



# Only 1 in 10 Patients Told to Lose Weight Seek Help From a Health Professional: A Nationally Representative Sample

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## Abstract

**Purpose:** Receiving weight loss advice from a health-care provider has been associated with more weight loss efforts and greater odds of achieving weight loss. However, whether patients seek help from their provider or other health professional with weight loss after receiving advice from them to lose weight is largely unknown.

**Design:** Cross-sectional data from the 2011 to 2012 National Health and Nutrition Examination Survey (NHANES).

**Sample:** A total of 3862 overweight/obese adults.

**Measures:** Questionnaires asked whether participants received advice to lose weight, and whether they sought health professional's assistance with weight management. The NHANES 2011 to 2012 was the most recent year both questions were asked.

**Analysis:** Accounting for NHANES sampling and design, frequency distributions characterized demographics and proportions. Logistic regressions estimated odds of seeking weight loss help by demographics.

**Results:** Of 3682 overweight/obese adults, 1908 were told they were overweight or recommended to lose weight. Of 1908 people, 68% reported weight loss efforts, but only health 10.9% sought a health professional's help (dietician/nutritionist 4.7%, personal trainer 3.0%, doctor 2.8%). Females, people with health insurance and high health-care utilization had 1.5 to 3.5 times greater odds of seeking help; age, ethnicity, and income were not significantly associated with seeking help with weight management.

**Conclusion:** In a nationally representative sample, only 10.9% of overweight/obese adults told to lose weight by a provider sought help from a health professional with weight loss. This underscores the opportunity for greater health professional involvement with weight management beyond giving recommendations.

## Keywords

NHANES, overweight, obese, seeking care, weight management

## Purpose

It is well-documented that a majority of adults in the United States are currently overweight or obese,<sup>1</sup> that obesity is a contributing factor to numerous health issues,<sup>2</sup> and that modest weight loss is associated with beneficial health outcomes.<sup>3</sup> Each year, numerous visits with health-care providers occur, including over 500 million US primary care visits,<sup>4</sup> presenting opportunities for weight loss advice, management and referral. Several studies have shown that certain characteristics are associated with likelihood to receive weight loss advice from health professionals.<sup>5,6</sup> For example, using nationally representative data from the Health and Nutrition Examination Survey (NHANES), one study found that among obese adults, women, adults 40 to 49 reporting fair or poor health and chronic conditions had greater odds of being advised to lose weight.<sup>5</sup> Among obese adults who were advised to lose weight, about 85% were told to increase physical activity, about 64% were

told to change their diet, and the average recommended weight loss was over 20% of body weight.<sup>5</sup>

An increasing amount of evidence has documented that weight loss advice from a health professional is associated with positive health outcomes including almost 4 times the odds of engaging in weight loss efforts<sup>6,7</sup> and twice the odds of

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achieving a 5% weight loss in a year.<sup>8</sup> What is not well-documented, however, is whether after giving advice to their patients to lose weight, doctors or other health professionals are actually involved in these weight loss efforts. Therefore, using a nationally representative sample of US adults, this study aimed to assess the proportion of people who reported seeking help from their doctor or other health professional to lose weight after a health professional told them to do so.

## Methods

### Design and Sample

The study included data from the 2011 to 2012 NHANES study, which is a cross-sectional questionnaire and physical examination. The current study focused on the 3862 adults enrolled in NHANES who were overweight or obese. Overweight was calculated from reported height and weight and defined as having a body mass index (BMI) equal or greater than 25 kg/m<sup>2</sup>; obese was defined as a BMI greater or equal to 30 kg/m<sup>2</sup>.

### Measures

Participants were asked whether in the past 12 months, a doctor or other health professional had “told them that they were overweight” or “to control or lose weight.” If they answered “yes,” they were subsequently asked whether they sought help from a personal trainer, dietitian, nutritionist, doctor, or other health professional to lose weight and asked to mark all that apply. The NHANES 2011 to 2012 was the most recent year both questions were asked.

