Patient–provider communication and timely receipt of preventive services

Jennifer Villani *, Karoline Mortensen

Department of Health Services Administration, 3310 School of Public Health Building, University of Maryland, College Park, MD 20742-2611, USA

ARTICLE INFO

ABSTRACT

Objective. To estimate the association between how patients rate their health care provider's communication and the receipt of six clinical preventive services recommended by the U.S. Preventive Services Task Force (USPSTF) and the Advisory Committee on Immunization Practices (ACIP).

Methods. This study used national data from the 2009 Medical Expenditure Panel Survey (MEPS). The samples (sizes vary by service) included individuals aged 18 years and older who have a usual source of care (USC). The outcomes indicated whether or not individuals received screening for breast cancer, cervical cancer, colon cancer, high cholesterol, hypertension, or were vaccinated against influenza per clinical guidelines. Multivariate logistic regression models were created for each dependent variable. The main independent variables consisted of ratings of four patient–provider communication behaviors.

Results. In unadjusted analyses, respondents who rated their providers' communication higher reported greater utilization of preventive services. After controlling for confounding variables, only receipt of mammograms remained significantly associated with better communication ($p < 0.05$). Screening for cervical cancer, colon cancer, high cholesterol, and influenza vaccination approached significance with better communication ($p < 0.10$).

Conclusions. Patient–provider communication is associated with receipt of regular mammograms. Clinicians should consider their medical dialogue with patients as a stimulus for appropriate screenings and vaccinations.

© 2013 Elsevier Inc. All rights reserved.

Introduction

Clinical preventive services, such as immunizations and screening tests, are essential to reducing the burden of preventable disease (National Prevention Council, 2011). Vaccines help to prevent the onset of disease, while screening tests allow clinicians to detect illnesses in earlier, more treatable stages. Medicare, Medicaid, and many private insurers cover most of the cost of clinical preventive services.

Disparities in access persist with regard to utilization of preventive services. Individuals with a usual source of care (USC) are more likely to receive preventive screenings than those without (Blewett et al., 2008; DeVoe et al., 2003; Xu, 2002). Those with health insurance are more likely to obtain preventive screenings than the uninsured (DeVoe et al., 2003; Sambamoorthi and McAlpine, 2003). Individuals with higher educational attainment and greater income are more likely to receive preventive care than their counterparts (Agency for Healthcare Research and Quality, 2011; Katz and Hofer, 1994; Sambamoorthi and McAlpine, 2003). Racial and ethnic disparities exist; blacks and Hispanics are less likely to get vaccinated for influenza or screened for colorectal cancer than whites (Lees et al., 2005; White et al., 2011).

There is little evidence regarding whether patients' perceptions of quality of care received influences their utilization of preventive services. Women who are satisfied with interactions with their providers (Somkin et al., 2004) and trust their providers (Musa et al., 2009) are more likely to get mammograms than those who do not. Improved patient–provider communication may help increase service delivery (Flach et al., 2004). Specifically, patients who feel they are treated with respect are more likely to get preventive screens (Beach et al., 2005).

Using recent data from a nationally representative survey, the objective of this study is to evaluate the relationship between patient–provider communication and receipt of six recommended clinical preventive services among patients with a USC. This study offers the first opportunity to assess the association between provider communication and patient compliance with the latest clinical recommendations.

Methods

Study population

This study is based on the data collected from the Household Component of the 2009 Medical Expenditure Panel Survey (MEPS). MEPS data are gathered through a series of computer-assisted personal interviews of a nationally representative sample of U.S. households (Cohen et al., 2009). The questions focus on

* Corresponding author.
  E-mail address: jvillani@umd.edu (J. Villani).

health status, demographic characteristics, health care utilization, expenditures, access to care, and quality of care. Since the data are de-identified and publicly available, this study did not require review by the institutional review board.

The sample included persons aged 18 years and older for whom there was complete data. All members of the sample had a USC provider. Each preventive service outcome was analyzed separately with its own unique inclusion criteria for each sample that will be described next.

Outcomes of interest

This study assessed the self-reported utilization of six preventive services recommended for adults age 18 and older. Two services were recommended for women only, and four services were for both men and women. All applied to specific age ranges as determined by the U.S. Preventive Services Task Force (USPSTF) or the Advisory Committee on Immunization Practices (ACIP). The authors chose to study the 2008 recommendations because data from the 2009 MEPS cohort was based on utilization of preventive services during the time period in which these guidelines were in place. The authors limited this study to preventive services that had an A or B rating from the USPSTF, with the exception of influenza vaccination which did not have a rating. The USPSTF defers to ACIP for immunization recommendations. The outcome variables were dichotomous indicating either the respondent received the screening as recommended or not.

In 2008, the USPSTF recommended women 40 years and older receive a mammogram every 1–2 years to screen for breast cancer (B recommendation) (U.S. Preventive Services Task Force, 2002a). In addition, women aged 21–65 years old who have a uterus were encouraged to have a pap smear every three years to screen for cervical cancer (A recommendation) (U.S. Preventive Services Task Force, 2003). Cholesterol screening was recommended every five years for men 35 and older and women 45 and older (A recommendation) (U.S. Preventive Services Task Force, 2002b). Men and women aged 18 years and older should be screened for high blood pressure every two years (A recommendation) (U.S. Preventive Services Task Force, 2007). The USPSTF recommended colorectal cancer screening for men and women 50 years and older (A recommendation) (U.S. Preventive Services Task Force, 2002c). The preferred methods included either an annual fecal occult blood test (FOBT), a colonoscopy every 10 years, or a flexible sigmoidoscopy every five years with an FOBT every three years. ACIP recommended an annual influenza vaccine for men and women 50 years of age and older (Centers for Disease Control and Prevention, 2007). The sample sizes are outlined for each preventive service in Table 1.

