Adult obesity management in primary care, 2008–2013

Stephanie L. Fitzpatrick [a,*], Victor J. Stevens [b]

[a] Department of Preventive Medicine, Rush University Medical Center, Chicago, IL, United States
[b] Center for Health Research, Kaiser Permanente Northwest, Portland, OR, United States

ARTICLE INFO

ABSTRACT

In the U.S., the occurrence of weight counseling in primary care for patients with obesity decreased by 10% between 1995–1996 and 2007–2008. There have been several national recommendations and policies to improve obesity management since 2008. The purpose of this study was to examine the rates of body mass index (BMI) screening, obesity diagnosis, and weight management counseling in the U.S. from 2008 to 2013.

The National Ambulatory Medical Care Survey visit-level data for adults 18 and over with a primary care visit during survey years 2008–2009, 2010–2011, and 2012–2013 was included in the analyses using SAS v9.3. Study outcomes included percent of visits with: BMI screening; obesity diagnosis; and weight counseling. We compared survey years on these outcomes using 2008–2009 as the reference as well as examined patient and practice-level predictors. Analyses were conducted from 2015 to early 2017.

Of the total 55,608 adult primary care visits sampled, 14,143 visits (25%) were with patients with obesity. BMI screening significantly increased between 2008–2009 and 2012–2013 from 54% to 73% (OR = 1.75, 95% CI 1.28–2.41); however, percent of visits with an obesity diagnosis remained low at <30%. Weight management counseling during visits significantly declined from 33% to 21% between 2008–2009 and 2012–2013 (OR = 0.62, 95% CI 0.41–0.92).

Despite emerging recommendations and policies, from 2008 to 2013, obesity management in primary care remained suboptimal. Identifying practical strategies to enforce policies and implement evidence-based behavioral treatment in primary care should be a high priority in healthcare reform.

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1. Introduction

More than one-third of adults in the U.S. have a body mass index [BMI] ≥ 30 kg/m^2 and are therefore at substantially increased risk for diabetes and cardiovascular disease (CVD) (Flegal et al., 2012; Ogden et al., 2014). Behavioral weight management treatment is an effective first-line treatment for obesity with an average initial weight loss of 8–10%, which is associated with a significant reduction in risk for diabetes and improvement in CVD risk factors (Butryn et al., 2011; Wadden et al., 2012). However, in 2005–2006, two-thirds of U.S. patients with obesity were not offered or referred to weight management treatment during their primary care visit (Ma et al., 2009). In addition, the rate of weight management counseling in primary care significantly decreased by 10% (40% to 30%) between 1995–1996 and 2007–2008 (Kraschnewski et al., 2013).

There have been several national recommendations and policies implemented since 2008 to improve obesity management in primary care. The U.S. Preventive Services Task Force (USPSTF) (Moyer, 2012), and a joint statement by the American Heart Association, American College of Cardiology, and The Obesity Society (Jensen et al., 2013) recommend that physicians screen for overweight and obesity in their practices and provide or refer patients with risk factors for cardiovascular disease to intensive behavioral counseling. In 2011, the Centers for Medicare & Medicaid Services (CMS) passed a decision to reimburse primary care physicians for delivering intensive behavioral therapy to treat patients with obesity (DHHS Centers for Medicare and Medicaid Services, 2012). The CMS reimbursement policy is limited to coverage for Medicare beneficiaries and only reimburses primary care practitioners. When delivering the intensive behavioral therapy for obesity, physicians are expected to follow the 5 A's counseling framework (i.e., Assess, Advise, Agree, Assist, Arrange) (DHHS Centers for Medicare and Medicaid Services, 2012; Vallis et al., 2013; Alexander et al., 2011) with 10–15 min visits (maximum of 22 visits).

In addition, CMS implemented the Electronic Health Record (EHR) Meaningful Use Incentive Program, where physicians receive financial incentives when they implement and use the EHR to document quality improvement measures (Centers for Medicare and Medicaid Services, 2013). Physicians are incentivized to document in the EHR BMI and a follow-up treatment plan to provide or refer the patient with BMI ≥ 25 to weight management treatment.