### Analyses

Frequency distributions characterized participant demographics and the proportion of participants seeking assistance with weight loss management. The  $\chi^2$  statistics assessed univariate associations between demographics, receipt of weight loss advice, and seeking assistance with weight loss. A single logistic regression model was used to determine odds of seeking health professionals' help with weight loss by age, sex, race/ethnicity, health insurance status (public, private, or none), and health-care utilization in the prior 12 months. All statistical analyses were conducted in 2016 and repeated in 2019 using SAS version 9.4 (SAS Inc, Cary, North Carolina) and followed recommendations from the National Center for Health Statistics.<sup>9</sup> To account for NHANES complex survey design and sampling strategy, the appropriate sampling design parameters were specified using SAS survey procedures.<sup>10</sup> Specific code accounted for the design effects of stratification, clustering, and the unequal probability of sampling, survey nonresponse, and adjustments to population control totals. For example, code for sample weights is required for all NHANES analyses to obtain unbiased estimates of population parameters, representing the number of individuals in the population for each sampled individual.<sup>9-11</sup>

## Results

Of the 3682 participants who were overweight or obese (BMI  $\geq$  25.0 kg/m<sup>2</sup>), 1908 people (51.8%) were provided advice by a health professional to lose weight or were informed that they were overweight. Among overweight and obese adults, several demographic characteristics were associated with receiving weight loss advice. A greater proportion of females received weight loss advice (58.6% vs 42.9% for males,  $P < .001$ ), and proportionally more adults 40 to 64 years old received weight loss advice (59.8% vs 42.3% for adults ages 18-39,  $P < .001$ ). Compared to people with no insurance (35.5%), a greater proportion of people with health insurance (private 63.5%, public 47.8%) received weight loss advice ( $P < .001$  for both comparisons). Finally, utilizing more health care was significantly associated with receiving weight loss advice. A total of 30.1% of people who had not utilized health care received advice to lose weight, 43.1% of people who utilized care once, 54.3% who utilized care 2 to 3 times, 60.0% for 4 to 9 times, 61.9% for 10 to 12 times, and 58.3% of people who utilized health care 13+ times received weight loss advice (all  $P < .001$  vs to no utilization).

Of the 1908 people who were told they were overweight or advised to lose weight, the majority (68.6%) attempted intentional weight loss but only 194 participants sought a health professional for help with weight loss (10.9% population estimate accounting for NHANES sampling weights). The most commonly sought health professionals for help with weight loss were a dietician/nutritionist (4.7% combined), a personal trainer (3.0%), and doctor (2.8%).

Several characteristics were significantly associated with seeking health professionals' assistance with weight loss (Table 1). Individuals who were female (adjusted odds ratio [OR] = 1.53, 95% confidence interval [CI]: 1.12-2.07), who had health insurance (private vs no insurance OR = 2.74, 95% CI: 1.45-5.18; public vs no insurance OR = 1.77, 95% CI: 1.00-3.13), and who had greater health-care utilization in the past 12 months (10-12 times vs none, OR = 2.92, 95% CI: 1.11-7.70; 4-9 times vs none, OR = 3.45, 95% CI: 1.37-8.69) were more likely to seek help from a health professional for weight loss assistance. Age *older than 40* and weight status were not significantly associated with seeking help from a health professional, whereas only one comparison was significant for race/ethnicity (Asian vs white, OR = 0.60, 0.38, 0.95) and income (\$25 000-\$54 999 vs  $<$ \$25 000, OR = 1.57, 1.06, 2.32).

## Discussion

### Summary

The current study found that just over half of overweight and obese individuals were recommended by a health-care professional to lose weight. Almost 7 in 10 people reported intentional weight loss efforts. However, only 10.9% of people receiving this advice sought their doctor or other health professionals' help with weight loss, demonstrating that even among those who have discussed weight with their providers,