Independent variables

The authors measured quality of care with four MEPS items pertaining to patient–provider communication. The respondents were asked if their USC provider usually 1) asks about prescription medications and treatments other doctors may give them; 2) asks about and shows respect for medical, traditional, and alternative treatments that the person is happy with; 3) asks the person to help make decisions between a choice of treatments; and 4) presents and explains all options to the person. Responses to items 2 and 3 were categorized on an ordinal scale of "never," "sometimes," "usually," or "always." The data were highly skewed, so consistent with the literature, responses were dichotomized to "always" and "not always" (Mosen et al., 2004; Saha et al., 2003; Wallace et al., 2007). Items 1 and 4 were dichotomous questions with yes/no responses. These same items have also been used by others to describe the quality of care from one's USC provider (Nguyen et al., 2011; Shin and Moon, 2008).

Table 1
Samples for each preventive service.

Preventive service	Gender	Ages	N	Weighted N
Mammography	Female	40+	4793	46,333,054
Pap smear	Female	21–65	4735	43,193,254
Cholesterol	Male and female	35+ and 45+, respectively	8066	81,154,737
Flu vaccination	Male and female	50+	5941	60,531,373
Colonoscopy, sigmoidoscopy, and FOBT	Male and female	50+	5914	60,296,441
Blood pressure	Male and female	18+	12,778	124,787,939

This study controlled for additional demographic variables selected under the framework of the Behavioral Model of Health Services Use (Aday and Andersen, 1974; Andersen, 1995). Predisposing characteristics describe the inclination of individuals to use health services. Variables included gender, age, race (white, black, Asian, other), Hispanic ethnicity, highest level of education (no degree, high school diploma or equivalent, Bachelor's degree or more), employment status (employed, not employed), marital status (married, widowed, divorced, separated, never married), and health beliefs such as willingness to take risks and ability to overcome illness without medical help. Enabling resources describe the ability of individuals to obtain health services. Variables included individual factors such as income level and health insurance coverage (any private, public only, uninsured), as well as community attributes such as Census region (Northeast, Midwest, South, West) and residence in an urban or rural area as defined by metropolitan statistical areas. Need factors included individuals' perceived general health and mental health statuses, and the presence of any chronic medical conditions such as hypertension, heart disease, stroke, emphysema, bronchitis, high cholesterol, cancer, diabetes, arthritis, and asthma.

Statistical analyses

The authors performed bivariate analyses to estimate the rates of preventive service utilization by demographic characteristics and provider communication for each study sample. Separate multivariate logistic regression analyses were conducted for each preventive service to determine whether better provider communication was related to receipt of the screenings. Odds ratios were calculated for each independent variable. The authors analyzed each communication behavior individually since an index variable for the four measures garnered poor internal reliability with a Cronbach's alpha of 0.49. All statistical analyses were performed using MEPS survey weights. Stata, version 12.0 statistical software (College Station, TX) was used to fit statistical models using complex survey data.

Results

The results in Table 2 show the proportion of each sample who received recommended preventive services tabulated by demographic characteristics. Women are more likely to be compliant with receiving pap smears (90.5%) than mammograms (76.6%). Black women have the highest utilization rates for both services compared to other races. Women with greater education and higher income are more likely to receive breast and cervical cancer screens. Receipt of services is highest for women with private health insurance (92.4% and 80.8%, respectively), followed by women with public health insurance (87.8% and 68.9%, respectively), and then uninsured women (79.3% and 58.4%, respectively). Women who perceive better health and mental health statuses are also more likely to have pap smears and mammograms.

Cholesterol and blood pressure screenings have very high compliance rates relative to the other preventive services studied. Individuals with public health insurance report significantly higher utilization for both services than those who are uninsured (96.3% vs. 81.9% and 97.3% vs. 86.6%, respectively). Those who reported one or more chronic conditions are more likely to be compliant with cholesterol and blood pressure screenings than those who have no chronic conditions (96.4% vs. 83.0% and 98.0% vs. 89.6%, respectively).

Colorectal cancer screening and influenza vaccination had the lowest compliance of the services examined. Adults over 65 years of age have higher utilization than adults aged 50–64 years. Over 60% of whites and blacks are current on their colorectal cancer screens, yet less than 50% of other races are current. Influenza vaccination coverage is higher for whites (60.7%) and Asians (60.4%) relative to blacks (47.7%). Respondents with public health insurance have higher utilization for both colorectal cancer screening (64.5% vs. 37.0%) and influenza vaccination (65.7% vs. 32.3%) than uninsured respondents.

In unadjusted analyses, respondents who perceive better provider communication reported higher utilization of preventive services (Table 3). Receipt of mammograms was significantly higher for women who reported receiving all four communication behaviors. Women who