



## Primary care providers' physical activity counseling and referral practices and barriers for cardiovascular disease prevention



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### ABSTRACT

The US Preventive Services Task Force (USPSTF) recommends offering or referring adults who are overweight or obese and have additional cardiovascular disease (CVD) risk factors to intensive behavioral counseling interventions to promote a healthful diet and physical activity for CVD prevention. This study determined the proportion of primary care providers (PCPs) who discussed physical activity with most of their at-risk patients and referred them to intensive behavioral counseling, and reported barriers to counseling. Our analyses used data from DocStyles 2015, a Web-based panel survey of 1251 PCPs. Overall, 58.6% of PCPs discussed physical activity with most of their at-risk patients. Among these PCPs, the prevalence of components offered ranged from 98.5% encouraging increased physical activity to 13.9% referring to intensive behavioral counseling. Overall, only 8.1% both discussed physical activity with most at-risk patients and referred to intensive behavioral counseling. Barriers related to PCPs' attitudes and beliefs about counseling (e.g., counseling is not effective) were significantly associated with both discussing physical activity with most at-risk patients and referring them to intensive behavioral counseling (adjusted odds ratio, 1.92; 95% confidence interval, 1.15–3.20). System-level barriers (e.g., referral services not available) were not. Just over half of PCPs discussed physical activity with most of their at-risk patients, and few both discussed physical activity and referred patients to intensive behavioral counseling. Overcoming barriers related to attitudes and beliefs about physical activity counseling could help improve low levels of counseling and referrals to intensive behavioral counseling for CVD prevention.

### 1. Introduction

Cardiovascular disease (CVD) is the leading cause of death in the United States, and physical inactivity is an important modifiable risk factor (Writing Group Members et al., 2016). Health care professionals can contribute to CVD prevention by counseling patients to increase their physical activity. The US Preventive Services Task Force (USPSTF) recommends that adults who are overweight or obese and have additional CVD risk factors be offered or referred to intensive behavioral counseling interventions to promote a healthful diet and physical activity for CVD prevention (LeFevre and US Preventive Service Task

Force, 2014). Over 1 in 3 US adults is eligible for this intensive behavioral counseling, and almost 1 in 5 US adults is both eligible and does not meet the guideline for aerobic physical activity from the 2008 Physical Activity Guidelines for Americans, (Omura et al., 2015; US Department of Health and Human Services, 2008) presenting an opportunity to improve health at the population level.

Primary care providers (PCPs) have a unique opportunity to engage patients and promote physical activity, as over 80% of US adults see a physician annually, (Centers for Disease Control and Prevention, 2015) and provider advice influences patients' healthy lifestyle behaviors (Elley et al., 2003; Grandes et al., 2009). Furthermore,

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patients expect physicians to be resources of preventive health information (Carroll et al., 2008; Cogswell and Eggert, 1993; Stanford and Solberg, 1991). Given such supporting evidence, the American Heart Association has included reimbursement for and delivery of physical activity and physical fitness counseling with an exercise prescription and integrated systems of care as a public policy strategy (Labarthe et al., 2016). However, PCPs encounter several system-level barriers to lifestyle counseling, including a lack of resources and time (Diehl et al., 2015; Walsh et al., 1999; Douglas et al., 2006; Josyula and Lyle, 2013; McKenna et al., 1998; Goodman et al., 2011; Krist et al., 2015; Lin et al., 2014; Hebert et al., 2012; Abramson et al., 2000). PCPs also face barriers that relate to their personal attitudes and beliefs, such as believing that they have insufficient knowledge about counseling recommendations or that counseling is ineffective at changing behavior (Diehl et al., 2015; Walsh et al., 1999; Douglas et al., 2006; Hebert et al., 2012).

Most past research on PCP practices and barriers related to physical activity counseling has focused on counseling for the general population (Walsh et al., 1999; Hebert et al., 2012; Bock et al., 2012; Gnanendran et al., 2011; Carroll et al., 2011; Anis et al., 2004; Podl et al., 1999; Stange et al., 1998; Stange et al., 2000; Ludman and Curry, 2015; Whitlock et al., 2002). To our knowledge, no studies have specifically examined PCP practices for patients at risk for CVD, which the USPSTF defines as patients who are overweight or obese and have hypertension, dyslipidemia, impaired fasting glucose, or the metabolic syndrome (LeFevre and US Preventive Service Task Force, 2014). Initiating a general discussion about physical activity can be an important first step in promoting behavior change. Physical activity counseling can include a variety of additional components, such as assessing physical activity levels or prescribing physical activity (Diehl et al., 2015; Walsh et al., 1999; Glasgow et al., 2001; Smith et al., 2011). Components that are more intensive may be more effective in promoting behavior change, particularly for patients at risk for CVD. The component currently recommended by the USPSTF for this population is offering or referring them to intensive behavioral counseling interventions (LeFevre and US Preventive Service Task Force, 2014).

