2007–2008. Weight counseling rates as presented in the manuscript, as percentage of visits for the respective counseling. Rates of obesity are obtained from Behavioral Risk Factor Surveillance System.²⁶

risk status were most likely to receive counseling, although patients with high and very high-risk statuses were still significantly more likely than those without any risk.

Rates of counseling for diet and exercise also declined significantly between 1995–1996 and 2007–2008 (Table 3). Diet and exercise counseling occurred in only 16.3% and 11.3% of visits in 2007–2008, respectively. This represents a significant decline in receipt of counseling for diet (adjusted OR, 0.65; 95% CI, 0.54, 0.76) and exercise (adjusted OR, 0.63; 95% CI, 0.52, 0.76) as compared with 1995–1996 in adjusted analysis. Adults between 45 and 64 years of age were more likely to receive counseling for diet and exercise, as were patients who lived in urban settings, those with longer visit duration, and those with comorbid conditions.

We additionally determined associations for the composite weight-related counseling variable, which indicates the receipt of weight, diet, or exercise counseling. Patient and provider characteristics and associations with weight-related counseling are also shown in Table 3. As with weight, diet, and exercise counseling, weight-related counseling rates decreased significantly between 1995–1996 and 2007–2008 (adjusted OR, 0.68; 95% CI, 0.58, 0.79). Patients listing “other” race, urban setting, and Northeast location were associated with increased rates of counseling. Visit duration and comorbidity risk status were also associated with increased rates of counseling.

Table 4 shows the results of the subgroup analysis, describing the counseling rates among those with and without obesity and weight-related comorbidities. Weight counseling significantly decreased for those with comorbid conditions between 1995–1996 and 2007–2008, including obesity (39.9% vs. 29.9%), hypertension (13.6% vs. 8.5%), and diabetes (17.6% vs. 10.0%). Similar findings were observed for diet, exercise, and weight-related counseling

across subgroups of individuals with hypertension, diabetes, and obesity.

DISCUSSION

We observed that between 1995–1996 and 2007–2008, PCPs provided significantly less weight-related lifestyle counseling. It is striking that the weight loss counseling for obese patients declined from 39.9% to 29.9%, a 41% decrease in odds of receipt, given the substantial increases in the rates of overweight and obesity during that time. Even greater declines in odds of weight-counseling receipt were observed among those with hypertension (46%) and diabetes (59%), though patients with these conditions stand the most to gain from losing weight. According to data from the BRFSS, the percentage of adults who were overweight and obese increased from 52.1% in 1995 to 63.3% in 2008.²⁶ Despite this increase, outpatients seen in 2007–2008 had 36% lower odds of receiving weight counseling than was observed 12 years earlier. These lower rates of weight-related counseling, including counseling for weight, exercise, and diet, were observed for all adults. On the basis of an estimated 1.1 billion outpatient visits during this time period, this suggests roughly 840 million PCP visits occurred without counseling for weight, exercise, and/or diet, representing significant missed opportunities for reaching the US population.

The reasons for the dramatic decline in weight and weight-related counseling are not clear. Physicians note significant challenges and frustrations with managing obesity, but it is unknown if these attitudes have changed over time. Weight discrimination within the United States has increased over this same time period, and may also have increased among physicians, offering a partial explanation.^{15,27} There are many additional competing demands in outpatient care between study years, including an increase in chronic illnesses, a focus on quality improvement, and use of electronic health records; such competing demands have been implicated in lowering the quality of care provided for chronic illnesses.^{28,29} Although visit duration has actually increased over the study time period, the number of items addressed during clinic visits has increased substantially more, suggesting less time is available to provide counseling.¹⁴ Lack of reimbursement for counseling services may additionally contribute to declining counseling rates. Further, the rising rates of overweight and obesity among patients may have inadvertently contributed to decreased physician counseling rates: self-determination theory suggests that low levels of perceived competence will lead, overtime, to lower levels of that activity.³⁰

Two out of 3 American adults are overweight or obese, constituting epidemic levels of these conditions.³¹ The absence of a primary care response to this epidemic represents a critical missed opportunity to engage patients, most who are interested in losing weight. Primary care has long been instrumental in significant public health successes such as decreased stroke and heart disease deaths due to the management of hypertension and high cholesterol.³² However, unlike in these conditions, PCPs lack effective tools

