

## ORIGINAL ARTICLE

# Barriers to routine gynecological cancer screening for White and African-American obese women

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**Background:** Obese women are reported to be at higher risk from gynecological cancers than nonobese women, yet these women are less likely to get cancer-screening tests. The specific factors that contribute to obese women not obtaining timely cancer screening have not been identified.

**Objective:** To investigate the factors that contribute to lower rates of gynecological cancer screening as related to women's body size.

**Design:** A purposeful sample of 498 White and African-American women with body mass index (BMI) from 25 to 122 kg/m<sup>2</sup>, including 60 women with BMI > 55 kg/m<sup>2</sup>, was surveyed concerning access to gynecological cancer screening and potential barriers that could cause delay. Health care providers (N = 129) were surveyed concerning their education, practices, and attitudes about providing care and gynecological cancer-screening tests for obese women.

**Results:** Obese women reported that they delay cancer-screening tests and perceive that their weight is a barrier to obtaining appropriate health care. The percent of women reporting these statements increased significantly as the women's BMI increased. Women with BMI > 55 kg/m<sup>2</sup> had a significantly lower rate (68%) of Papanicolaou (Pap) tests compared to others (86%). The lower screening rate was not a result of lack of available health care since more than 90% of the women had health insurance. Women report that barriers related to their weight contribute to delay of health care. These barriers include disrespectful treatment, embarrassment at being weighed, negative attitudes of providers, unsolicited advice to lose weight, and medical equipment that was too small to be functional. The percentage of women who reported these barriers increased as the women's BMI increased. Women who delay were significantly less likely to have timely pelvic examinations, Pap tests, and mammograms than the comparison group, even though they reported that they were 'moderately' or 'very concerned' about cancer symptoms. The women who delay care were also more likely to have been on weight-loss programs five or more times. Many health care providers reported that they had little specific education concerning care of obese women, found that examining and providing care for large patients was more difficult than for other patients, and were not satisfied with the resources and referrals available to provide care for them.

**Conclusion:** Since the goal of preventive cancer screening is to improve health outcomes for all women and since obese women are at greater risk, strategies must be designed to reduce the weight barriers to these tests and improve the quality of the health care experience. Providers should receive specific training related to care of large women.

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## Introduction

These women are at higher risk from many types of gynecological cancer, including breast, uterus, cervix and ovary,<sup>1</sup> but they obtain fewer preventive gynecologic

examinations, including Pap tests and mammograms.<sup>2,3</sup> These differences persist even after adjusting for other known barriers to care such as age, education and availability of health insurance.<sup>2,3</sup> This information raises concern about why cancer-screening programs are not reaching obese women who are at an increased cancer risk.

More than 60% of US women are now considered overweight (body mass index (BMI) > 25 kg/m<sup>2</sup>) or obese (BMI > 30 kg/m<sup>2</sup>) and the percentage of people who are highly obese (BMI > 40 kg/m<sup>2</sup>) is increasing as well.<sup>4–6</sup> This is significant because clinicians are seeing more overweight

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patients, and lower screening rates for cervical and breast cancer in obese women can be expected to result in many more undiagnosed cancers. Recent research has shown that more late-stage breast cancers are associated with women who delay mammograms.<sup>7</sup>

Low socioeconomic status, minority status, and lack of health insurance are recognized as contributors of health disparities, but body weight has received little study as a barrier to accessing health care. Numerous studies have documented that obese women face stigmatization and negative attitudes among physicians and other health care providers,<sup>8–11</sup> but an understanding of the reasons for the lower cancer-screening rate and the magnitude of the barriers that may affect obese women, especially women with BMI > 55 kg/m<sup>2</sup>, is limited.

This study was conducted to gather information about the experiences of both patients and providers regarding reasons why obese women delay gynecological cancer-screening tests.

## Methods

### *Study participants and measurements*

We surveyed women concerning their attitudes and experiences related to gynecological cancer screening and health care visits. We surveyed health care providers concerning their attitudes and practices for care of large women. An advisory group ( $N=20$ ) of White and African-American health care providers, academic researchers, and large women health consumers participated in study design and implementation, and reviewed the surveys for both large women and care health providers. The institutional Committee for the Protection of Human Subjects of the University of California, Berkeley, approved all study protocols, measures, and procedures for obtaining informed consent.