**Table 1.** Factors Associated With Seeking Help From Health Professionals With Weight Loss Among NHANES 2011 to 2012 (N = 1908) Participants Told To Lose Weight Or That They Were Overweight.<sup>a</sup>

| Variable                                      | OR (95% CI) <sup>b</sup> | P Value |
|---|--------------------------|---------|
| <b>Sex</b>                                    |                          |         |
| Male (reference)                              | 1.00                     |         |
| Female  | 1.53 (1.12-2.07)         | .001    |
| <b>Age (years)</b>                            |                          |         |
| 18-39 (reference)                             | 1.00                     |         |
| 40-64   | 0.98 (0.60-1.60)         | .920    |
| 65+   | 0.73 (0.37-1.71)         | .341    |
| <b>Ethnicity</b>                              |                          |         |
| White (reference)                             | 1.00                     |         |
| Asian   | 0.60 (0.38-0.95)         | .031    |
| Black   | 1.24 (0.90-1.70)         | .187    |
| Mexican American                              | 0.97 (0.54-1.78)         | .932    |
| <b>Weight status</b>                          |                          |         |
| Overweight (reference)                        | 1.00                     |         |
| Obese   | 0.97 (0.66-1.44)         | .891    |
| <b>Health insurance</b>                       |                          |         |
| None (reference)                              | 1.00                     |         |
| Public vs none                                | 1.77 (1.00-3.13)         | .049    |
| Private vs none                               | 2.74 (1.45-5.18)         | .002    |
| <b>Health-care utilization past 12 months</b> |                          |         |
| None (reference)                              | 1.00                     |         |
| One time                                      | 1.23 (0.41-3.66)         | .510    |
| 2-3 times                                     | 1.45 (0.48-4.33)         | .714    |
| 4-9 times                                     | 3.45 (1.37-8.69)         | .030    |
| 10-12 times                                   | 2.92 (1.11-7.70)         | .009    |
| 13 or more times                              | 1.99 (0.63-6.28)         | .241    |
| <b>Annual income<sup>c</sup></b>              |                          |         |
| <\$25 000 (reference)                         | 1.00                     |         |
| \$25 000-\$54 999                             | 1.57 (1.06-2.33)         | .025    |
| \$55 000-\$74 999                             | 1.94 (0.76-4.91)         | .087    |
| \$75 000-\$99 999                             | 1.81 (0.93-3.54)         | .165    |
| \$100 000+                                    | 1.85 (0.92-3.74)         | .082    |

Abbreviations: CI, confidence interval; NHANES, National Health and Nutrition Examination Survey.

<sup>a</sup> Per NHANES, "Health professional" includes personal trainer, dietitian/nutritionist, doctor, and other health professional.

<sup>b</sup> Odds ratios and confidence intervals were calculated conducting Logistic regression analyses with SAS version 9.4 accounting for sample weights, strata, and primary sampling units to address oversampling, nonresponse and non-coverage in NHANES.

<sup>c</sup> Included in separate model to enhance model stability and avoid multicollinearity with health-care utilization.

weight loss efforts largely occur outside of the medical and public health systems.

### Strengths and Limitations

Strength of this study were that it included a nationally representative sample of US adults, used widely tested instruments, and accounted for complex study design to assess population parameters. A limitation is that while NHANES employs extensive review and testing procedures, we are not aware of specific studies examining the methodological quality of the questions on seeking weight loss assistance from health professionals. Finally,

NHANES is a cross-sectional questionnaire and physical examination. Therefore, this study was not able to assess the effectiveness of health professionals in weight management or compare health-care provider effectiveness to nonhealth-care providers.

### Significance

This study demonstrated that the utilization of health professionals in weight loss management is low and that several factors are associated with seeking care. For example, lack of health insurance may be a barrier to seeking help from health professionals with weight loss. However, while evidence exists for successful weight loss models led by health professionals,<sup>12</sup> barriers such as lack of perceived skill,<sup>13</sup> time, and reimbursement<sup>14</sup> have also been described. In addition, recent reports have shown preliminary evidence for integration of clinical and community-based or commercial weight loss programs.<sup>15,16</sup> Further research is needed to explore optimal ways to improve integration of health-care professionals in weight management after they recommend weight loss to their patients.

### So What?

#### *What is already known on this topic?*

Research has demonstrated a positive effect of weight loss advice received from a health-care provider. However, whether after receiving their health-care providers' advice to lose weight, people seek their provider and other health professionals' help with weight loss is largely unknown.

#### *What does this article add?*

This study adds evidence that utilization of health-care providers and other health professionals in weight loss management is low. Among overweight/obese patients who received weight loss advice from their provider, 7 in 10 initiated weight loss efforts, but only about 1 in 10 sought help from health-care professionals with weight loss. Of the small proportion of people who sought help, nutritionist/dieticians were most commonly mentioned.