TABLE 3. Patient and Provider Characteristics and Associations With Weight Counseling

Variables	Diet Counseling		Exercise Counseling		Any Counseling	
	%*	OR (95% CI)	%*	OR (95% CI)	%*	OR (95% CI)
Survey Years						
1995–1996	19.0	1.0 (Reference)	14.2	1.0 (Reference)	23.8	1.0 (Reference)
2007–2008	16.3	0.65 (0.54, 0.76) [†]	11.3	0.63 (0.52, 0.76) [†]	20.9	0.68 (0.58, 0.79) [†]
Age (y)						
18–44	13.9	1.54 (1.32, 1.79) [†]	11.1	1.67 (1.40, 1.97) [†]	18.7	1.59 (1.38, 1.82) [†]
45–64	20.2	1.30 (1.15, 1.48) [†]	14.7	1.37 (1.20, 1.55) [†]	25.2	1.28 (1.15, 1.43) [†]
65+	18.1	1.0 (Reference)	11.6	1.0 (Reference)	22.3	1.0 (Reference)
Sex						
Female	16.5	0.98 (0.90, 1.07)	11.6	0.90 (0.82, 0.99) [§]	21.1	0.98 (0.90, 1.06)
Male	18.8	1.0 (Reference)	13.9	1.0 (Reference)	23.6	1.0 (Reference)
Race						
White	17.1	1.0 (Reference)	12.6	1.0 (Reference)	21.8	1.0 (Reference)
Black	17.9	1.05 (0.85, 1.28)	11.2	0.87 (0.68, 1.11)	22.7	1.05 (0.88, 1.26)
Hispanic	17.1	1.04 (0.86, 1.25)	11.8	0.92 (0.74, 1.14)	21.9	1.04 (0.89, 1.22)
Other	21.8	1.59 (1.17, 2.16) [‡]	15.8	1.40 (1.01, 1.93) [§]	27.0	1.52 (1.13, 2.03) [‡]
Insurance						
Private	18.4	1.25 (1.03, 1.51) [§]	13.3	1.07 (0.88, 1.31)	23.3	1.20 (1.01, 1.42) [§]
Public	17.0	1.0 (0.83, 1.22)	10.8	0.85 (0.69, 1.05)	21.0	0.95 (0.79, 1.14)
Other	16.3	0.98 (0.73, 1.32)	15.1	1.13 (0.84, 1.52)	22.0	1.01 (0.79, 1.31)
None	15.6	1.0 (Reference)	12.8	1.0 (Reference)	20.5	1.0 (Reference)
Region						
Northeast	22.4	1.50 (1.12, 2.01) [‡]	15.0	1.19 (0.85, 1.65)	27.5	1.41 (1.09, 1.82) [‡]
Midwest	17.1	1.10 (0.84, 1.42)	12.8	1.02 (0.76, 1.38)	22.1	1.09 (0.86, 1.38)
South	15.6	1.02 (0.79, 1.32)	10.5	0.85 (0.61, 1.19)	19.7	0.96 (0.76, 1.22)
West	16.7	1.0 (Reference)	13.4	1.0 (Reference)	21.7	1.0 (Reference)
Urban						
Yes	18.7	1.60 (1.32, 1.93) [†]	13.5	1.62 (1.28, 2.03) [†]	23.5	1.51 (1.28, 1.77) [†]
No	12.5	1.0 (Reference)	8.7	1.0 (Reference)	16.5	1.0 (Reference)
Provider						
GP/FP	16.0	0.98 (0.73, 1.30)	12.0	1.07 (0.86, 1.34)	20.3	0.96 (0.79, 1.16)
Internal medicine	19.5	1.0 (Reference)	13.3	1.0 (Reference)	24.6	1.0 (Reference)
Patient seen before						
Yes	17.7	1.05 (0.89, 1.25)	12.6	1.08 (0.90, 1.28)	22.3	1.04 (0.90, 1.20)
No	15.3	1.0 (Reference)	11.6	1.0 (Reference)	20.1	1.0 (Reference)
Visit time						
0–14	11.4	1.0 (Reference)	8.0	1.0 (Reference)	15.1	1.0 (Reference)
15–19	17.1	1.64 (1.38, 1.97) [†]	11.9	1.67 (1.36, 2.05) [†]	21.9	1.63 (1.39, 1.92) [†]
20+	21.3	2.17 (1.82, 2.59) [†]	15.8	2.33 (1.92, 2.86) [†]	26.5	2.10 (1.79, 2.46) [†]
Comorbidity risk status						
None	7.6	1.0 (Reference)	6.3	1.0 (Reference)	10.9	1.0 (Reference)
Low	36.0	7.71 (5.70, 10.5) [†]	31.2	7.55 (5.31, 10.7) [†]	49.7	9.08 (6.75, 12.2) [†]
High	17.2	3.25 (2.80, 3.74) [†]	12.7	2.91 (2.48, 3.39) [†]	22.2	3.09 (2.69, 3.53) [†]
Very high	30.0	7.19 (6.11, 8.41) [†]	18.6	4.94 (4.18, 5.87) [†]	34.4	6.05 (5.21, 7.03) [†]