### *Questionnaire for obese women*

Nine focus groups were conducted with white and African-American women ( $N=60$ ) with BMI > 25 kg/m<sup>2</sup>. The groups were as follows: two groups of women self-identifying as African-American women; two groups of mainly white women (one African-American woman was in each group); three groups of women who were greater than 300 lb; one group of men not considered 'overweight'; and one group of women with BMI > 30 kg/m<sup>2</sup>. We included the two latter groups to try to understand what issues are 'women's issues' and what can more generally be called 'fat issues'. The focus groups were designed to include women from urban and rural regions, and three geographic areas of California.

To be eligible to participate in the focus groups, the participants had to be self-identified as a large woman, usually by wearing large size clothing; between the ages of 40 and 60 years; African-American or white; and wanting to participate in the study. A \$25 incentive was offered to each

individual for participating. Focus group sessions lasted about 90 min, and one of the primary investigators was present at each focus group, serving either as the group moderator or note taker. Moderators employed a common series of questions that had been developed by the research team and reviewed and revised by the advisory group. Sessions were taped in their entirety and transcribed. Relevant themes were identified on the basis of the most frequent comments and those responses expressed with special intensity or depth of feeling. Research team members reviewed transcripts and interpreted the tapes. Women discussed their perceptions of access to health care for gynecological cancer screening, the barriers they face, and strategies they used to improve the quality of their visit.

The survey instrument was developed using the areas of concern expressed in the focus group data. The survey was a brief one-page questionnaire with six multiple-choice questions, one open-ended question to suggest strategies for a positive patient-provider visit, and nine questions about demographics and medical history. The responses to the open-ended questions were coded by principal content themes. The survey used the wording 'as a plus-size woman' to avoid unintended medical labeling judgments concerning the women's weight and self-perceived weight status. The survey included self-reported weight and height and may have been subject to reporting errors, since self-reported weights tend to be lower than measured data.<sup>12</sup>

Women aged 21 years and older with BMI > 25 kg/m<sup>2</sup> were recruited to participate in the survey. Community sites for sampling were selected that had a high percentage of women: (a) with BMI > 25 kg/m<sup>2</sup>; (b) African-American and white; (c) working class and middle class; and (d) English speaking. The survey was distributed at five clothing stores ( $n=104$ ), and a fitness center serving large women in San Francisco Bay Area ( $n=62$ ), and at the convention of the National Association to Advance Fat Acceptance ( $n=83$ ). Sealed collection boxes or business reply envelopes were provided with the questionnaire for anonymous replies. Study participants had the option of participating in a raffle to win a gift certificate by completing an address card that was separate from the survey. Personal identifying information was not used for any other purposes or linked to study data. The survey was also placed in a magazine for plus-size women with national distribution, and women ( $n=157$ ) completed and mailed it to an address provided. Recruitment of African-American women by these strategies was low, so we recruited women from a database maintained by the Pacific Institutes of Women's Health in Los Angeles of African-American women of all sizes who had expressed interest in participating in fitness and health research, not necessarily related to weight ( $n=92$ ). Women with BMI > 25 kg/m<sup>2</sup> were identified and sent letters asking for their participation in the survey with envelopes return addressed to the principal investigator.

## Questionnaire for health care providers

We conducted three focus groups with physicians, physician assistants, and nurse practitioners who provide gynecological care in a variety of public and private sites (29 participants): one group was mostly nurse practitioners/physician assistants; one group was all physicians; and one group was mostly physicians who were also large women. The questions for the survey for health care providers were developed from data collected in the focus groups. The survey had 13 multiple-choice questions concerning providers' care of obese women, 10 questions of demographics, and one open-ended question about additional suggestions for providing care. Providers were recruited at the 'Women's Health Update' conference sponsored by Education Programs Associates ( $n=97$ ) where the majority of attendees are nurse practitioners. To reach additional physicians, members of the research team and the advisory board distributed surveys to members of the board of Northern California American College of Obstetrics and Gynecology, and physicians in private practice and HMOs.

### Statistical analysis

Separate  $\chi^2$  analyses were used to examine associations between the categorical variables and BMI group. Stepwise multiple linear regression analyses were used to examine whether BMI was positively associated with perceived weight-related barriers. To determine whether delay in seeking health care was related to BMI, logistic regression analyses were performed with the dichotomous variable 'delay in care' as the dependent variable, 'BMI category' as the predictor of interest, and adjusted for covariates of age, education level, employment, and race. Significance was selected to be  $P < 0.05$ .

