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Original article

Identifying Barriers to Access and Utilization of Preventive Health-Care Services by Young Adults in Vermont

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A B S T R A C T

Purpose: The objective of this study was to examine barriers to accessing and utilizing routine preventive health-care checkups for Vermont young adults.
Methods: A population-based analysis was conducted using aggregated data from the 2011–2014 Behavioral Risk Factor Surveillance System (BRFSS) surveys of Vermont young adults aged 18–25 years (N = 1,329). Predictors analyzed as barriers were classified county of residence, health-care coverage, and annual household income level, as well as covariates, with the outcome of the length of time since the last routine checkup.
Results: A total of 81.1% of Vermont young adults reported having a routine checkup in the past 2 years. Health-care coverage was a predictor of undergoing routine checkups within the past 2 years, with 85.2% of insured respondents undergoing checkups compared with 56.3% of uninsured respondents ($p < .001$). Additionally, 81.9% of respondents from Vermont counties classified as mostly rural reported undergoing a checkup within the past 2 years ($p < .05$). A total of 80.8% of respondents from the middle level ($p < .05$) and 89.0% of respondents from the highest level ($p < .001$) of annual household incomes reported undergoing a checkup in the past 2 years. Finally, age ($p < .001$) and sex ($p < .01$) were shown to indicate receipt of routine preventive checkups more often.
Conclusions: For Vermont young adults, health-care coverage, classified county of residence, and household income level were shown to be indicators of undergoing routine preventive health care more often. Further investigation is needed to examine how these barriers may impede preventive screenings, thereby contributing to the ongoing development of health-care guidelines and policies for young adults in rural settings.

IMPLICATIONS AND CONTRIBUTION

This study explores barriers that young adults face accessing and utilizing preventive services in a rural state. Health-care coverage, county of residence, and income level are shown to significantly impact undergoing routine checkups. These findings contribute to research on health care for young adults in rural settings.

Conflicts of Interest: Stephen DeVoe is a graduate of the Master of Public Health program at the University of Vermont. This study was conducted as a requirement for obtaining this degree. Wendy Davis and Rachel Wallace-Brodeur are funded through work for the Adolescent and Young Adult Health-National Resource Center (AYAH-NRC), which is housed at the National Adolescent and Young Adult Health Information Center (NAHIC) at the University of California-San Francisco. NAHIC is primarily funded through two cooperative agreements from the Maternal and Child Health Bureau, Health Resources and Services Administration, and the U.S. Department of Health and Human Services. Dr. Davis and Ms. Wallace-Brodeur received no funding from the AYAH-NRC to conduct this study, and the study was independent of any of their work for this center. Stephen DeVoe wrote the first draft of the manuscript. No forms of payment were provided to anyone on the authorship team to produce this article.

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The transition into young adulthood, defined in the research literature as starting with the 18th birthday and ending with the 26th birthday [1], is an opportunity to establish health behavioral patterns that provide a foundation for good health during the life course. Several investigators determined that accessing and utilizing regular preventive medical care during this age period can prevent long-term health issues in middle and late adulthood [2–5]. Additionally, research studies have shown that periodic health evaluations promoted the delivery of preventive services [2] and improved health outcomes for young adults [6] through increased health screenings and interventions [7]. Preventive screenings include mental health (depression, suicidality, and other mental health issues), reproductive health (pregnancy, sexually transmitted infections, and birth control), nutrition and exercise, and safety and violence (family/partner violence, seat belt use, and drinking alcohol while driving) [2]. When young adults did not undergo preventive screenings, they experienced higher rates of mortality and morbidity related to motor vehicle crashes, suicide and homicide, substance use, unintended pregnancies, and sexually transmitted infections [8].

Neinstein and Irwin called for research on young adults to focus on health-care access and utilization, specifically preventive services [9]. Identifying barriers and addressing gaps in health-care delivery systems can overcome the health inequities that exist for young adults [10]. Previous studies have identified barriers and disparities based on young adult demography, including race and ethnicity [10,11], income status [4], health insurance coverage [12,13], sex [11,14], and geography [3,11]. Although these barriers have been identified, young adults have difficulty accessing and utilizing health-care services, as they are one of the highest uninsured groups in the country [2,13], with 43.1% of young adults being uninsured during some point in 2013 and 22.9% being uninsured for the entire year [11]. Young adults have worse rates of health-care access and utilization compared with adolescents [4] and face barriers that create disparities in the receipt of preventive health services [5,13,15].

Although previous research studies have discussed young adults accessing and utilizing preventive health care on a national level [5], we are unaware of any studies that have examined this in rural states. Rural health-care delivery presents challenges because of limited or inadequate access to resources [12,16]. People living in rural locations are less likely to receive preventive health-care services [17] and have poorer health outcomes [18] in comparison with urban residents. Vermont was classified as the second most rural state in 2012 by the U.S. Census Bureau, with 61.1% of its population residing in rural areas [19,20].

The purpose of this cross-sectional research study was to examine the relationships between barriers to health care and the utilization of routine preventive health-care services for young adults in Vermont. To allow for direct self-report information, datasets from the Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System (BRFSS) were used for secondary data analysis. These datasets provided information to address the specific goals of this project as follows: (1) to explore whether health insurance status is associated with more frequent routine care, (2) to determine if income level correlates with receiving preventive care regularly, and (3) to analyze the association of geographic location by county with the receipt of more frequent preventive care visits.

Methods

Study design and sampling

This cross-sectional study design utilized deidentified, existing survey respondent data from the 2011, 2012, 2013, and 2014 BRFSS surveys for young adults (ages 18–25 years). The BRFSS is the largest national annual telephone health survey in the world [21] that collects data about noninstitutionalized U.S. residents regarding health outcomes, risk behaviors, use of preventive services, and chronic conditions [22]. The BRFSS randomly samples telephone numbers, including both landline and mobile numbers [23] with respondents answering questions about themselves and their household. For the purposes of the present study, survey responses were used to assess the relationship between potential barriers to receiving health care and the length of time since the last preventive health-care visit. This project met criteria for exempt status from the University of Vermont Committees on Human Research in the Medical Sciences.

Participants

Young adults, defined by their 18th through 26th birthdays, classified as residents of Vermont for one of the years between 2011 and 2014, and who successfully answered the BRFSS survey during 1 of these 4 years, were included in the present study (N = 1,329).

Study variables

The BRFSS includes different modules that encompass questions pertaining to health-related information [24]. Because of Vermont's small, racially and ethnically homogenous population, the Health Surveillance Division staff at the Vermont Department of Health recoded or collapsed certain variables (e.g., county of residence, race/ethnicity) before providing us with the datasets to ensure respondent confidentiality and data deidentification. Additionally, some variables included response categories (e.g., don't know/not sure, never, or refused) that were excluded from descriptive, frequency, and logistic regression analyses. We classified these responses as missing cases and reported the separate sample sizes in each variable category (Tables 1, 2).

Outcome variable. Preventive care visits were defined by a general physical examination that was not a medical examination for an injury, illness, or other medical condition. Respondents were asked, "About how long has it been since you last visited a doctor for a routine checkup?" then were provided with responses from which to choose [25]. The time since the last visit was recoded as either "within the past 2 years" (24 months or less) or "2 or more years" (25 months or more) for the purpose of study design.

Predictor variables. Three independent variables were used as identified barriers to determine the impact on the receipt of a routine checkup: (1) health-care coverage, (2) geographic location by classified county of residence, and (3) annual household income level. For health-care coverage, respondents were asked, "Do you have any kind of health-care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare, or Indian Health Service?" (yes or no). Geographic location was defined by the respondents' reported county of res-