Odds ratios from weighted logistic regression taking into consideration the complex sampling stratification and clustering, adjusted odds ratios adjust for all other variables in the table.

*All percentages are population percentages estimated from a weighted analysis taking into consideration the complex sampling stratification and clustering.

[†] $P < 0.001$

[‡] $P < 0.01$.

[§] $P < 0.05$.

CI indicates confidence intervals; FP, family practice; GP, general practice; OR, odds ratios.

to address the obesity epidemic. There are no effective and disseminable interventions to address weight counseling in the primary care setting.³³ Despite a lack of available interventions, physician engagement in patient weight control has been shown to be supportive in helping patients lose weight,³⁴ suggesting the availability of such an intervention would be successful. Further, the vast majority of physicians believe it is their responsibility to help patients lose weight but acknowledge their lack of available resources to do so⁷—a trend which may be manifesting itself as the

declining rate of counseling demonstrated in the current study.

This study confirms previously noted trends that physician counseling for weight management has declined. Jackson et al³⁵ observed a slight decline, from 44.0% to 40.0% between 1994 and 2000, in the percentage of adults who recalled being advised by their physician in the past 12 months to lose weight. Ma et al⁹ observed, among all outpatient adult visits, that the percentage of adults who were counseled for diet and exercise was unchanged between 1995

TABLE 4. Lifestyle Counseling Among Those With and Without Obesity and Weight-related Comorbidities, 1995–1996 versus 2007–2008*

Variables/Group	% Counseling [†]		OR (95% CI) [‡]	P
	1995–1996	2007–2008		
Weight counseling				
Hypertension	13.6	8.5	0.53 (0.41, 0.68)	<0.001
Diabetes	17.6	10.0	0.41 (0.31, 0.54)	<0.001
Obesity	39.9	29.9	0.59 (0.45, 0.77)	<0.001
All adults	7.8	6.2	0.64 (0.53, 0.79)	<0.001
Diet counseling				
Hypertension	30.1	22.0	0.53 (0.43, 0.66)	<0.001
Diabetes	42.3	26.8	0.38 (0.30, 0.48)	<0.001
Obesity	47.6	35.7	0.49 (0.37, 0.64)	<0.001
All adults	19.0	16.3	0.65 (0.54, 0.76)	<0.001
Exercise counseling				
Hypertension	21.2	14.4	0.54 (0.43, 0.69)	<0.001
Diabetes	24.6	15.7	0.46 (0.34, 0.61)	<0.001
Obesity	35.4	25.8	0.60 (0.44, 0.83)	<0.001
All adults	14.2	11.3	0.63 (0.52, 0.76)	<0.001
Lifestyle (weight, diet, or physical activity) counseling				
Hypertension	35.5	26.7	0.55 (0.45, 0.68)	<0.001
Diabetes	45.3	31.4	0.43 (0.34, 0.54)	<0.001
Obesity	56.9	49.8	0.64 (0.50, 0.83)	<0.001
All adults	23.8	20.9	0.68 (0.58, 0.79)	<0.001

*P-values and odds ratios from weighted logistic regression taking into consideration the complex sampling stratification and clustering.

[†]All percentages are population percentages estimated from a weighted analysis taking into consideration the complex sampling stratification and clustering.