## Results

The women ( $N=498$ ) were on average 45 years old (range 21–80 years) with BMI in the range of 25–122 kg/m<sup>2</sup> (Table 1).

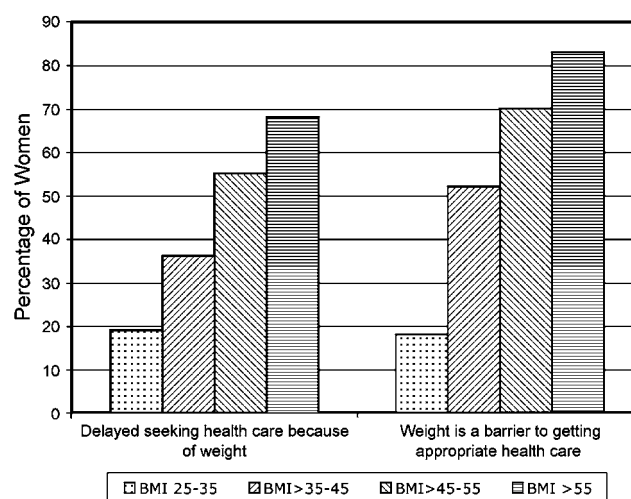
**Table 1** Demographics by BMI category

Characteristic	BMI group			
	25–35 kg/m <sup>2</sup> ( $n=131$ )	> 35–45 kg/m <sup>2</sup> ( $n=169$ )	> 45–55 kg/m <sup>2</sup> ( $n=121$ )	> 55 kg/m <sup>2</sup> ( $n=60$ )
Mean age $\pm$ s.d. (years)	50.0 $\pm$ 10.2	44.9 $\pm$ 10.2	42.6 $\pm$ 8.9	42.3 $\pm$ 9.6
Mean BMI of group $\pm$ s.d. (kg/m <sup>2</sup> )	30.8 $\pm$ 3.0	39.9 $\pm$ 3.0	49.3 $\pm$ 2.9	63.2 $\pm$ 10.0
% Anglo race	39.3 <sup>a</sup>	72.1	81.8	88.9
% 4 years college or more	57.7	58.3	61.1	47.4
% work full time	65.6	66.7	73.7	71.9
% had health insurance/HMO	96.8	95.2	91.6	93.1
% dieted 5 or more times	27.3	33.7	35.3	30.5
% concerned about cancer <sup>b</sup>	34.1	34.2	42.8	46.4

<sup>a</sup> $\chi^2=66.98$ ,  $df=3$ ,  $P < 0.001$ . <sup>b</sup>Responded 'moderately' or 'extremely' concerned to the question 'How concerned are you that you have symptoms that could indicate you might have gynecological cancer?'.

Most of the women had post-secondary education and were employed, and more than 90% of the women had health insurance. BMI was stratified into four categories: BMI 25–35; >35–45; >45–55; and >55 kg/m<sup>2</sup>. No significant differences were seen among the four BMI groups in education, employment, or health insurance. A linear regression was performed comparing age with BMI, and the younger women had higher BMIs than the older women ( $r = -0.197$ ,  $t = 4.365$ ,  $df = 472$ ,  $P < 0.001$ ). Most of the African-American women were in the BMI 25–35 kg/m<sup>2</sup> group, but did not differ from the white women in their level of education, employment, or health insurance.

To examine the association between body size and delay of preventive health care, we asked women, 'Have you ever delayed seeking health care or cancer-screening tests because of your weight?' Of the total, 41% (202 women) responded affirmatively. However, the responses of women in the BMI size groups differed significantly (Figure 1,  $\chi^2 = 53.66$ ,  $df = 3$ ,



**Figure 1** Percentage of women in BMI categories who responded affirmatively to the question 'Have you ever delayed seeking health care or cancer-screening tests because of your weight?' is shown. Percentage of women in BMI categories who responded affirmatively to the question 'Has your weight been a barrier to getting appropriate health care?' is shown.