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* Corresponding author at: Center for Health Research, Kaiser Permanente Northwest, 3800 N. Interstate Ave., Portland, OR 97227, United States.
E-mail address: Stephanie.L.Fitzpatrick@kpchr.org (S.L. Fitzpatrick).

The purpose of this study was to examine rates of patient BMI screening, obesity diagnosis, and provision of treatment for obesity by primary care physicians in the U.S. from 2008 to 2013 as well as examine the patient and practice characteristics associated with these outcomes.

2. Methods

The National Ambulatory Medical Care Survey (NAMCS) is an annual survey conducted by the National Center for Health Statistics that is used to characterize the utilization and provision of ambulatory care in the U.S. (National Center for Health Statistics, 2016a). Currently, there is survey data publicly available from 1973 to 2013. A multi-stage probability sampling design is used, which consist of sampling from primary sampling units (e.g., counties), physicians within the primary sampling units, and patient visits within practices. Using the medical chart (paper and/or electronic), physicians, office staff, or Census Bureau representatives complete physician and patient record survey forms regarding: outpatient practice characteristics, physician demographics, and visit-level data including patient demographics, reasons for the visit, diagnoses, and treatment. In terms of obesity-related data, the patient record form allowed surveyors to write in the patient height and weight, a checkbox to indicate diagnosis of obesity, and a checkbox to indicate if health education was provided (e.g., diet/nutrition, exercise, or weight reduction). In 2008–2009 and 2010–2011, the survey was completed using a paper form. However, in 2012–2013, surveys were completed mostly by Census representatives using a computer form (National Center for Health Statistics, 2016b). Each visit was weighted in order to obtain national estimates.

Similar methods applied in Ma et al. (2009) and Kraschnewski et al. (2013) to examine previous NAMCS survey year data were used in this study. We used survey years 2008–2009, 2010–2011, and 2012–2013 visit-level data with adults 18 and over who had an office-based outpatient visit with a general, family, or internal medicine physician. Because community health center visits were excluded in the 2012–2013 surveys, community health center visits in survey years 2008–2009 and 2010–2011 were removed from the analytic dataset (National Center for Health Statistics, 2016b). Using the criteria specified in Ma et al. (2009), patients with diabetes or coronary artery disease were considered at high risk for obesity-related disease complications and mortality. Patients with any one of the following conditions were classified as moderate risk: a) hypertension, b) hyperlipidemia, c) sleep apnea, or d) asthma. Patients with no cardiovascular disease risk factors besides obesity were considered to be at low risk for obesity-related complications and mortality. We compared survey years using a multivariable logistic regression model on the following study outcomes using 2008–2009 as the reference time period: 1) percent of visits with height and/or weight measured; 2) among patients with BMI ≥ 30, percent of visits with obesity diagnosis; and 3) among patients with obesity, rate of any weight-related education (i.e., any combination of diet/nutrition, exercise, and/or weight reduction education selected on the patient record form). In the model we adjusted for patient and practice-level variables that were found to be associated with these obesity-related metrics in previous studies (Ma et al., 2009; Kraschnewski et al., 2013; Ahmed et al., 2016). These variables included sex, age, race/ethnicity, insurance type, level of risks for obesity-related diseases or mortality, if the patient had been seen before, use of electronic medical records in the practice, and region of the U.S. in which the practice was located. Given that predictors of BMI screening, obesity diagnosis, and any weight-related education were similar across years (data not shown), we combined all survey years to increase sample size in order to examine predictors of the outcomes for 2008–2013 (as one data point) using the same patient and practice-level characteristics previously mentioned. Analyses were conducted from 2015 to early 2017 using PROC SURVEYFREQ AND SURVEYLOGISTIC in SAS v9.3. Two-sided P values < 0.05 were considered significant.