[‡]Adjusted for age, sex, race, insurance, region, urban, provider type, patient seen before, visit time, and hypertension, diabetes, and obesity depending on the group analyzed (reference group = 1995–1996). All adults results adjusted for above variables except adjusted for overall comorbidity risk status instead of individual comorbidities (hypertension, diabetes, obesity), consistent with other tables.

and 2000, remaining between 13%–15% and 10%–11% of visits, respectively. Of note, Ma and colleagues used the same data source, but included data from hospital outpatient department visits and visits to all providers (eg, surgeons). This differs from the present analysis, which was limited to the subset of PCPs who would be most expected to provide weight-related counseling. McAlpine and Wilson¹¹ found that the odds of receiving weight-related counseling were 18% lower in 2003–2004, compared with counseling rates in 1995–1996. The current study extends the literature by demonstrating the odds of receiving weight counseling from PCPs in 2007–2008 were 38% lower in all adults and 41% lower in patients with obesity as compared with 1995–1996. We found that <1 in 3 adults with a diagnosis of obesity, an underrepresentation of population rates, received weight counseling in 2007–2008. Further, this study highlights the even more dramatic decline in weight counseling in weight-related conditions, despite a doubling in the national prevalence of diabetes during this same time period.²⁵

Our findings support other studies showing this downward trend in weight-related counseling, which identifies the need to rethink the role of the PCP in weight management. Given that 80% of US adults see a PCP regularly, primary care holds great promise as a location for screening and delivering interventions to improve the public’s health. Further, current surveys demonstrate that patients expect

their physician to try to help them lose weight and that these efforts can support weight loss.^{6,34} Post et al’s³⁴ recent analysis of the National Health and Nutrition Examination Survey revealed that, among patients who were overweight or obese, having been told so by a physician resulted in a greater desire to lose weight and recent weight loss attempts. Therefore, there is a call for new and effective tools to allow physicians to play a role in weight management for their overweight and obese patients. Although other members of the care team (eg, nurses and medical assistants) can be effective interventionists, the current payment mechanism does not support this approach.¹⁸ There are numerous commercial and web-based programs available that show some efficacy, however, an effective role for the physician in managing patients during use of these resources has not been identified.

This study has limitations that should be considered. First, NAMCS is based on physician report on the questionnaire and there is no way of knowing whether the counseling was actually provided. However, comparison of direct observation of counseling services provided and medical record documentation has suggested counseling services may actually be underreported by physicians.³⁶ In addition, the rate of obesity reported in this study (10.8%) is below what would be expected in the population, suggesting physician underrecognition and/or underreporting, which may also be true for reported weight counseling. Ma et al¹⁰ note that obesity was recognized in only 19% of subjects for whom the height and weight entered by physicians corresponded to an obese BMI. Given the brief time delay from the patient visit to data entry, any recall biases should be less likely than in patient surveys, such as BRFSS, which ask patients about weight counseling during the past year.^{8,34,37} A second limitation is the lack of available weight data in this study. Although weight is included in later years of NAMCS, it is present for only 50% of visits. However, given the consistent sampling protocol for NAMCS and the increases in population rates of overweight and obesity, it would seem unlikely that there were large declines in the percentage of overweight and obese patients seen in different study years.^{22,31} A further limitation is the large shift in demographics, particularly older patient age, found in the sampled patient visits between the 2 time periods. This difference is greater than would be expected and might suggest different populations of physician visits are being sampled, which could influence the results. Finally, due to the cross-sectional nature of the NAMCS, weight-related counseling delivered at a different patient visit would not have been captured by the survey.

In conclusion, obesity and overweight are increasingly recognized as important health problems that must be managed as chronic diseases. PCPs are in a key position to address weight management in the clinical setting and patients expect such counseling. Unfortunately, rates of weight counseling continue to decline despite increased rates of overweight and obesity. PCPs serve on the frontlines of health care and must be actively engaged to help address the nation’s obesity epidemic. Further, new legislation has raised the expectation that health insurance carriers will cover

recommended services, at no additional cost to the patient. The barriers to providing weight-related counseling need to be defined and understood to allow for the development of new tools for primary care–based weight management that can target successful physician engagement.

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