$P < 0.0001$ ). The percentage of women reporting that they delayed seeking health care increased significantly as BMI increased. In response to 'Has your weight been a barrier to getting appropriate health care?', 52% responded affirmatively, and the percentage responding in each of the BMI size groups also increased significantly as BMI increased (Figure 1,  $\chi^2 = 97.19$ ,  $df = 3$ ,  $P < 0.0001$ ). In women with BMI  $> 55$  kg/m<sup>2</sup>, 68% reported that they delayed seeking health care because of their weight, and 83% reported that their weight was a barrier to getting appropriate health care. These figures should be viewed in light of the fact that greater than 90% of the women had health insurance (Table 1). Thus, the reported delay was not a result of lack of available health care. The responses to the two questions in Figure 1 were not related to the women's level of education, insurance coverage, or type of health care (private, HMO, or health clinic). ( $\chi^2$  analyses comparing 'women who delay health care' and 'women who do not delay' were performed to test association with the variables mentioned above. Similar tests were performed testing 'weight is a barrier' and 'weight is not a barrier'. No statistically significant associations were seen.) The correlation of weight as a barrier with BMI group and delay of care with BMI group remained highly significant after adjustment for age and race. A multiple logistic analysis was performed relating BMI status as the predictor of interest to 'barrier to health care' and controlling for age and race as possible confounders. The global test for BMI status ( $\chi^2 = 46.2$ ,  $df = 2$ ,  $P < 0.001$ ) was highly significant. A similar analysis was performed for the outcome 'delay of care' and the result was also significant ( $\chi^2 = 20.2$ ,  $df = 2$ ,  $P < 0.001$ ). Thus, BMI is an important predictor of women's reporting that they delay health care.

The perceived weight-related barrier to accessing health care was reflected in actual delays. The women with BMI  $> 55$  kg/m<sup>2</sup> reported a significantly lower rate of Pap tests than women in the other BMI groups (Table 2). The year of the woman's last Pap test was associated with the woman's BMI, but not age or race. In multiple regression analysis, when BMI was adjusted, age and race did not significantly contribute to the effect of BMI on the rate of Pap test. The experiences of women in the BMI  $> 55$  kg/m<sup>2</sup> group were of particular interest because no previous research has focused on the multiple weight-related barriers faced by these women. Although 46% of women in the BMI  $> 55$  kg/m<sup>2</sup>

group reported that they are concerned that they had symptoms that could indicate gynecological cancer, 19% of women in the BMI  $55 +$  kg/m<sup>2</sup> group reported that 5 or more years elapsed since their previous Pap test, even though the recommended interval is 2 years between tests; only 3–6% of women in other BMI groups delayed Pap test by 5 or more years. Some women wrote comments expressing their reluctance to seek a pelvic exam, and that their providers had difficulties in performing these exams.

We do not understand why the rates of the clinical breast exams are lower than the rates of the Pap tests. Women generally get a breast exam at the same visit as a Pap test, but women either did not get the usual exam or may not have understood that this was called a 'clinical breast exam'. There were no comments from the women relating to the breast exams. We cannot analyze these data until this is clarified.

We investigated the characteristics of women who reported that they delay health care because of their weight (Table 3). The rates of pelvic exams, Pap tests, and mammograms are significantly lower than the comparison group. Of interest is the observation that women who reported that they delay care were significantly more likely to have dieted five or more times (Table 3). Dieting was correlated with delay of care, but not with BMI. The women who delayed care did not differ in level of education, employment, or health insurance compared with the women who did not delay seeking care, but were significantly heavier than the women who said that they did not delay ( $\chi^2 = 53.04$ ,  $df = 5$ ,  $P < 0.0001$ ). Among women who reported that they delay, 82% reported that weight was a barrier to getting appropriate health care ( $\chi^2 = 121.85$ ,  $df = 1$ ,  $P < 0.00001$ ).

#### Specific weight-related barriers

To determine the specific factors that influence women's delay in seeking cancer screening, we provided the questionnaire respondents with a list of items that had been frequently described in the focus groups as major barriers to quality care. We asked them to select any on the list which they had personally experienced as a barriers. These included (a) disrespectful treatment, (b) embarrassment about being weighed, (c) negative attitudes of providers, (d) unsolicited