#### *What are the implications for health promotion practice or research?*

To increase the proportion of providers involved in weight management of their patients, future interventions should address the variety of common barriers to providing weight loss advice in primary care settings and study effectiveness of greater integration of community and clinical weight management programming.

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### References

1. Flegal KM, Carroll MD, Ogden CL, Curtin LR. Prevalence and trends in obesity among US adults, 1999-2008. *JAMA*. 2010; 303(3):235-241.
2. Williams EP, Mesidor M, Winters K, Dubbert PM, Wyatt SB. Overweight and obesity: prevalence, consequences, and causes of a growing public health problem. *Curr Obes Rep*. 2015; 4(3): 363-370.
3. Vidal J. Updated review on the benefits of weight loss. *Int J Obes*. 2002;26(S4):S25.
4. Centers for Disease Control and Prevention. *Physician office visits, by selected physician characteristics*: Hyattsville, Maryland. National Ambulatory Medical Care Survey, CDC/NCHS, 2010.
5. Ko JY, Brown DR, Galuska DA, Zhang J, Blanck HM, Ainsworth BE. Weight loss advice US obese adults receive from health care professionals. *Prev Med*. 2008;47(6):587-592.
6. Jackson SE, Wardle J, Johnson F, Finer N, Beeken RJ. The impact of a health professional recommendation on weight loss attempts in overweight and obese British adults: a cross-sectional analysis. *BMJ*. 2013;3(11):e003693.
7. Rose SA, Poynter PS, Anderson JW, Noar SM, Conigliaro J. Physician weight loss advice and patient weight loss behavior change: a literature review and meta-analysis of survey data. *Int J Obes*. 2013;37(1):118-128.
8. Pool AC, Kraschnewski JL, Cover LA, et al. The impact of physician weight discussion on weight loss in US adults. *Obes Res Clin Pract*. 2014;8(2):e131-e139.
9. National Center for Health Statistics. National health and nutrition examination survey: analytic guidelines. 2013. [http://www.cdc.gov/nchs/data/nhanes/analytic\\_guidelines\\_11\\_12.pdf](http://www.cdc.gov/nchs/data/nhanes/analytic_guidelines_11_12.pdf). Accessed June 28, 2017.
10. Johnson CL, Paulose-Ram R, Ogden CL, et al. National health and nutrition examination survey: analytic guidelines, 1999-2010. National Center for Health Statistics. *Vital Health Stat*. 2013; 2(161). [https://www.cdc.gov/nchs/data/series/sr\\_02/sr02\\_161.pdf](https://www.cdc.gov/nchs/data/series/sr_02/sr02_161.pdf)
11. Centers for Disease Control and Prevention. How to SAS survey code to specify sampling parameters in NHANES. <https://www.cdc.gov/nchs/tutorials/NHANES/SurveyDesign/SampleDesign/Task2b.htm>
12. Yoong SL, Carey M, Sanson-Fisher R, Grady A. A systematic review of behavioural weight-loss interventions involving primary-care physicians in overweight and obese primary-care patients (1999-2011). *Publ Health Nutr*. 2013;16(11): 2083-2099.
13. Bleich SN, Bandara S, Bennett WL, Cooper LA, Gudzone KA. US health professionals' views on obesity care, training, and self-efficacy. *AJPM*. 2015;48(4):411-418.
14. Foster GD, Wadden TA, Makris AP, Davidson D, Sanderson RS, Allison DB, Kessler A. Primary care physicians' attitudes about obesity and its treatment. *Obes Res*. 2003;11(10):1168-1177.
15. Jebb SA, Ahern AL, Olson AD, et al. Primary care referral to a commercial provider for weight loss treatment versus standard care: a randomised controlled trial. *Lancet*. 2011;378(9801): 1485-1492.
16. Ahern AL, Olson AD, Aston LM, Jebb SA. Weight Watchers on prescription: an observational study of weight change among adults referred to Weight Watchers by the NHS. *BMC Publ Health*. 2011;11(1):434.