The objectives of this study were three-fold. First, we sought to determine the proportion of PCPs who discussed physical activity with most of their patients at risk for CVD. Second, we examined the components included in this counseling, focusing on referral to intensive behavioral counseling. Third, we examined how counseling patterns for patients at risk for CVD were associated with reported barriers. Our findings describe PCPs' current practices related to physical activity counseling for at-risk patients and could be used to develop strategies to overcome barriers to counseling.

## 2. Methods

### 2.1. Study sample

From June to July 2015, Porter Novelli Public Services conducted the Web-based survey DocStyles. Quotas were set to reach 1000 primary care physicians and 250 nurse practitioners. Respondents were paid an honorarium which varied (\$21–\$90) based on the number of questions they were asked to complete.

Samples were drawn from SERMO's Global Medical Panel, which includes 51,000 primary care physicians and 2400 nurse practitioners in the US (SERMO, 2017; Porter Novelli, 2015). The majority of primary care physicians in the panel were male (61%), with an average age of 54 years and 28 years in practice (Porter Novelli, 2015). The majority of nurse practitioners in the panel were female (84%), with an average age of 49 years and 13 years in practice (Porter Novelli, 2015). Panelists are verified using a double opt-in sign up process with

telephone confirmation at place of work. SERMO invited currently active panel members by sending an email which included a link to the Web-based survey. Inclusion criteria for the survey included physicians and nurse practitioners who practice in the United States; actively see patients; work in an individual, group, or hospital practice; and have been practicing for at least 3 years. Respondents could exit the survey at any time. To protect respondent confidentiality, no individual identifiers were included in the database.

To reach the quotas, 2281 health care professionals were invited to participate. Of this sample, 1751 completed the entire survey (1000 primary care physicians, 250 pediatricians, 250 obstetricians and gynecologists, and 251 nurse practitioners). We included only primary care physicians and nurse practitioners in our study because of our focus on the USPSTF recommendation for adult patients at risk for CVD. We also excluded respondents who described their main work setting as inpatient practice ( $n = 206$ ) because our study focused on primary care counseling, which typically occurs in outpatient practices. The result was a final sample size of 1045 respondents.

### 2.2. Measures

The 2015 DocStyles survey was developed by Porter Novelli with technical guidance provided by federal public health agencies and other nonprofit and for-profit clients. The survey contained 144 questions and asked about PCP characteristics including demographics (age, sex, race/ethnicity, and region) and medical practice (years in practice, main practice setting, teaching hospital privileges, and financial situation of the majority of their patients).

Questions about physical activity counseling were preceded by the statement, "Patients who are overweight or obese and have hypertension, dyslipidemia, impaired fasting glucose, or the metabolic syndrome are considered at increased risk for cardiovascular disease (CVD). The next three questions are about your practices with these AT RISK PATIENTS." PCPs' physical activity counseling practices were assessed with the question, "With how many of your at risk patients do you discuss physical activity?" Response options included "None," "Few (1%–25%)," "Some (26%–50%)," "Many (51%–75%)," or "Most (> 75%)." Respondents were grouped into the following three categories: "Few or Some," "Many," and "Most." To assess the components included in physical activity counseling, PCPs were asked, "What do you include when discussing physical activity with your at risk patients?" Respondents were able to select all that apply, and available responses were "Encourage increased physical activity," "Assess their current physical activity level," "Provide written educational materials," "Write an exercise prescription," "Referral to intensive behavioral counseling," and "None of these."

To assess barriers to physical activity counseling, PCPs were asked, "When you do not discuss physical activity with at risk patients, what is typically the main reason(s)?" Responses were categorized as pertaining to either attitude or belief barriers ("I don't know what to recommend," "I don't think counseling is effective," or "Patients won't do it") or system-level barriers ("Referral services aren't available," "Not enough time during visit," "Insurance doesn't cover it," or "Other/None of these").

### 2.3. Statistical analyses

For this cross-sectional study, the prevalence and associated standard error were calculated for the following: (1) discussion of physical activity with at-risk patients overall; (2) selected components of counseling among PCPs who discussed physical activity with any at-risk patients; (3) referral to intensive behavioral counseling among PCPs who discussed physical activity with most at-risk patients; (4) both discussion of physical activity with most at-risk patients and referral to

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