**Table 2** Routine cancer-screening tests by BMI category

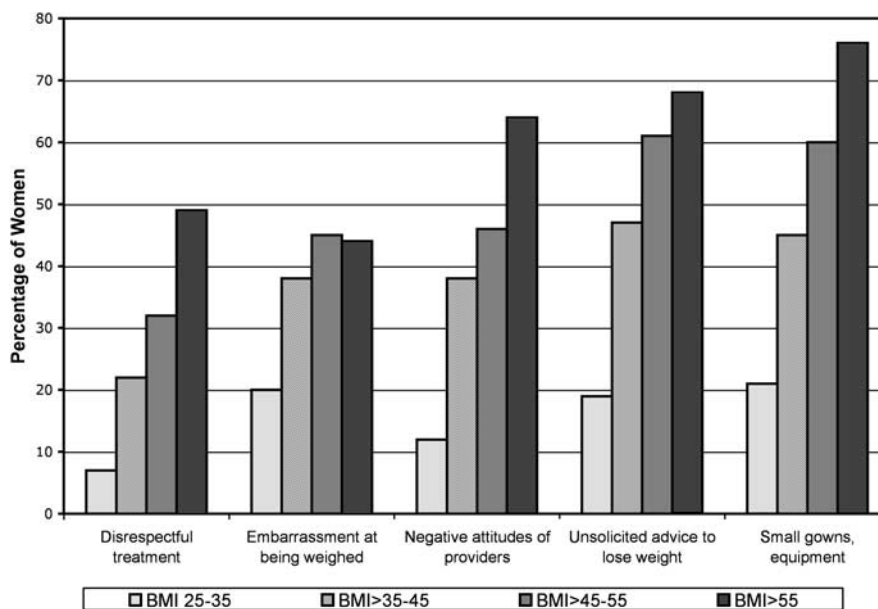
Test in the past 2 years	BMI group			
	25–35 kg/m <sup>2</sup> (n = 131) %	> 35–45 kg/m <sup>2</sup> (n = 169) %	> 45–55 kg/m <sup>2</sup> (n = 121) %	> 55 kg/m <sup>2</sup> (n = 60) %
Papanicolaou test	86.3	85.8	84.3	68.3 <sup>a</sup>
Clinical breast exam	72.5	65.7	69.4	64.4
Mammogram <sup>b</sup>	86.0 (n = 114)	81.2 (n = 117)	80.3 (n = 76)	67.7 (n = 31)

<sup>a</sup> $\chi^2 = 9.98$ ,  $df = 3$ ,  $P < 0.02$ . <sup>b</sup>Only for women 40 years and older ( $N = 338$ ).

**Table 3** Characteristics of women who delay health care because of their weight

Test within the past 2 years	Comparison group		Women who delay		$\chi^2$	df	P
	N (N = 292)	%	N (N = 201)	%			
Pelvic exam	238	80	136	68	9.31	1	<0.003
Papanicolaou test	246	84	144	71	12.07	1	0.0005
Clinical breast exam	209	72	128	63	3.71	1	<0.05
Mammogram <sup>a</sup>	181	85	104	75	5.06	1	<0.05
Reported concern about cancer symptoms	100	35	86	44	8.16	1	<0.02
Five or more times on weight-loss program	73	25	82	41	13.05	1	0.0003

<sup>a</sup>Only for women 40 years and older (N = 351).



**Figure 2** Percentage of women who responded affirmatively to the question ‘Which of the following have been barriers to your having successful gynecological cancer-screening visits?’ is shown. (a) Disrespectful treatment.  $\chi^2=45.94$ ,  $df=3$ ,  $P<0.0001$ . (b) Embarrassment about being weighed  $\chi^2=20.65$ ,  $df=3$ ,  $P<0.0001$ . (c) Negative attitudes of providers  $\chi^2=59.45$ ,  $df=3$ ,  $P<0.0001$ . (d) Advice to lose weight, even if unrelated to your medical concern  $\chi^2=60.77$ ,  $df=3$ ,  $P<0.0001$ . (e) Small size gowns, exam tables, equipment  $\chi^2=64.20$ ,  $df=3$ ,  $P<0.0001$ .

advice to lose weight or advice to lose weight unrelated to your health condition, and (e) small size gowns, exam tables, and equipment. Most of the women (73%) reported that they experienced one or more of these barriers: 36% disrespectful treatment; 35% embarrassment about being weighed; 36% negative attitudes of providers; 46% advice to lose weight, even if unrelated to your medical condition; and 46% small gowns, exam tables, and equipment. However, the percentage of women who experienced an individual barrier increased significantly as BMI increased (Figure 2). Thus, the barriers have a disproportionate effect on larger women.