3. Results

There were 13,075 adult primary care visits sampled from 2008–2009, 10,951 from 2010–2011, and 31,582 visits sampled from 2012–2013. Of the total 55,608 adult primary care visits sampled, 14,143 visits (25%) were with patients with obesity. Table 1 presents the weighted proportions for visit, patient, and practice characteristics by survey year.

Table 1
Patient, practice, & visit characteristics of U.S. adult primary care visits by survey year: %[a], (95% CI).

	2008–2009 (n = 13.075)	2010–2011 (n = 10.951)	2012–2013 (n = 31.582)
Age group, y			
18–44	29.0 (27.9, 30.8)	30.0 (27.9, 32.2)	27.7 (26.4, 29.0)
45–64	38.1 (36.8, 39.5)	38.3 (36.8, 39.7)	38.3 (37.3, 39.3)
65 and up	32.9 (30.8, 35.0)	31.7 (29.3, 34.1)	34.0 (32.6, 35.4)
Sex			
Female	59.8 (58.1, 61.4)	57.0 (55.1, 58.8)	57.3 (56.1, 58.5)
Male	40.2 (38.6, 41.9)	43.0 (41.2, 44.9)	42.7 (41.5, 43.9)
Race/ethnicity			
White non-Hispanic	74.9 (71.7, 78.1)	73.4 (69.3, 77.4)	73.0 (70.9, 75.2)
Black non-Hispanic	10.0 (7.7, 12.3)	12.7 (9.6, 15.9)	10.1 (8.9, 11.2)
Hispanic	11.0 (8.7, 13.4)	9.2 (6.0, 12.5)	12.5 (10.7, 14.3)
Other	4.1 (2.7, 5.5)	4.7 (3.0, 6.3)	4.4 (3.6, 5.2)
Body mass index ≥ 30 kg/m²	20.4 (18.4, 22.4)	21.4 (18.9, 23.9)	28.9 (28.2, 29.6)
Risks for obesity-related disease/mortality			
Low	21.3 (19.6, 22.9)	20.5 (18.7, 22.4)	20.2 (19.0, 21.3)
Moderate	55.4 (54.0, 56.9)	55.5 (53.9, 57.0)	57.2 (56.2, 58.3)
High	23.3 (21.6, 25.0)	24.0 (21.9, 26.1)	22.6 (21.6, 23.6)
Insurance			
Private	57.7 (54.9, 60.5)	53.8 (50.4, 57.1)	50.8 (48.9, 52.6)
Medicare	29.2 (27.0, 31.5)	31.5 (29.0, 34.1)	33.9 (32.3, 35.4)
Medicaid	5.8 (4.3, 7.4)	7.2 (5.9, 8.5)	7.9 (6.7, 9.0)
Other	7.2 (5.5, 9.0)	7.5 (5.9, 9.2)	7.5 (6.2, 8.7)
Electronic medical record system			
No	46.7 (40.5, 52.9)	37.8 (32.3, 43.3)	23.3 (20.3, 26.3)
Yes, part paper part electronic	14.4 (9.8, 19.0)	9.3 (5.7, 12.9)	11.6 (9.0, 14.2)
Yes, all electronic	38.9 (32.3, 45.4)	52.8 (47.4, 58.3)	65.1 (61.6, 68.6)
Region			
Northeast	16.1 (11.1, 21.1)	19.8 (15.8, 23.8)	19.3 (17.7, 20.9)
Midwest	25.8 (20.0, 31.6)	24.2 (20.0, 28.4)	19.8 (18.5, 21.0)
South	37.9 (31.9, 43.8)	35.1 (30.0, 40.2)	36.2 (34.4, 38.0)
West	20.2 (15.6, 24.9)	20.9 (17.2, 24.6)	24.8 (22.9, 26.6)
Height & weight measured			
Neither	11.2 (9.0, 13.4)	10.3 (8.0, 12.5)	8.1 (6.8, 9.3)
Either	34.6 (30.3, 38.9)	33.8 (29.2, 38.5)	18.7 (16.7, 20.8)
Both	54.1 (50.0, 58.7)	55.9 (50.6, 61.2)	73.2 (70.8, 75.5)

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