Approximately 16% of respondents included specific examples of barriers or listed additional barriers for the ‘other (please specify)’ option of this question. Examples of disrespectful treatment included disparaging comments by

providers or office staff, as well as women’s perceptions that their treatment was influenced by their weight, for example, women asked ‘Would you treat me this way if I were thin?’ Women cited examples of health screenings and treatments that were not provided because the women were told they were too large, ‘my doctor told me he was unable to perform a Pap smear on me because of my size’ or that their health concerns were attributed to being overweight, ‘doctors blame all my symptoms on my obesity’. Embarrassment about being weighed was made worse if the woman was weighed in a public place in view of other patients and staff. Some women questioned whether routine weighing was necessary for treatment of routine medical needs. Women commented on the irony of health care providers who were themselves obese giving weight-loss lectures. Women did not appreciate unsolicited advice to have gastric surgery or what

they perceived as scare tactics. Medical equipment that was noted to be too small to be functional included blood pressure cuffs, scales, examination tables, examination rooms that could not accommodate a friend or helper, hospital gowns that did not fit, and waiting rooms with only small chairs with arms.

#### *Suggestions for improvement of the health care visit*

Many responses were given to the open-ended question 'What strategies do you suggest to plus-size women to help assure that they will be treated appropriately and with respect?' The most frequently suggested strategies focused on what women themselves could do to improve the quality of visits, including (a) selecting and interviewing providers to assess their comfort, experience, and skill in treating large women, (b) having a positive self-image and self-regard, (c) preparing for health care visits with information and lists of questions, and (d) being assertive and proactive in communications with health care providers. Women felt empowered when they remembered that they were clients paying for a service and had a choice about the circumstances of the visit: 'When making an appointment always state 'I am large and want someone fat friendly''. Women offered strategies for communication with providers related to unsolicited weight-loss advice or inappropriate focus on weight loss: 'Sometimes I will ask how my weight affects the diagnosis and if it is not related I let the doctor know that I don't want weight to dominate the conversation but I want to discuss treatments specific to my diagnosis. I am here for another reason than weight'.

Women listed strategies for improving visits that were directed to health care providers. Women recommended that 'health care providers have more training about plus-size women and better obesity education'. Suggestions directed at attitudes of providers, clinic staff, and receptionists toward large women patients included 'be welcoming, respect differences, do not judge people by their size, be sensitive to larger women'. Many women wanted more nutrition and wellness information: 'Plus-size shouldn't be the issue. Health care and preventive measures should be the primary focus'.

A comprehensive and eloquent discussion of suggestions for improvement of the health care visit has been published by the NIH Taskforce on Obesity.<sup>13</sup> Many of the comments we report from the women concur with those in this publication.

#### *Health care providers*

Health care providers who deliver gynecological care for patients with BMI > 30 kg/m<sup>2</sup> were surveyed because many also deliver primary care for women as well as gynecological cancer screening. These providers were asked about their education, resources, attitudes, and practices in delivering care.

Health care providers ( $N=129$ ) responded to the questionnaire: 25 physicians, 88 physician assistants/nurse practitioners, and 11 nurse midwives and five other nursing professionals. The group had a mean age of  $47.6 \pm 7.9$  years (range 24–72) and BMI of  $25.1 \pm 5.1$  kg/m<sup>2</sup> (range 18–43). Overall, 91% of the respondents were women and 85% were white. Approximately 70% of providers worked in gynecology/obstetrics practices, with most of the remaining in primary care, with  $14.9 \pm 8.9$  years in practice. The type of organization they worked with was private practice (27%), HMO (13%), hospital clinic (14%), community clinic (43%), and other (2%).

The responses of physicians in this sample did not differ from those of nurse practitioners and other health care providers, so data from all providers were pooled in the analysis. Providers responded to questions about their education and attitudes concerning the care of large women (Table 4). More than 50% of the health care providers reported that they had no specific education for 'providing clinical examinations and gynecological care for patients with BMI > 30 kg/m<sup>2</sup>'. Providers reported strong positive responses to the question 'Overall, do you believe patients with a BMI of 30 kg/m<sup>2</sup> and above can be healthy?' Also, 85% reported that providing care for large patients was 'somewhat' to 'much more difficult' than for other patients. Providers (85%) reported that patients were routinely weighed at clinic visits, and 56% reported that patients sometimes declined being weighed. Most providers were not satisfied with resources and referrals available to provide care for large patients.

The mean response to 'What percentage of female patients in your practice are at a BMI 30 kg/m<sup>2</sup> and above?' was 30%. We tested whether providers with more than 30% patients who were BMI > 30 kg/m<sup>2</sup> had different perceptions about the care of large women than other providers who had fewer large women in their practices. We also tested whether providers who themselves were BMI > 30 kg/m<sup>2</sup>, or who reported that they were concerned about their own weight, differed from other providers in their responses. None of these groups had statistically significant differences to any of the questions above.

Providers reported that many supplies are not readily accessible to accommodate large patients, including large blood pressure cuffs and longer speculums (Table 5). The availability of supplies did not differ whether the provider was in private practice, an HMO, or community health clinic, except that referral to open MRI was more available in hospital settings.

Providers responded to the open-ended question 'What would help you most in providing care for your largest patients?' Providers said that they wanted information for themselves and for their patients. The providers wanted more evidence-based medicine about general care for the very obese. Many acknowledged that the health counseling that they wished to provide for their patients was not accomplished in the short time allotted for a medical visit.

**Table 4** Responses of health care providers to survey

	% responses
<i>Have you had any specific education in the medical management of patients BMI 30 kg/m<sup>2</sup> and above? (check all that apply)</i>	
No specific education	50
Dieting, fasting, and other weight-loss methods	40
Pharmacology/weight-loss medications	25
Surgical interventions	14
Behavioral counseling on nutrition/exercise	35
Special issues in patients over 350 lb	5
<i>If you have a clinical problem in examining or providing care for your largest patients, what sources of help would you consult?</i>	
Practice colleagues	59
Mentors/other clinicians	54
Medical publications	12
The patient	47
The internet	12
No consultation is easily available for me	11
<i>When, if ever, are you most likely to advise a patient to lose weight?</i>	
Never	0
When patient requests weight-loss advice	71
When patient's weight exceeds recommended weight for height	26
When patient's weight greatly exceeds recommended weight for height	61
When patient has hypertension, diabetes, heart disease, or strong family history of these conditions	85
Other	13
<i>If advising a large patient on weight, what do you most often recommend?</i>	
I focus on health improvement, not weight loss	76
Weight Watchers or Jenny Craig type programs	41
Medical/hospital based weight-loss program	23
Self-help dieting/calorie reduction	28
Basic good nutrition/adding fruits and vegetables	80
Stop dieting	25
Regular physical activity	91
Size acceptance/body image support group	27
Weight-loss drugs	7
	<i>Item mean<sup>a</sup></i>
Overall, do you believe patients with a BMI of 30 kg/m <sup>2</sup> and above can be healthy?	3.4
Do you find examining and providing care for large patients more difficult than other patients?	3.4
How satisfied are you with the resources and referrals for you to provide your large patients?	2.3
Are you concerned about your weight?	2.9

<sup>a</sup>Mean on a 1–5 point scale (1 = not at all; 5 = yes, absolutely).

**Table 5** Percentage of health care providers who reported that these supplies were readily accessible to accommodate large patients

	%
Scales for patients over 350 lb	9
Referral to open MRI	20
Gowns to fit very large patient	21
Armless waiting room chairs	46
Adequately sized exam tables	60
Referral to pelvic sonogram	64
Space in exam room for patient's friend	65
Longer speculum for pelvic exam	80
X-large blood pressure cuffs	83
None are readily accessible	2

Many wanted more resources for their patients, such as referrals to nutritionists, nutrition/health counseling programs, exercise groups, and body image groups. Other suggestions were for more literature for patients concerning healthy lifestyles, ethnic food choices in appropriate languages, and teen body image issues. Providers also wanted

more technical people, such as sonogram technicians, who were experienced with large women.

## Discussion

A major goal of Healthy People 2010 is the reduction of health disparities among the population.<sup>14</sup> This goal cannot be met if women delay or avoid primary care and preventive health practices. To our knowledge, our study is the first one designed to gain insight into the perspectives of obese women, especially those with BMI > 55 kg/m<sup>2</sup>, concerning access to health care. The attitudes and practices of overweight women differ substantially along the spectrum of BMI, and the barriers increase in prevalence and severity with the size of the women.

The sampling strategy of the study has both limitations and strengths. The limitations are the unknown generality of the study since it does not yield a population-based estimate

of the problem. Much networking was necessary to ensure that women with larger BMIs were adequately represented. We recruited at organizations with high percentages of large women, and women who elected to participate may not necessarily be representative of all large women. The strengths of the study include purposeful recruitment of large women in community settings, rather than selecting participants in weight-loss clinics or hospital programs. This recruitment strategy could include women who delay and rarely seek health care. This sample also included a much higher proportion of middle-class women with health insurance than that seen in the population-based sample.<sup>2</sup> In many studies, obesity is correlated with less education and lower income, but among the women we surveyed, those with BMI 25–35 kg/m<sup>2</sup> did not differ in education or income from those with BMI > 55 kg/m<sup>2</sup>. Thus, in our sample, we are measuring the perception of access to care, which is not due to actual limits such as lack of health insurance, but rather to low utilization of available services. We chose to survey these women because they were able to voice specific concerns about weight-related issues as well as offer potential strategies to overcome barriers. The caveat is that women who replied to the survey may have felt more strongly than those who did not reply.

Previous research has documented that large women get fewer cancer-screening tests.<sup>2,3</sup> Our data offer the explanation that women experience weight-related barriers and therefore delay care. The barriers fall into three categories: (a) provider attitudes and treatment; (b) issues concerning weight; and (c) equipment. Concerning provider attitudes: many large women perceive that they are treated less respectfully than thinner women; they think that they are not getting appropriate care because of their weight, and they are concerned that providers lack training and experience to perform adequate pelvic exams. In issues concerning weight: women were embarrassed or angry at routine weighing; women viewed unsolicited weight-loss advice as intrusive and distracting from the real concerns of the women's medical visit. In issues concerning medical equipment: regularly used medical equipment was not routinely available in a size that was functional for large women, such as blood pressure cuffs, speculums, and examination tables. The combination of some or all of these barriers negatively affected women, but affected a much higher percentage of larger women. The result was delay, reluctance, or avoidance of medical visits.

The information from the health care providers gives a valuable perspective on how providers address similar issues concerning the care of large women. An encouraging finding is that almost half of the providers report that they would consult the patient if they had a problem in providing care for large patients. This suggests an increase in provider–patient collaboration in seeking solutions that can assist both parties in working together to attain the best health outcomes. New standards of practice have been developed to give providers guidance in effective methods

to engage patients in behavior change. Important elements of these methods are asking patient's interests, priorities, and motivations to make health-related behavior changes.<sup>15–18</sup> An important aspect of these new methods relevant to some of the weight-related barriers is that the provider must first ask whether a client is willing to talk about a specific issue.

Additional solutions are needed for problem areas. For example, providers routinely weighed patients, but women reporting embarrassment at being weighed was a barrier that influenced delay of care. As with other health interventions, one should consider whether the strategy of routine weighing has the desired health outcome. Negative attitudes by health care providers have been documented.<sup>19–23</sup> The results presented here show that women are well aware of negative attitudes and are reluctant to have medical appointments with such providers. An important issue concerns whether it is desirable to give obese women unsolicited weight-loss advice. Women said that unsolicited weight-loss advice was a barrier that can result in delay in seeking care in the future. Many women view weight loss as an unattainable goal, and would be more receptive to positive messages of health improvement. Some providers question the ethics of making unsolicited health recommendations.<sup>24,25</sup> This may be particularly relevant when the most effective weight-loss interventions produce very modest (3–5 kg) weight loss over at least 6–12 months<sup>6</sup> and effective long-term weight-loss maintenance is rare.<sup>26</sup> It is disturbing to note that those women who delayed routine cancer screening had the highest rates of dieting.

To translate this research into improved health outcomes for large women, we need concurrent interventions at multiple levels: the women, the providers, and health systems policy makers. We must educate women who experience barriers concerning appropriate attitudes and behaviors, for example, choosing a caring provider with whom she is comfortable and with whom she can communicate her concerns to. Obese women will need assurance that they will receive the same quality care and respect as other women. Second, the providers need to be aware of the effect of barriers on women of different sizes. Long-term solutions involve enhancing the patient–provider relationship through training for positive attitudes and mutual respect. Providers need more resources to improve their clinical skills and quality of delivering care for large women. A National Task Force on the Prevention and Treatment of Obesity has published a guide for health care professionals.<sup>13</sup> Third, the health care policy community must recognize that large-size people are an increasing segment of the medical consumer market. Women in our survey indicated the importance of 'consumer demand', with their suggestion to remember that they were paying for a service. Many women thought that they were receiving a lower quality health care because of their weight. Health care facilities must have medical equipment and supplies accessible for all clients.

Further studies are needed to address the larger question of whether obese women delay other preventive health care and for wait until their medical condition is at a more advanced or more difficult-to-treat stage.

To promote primary prevention of disease in large women, it is necessary to first remove weight-related barriers to quality care.

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