## Variables Which Affect Colon Cancer Screening Rates Among Male Veterans

**Patricia D. Dotson, DNP, APRN-BC**
*Nursing, George Washington University, Washington, DC, USA*

Abstract

### Background

Colorectal cancer is a major health concern and public health problem in the United States (U.S.) despite the availability of screening methods used for early detection of this disease. Colorectal cancer (CRC), the third most common cancer and the fourth leading cause of cancer deaths worldwide, has been identified by the CDC as a preventable cancer. CRC has been identified by the Center for Disease Control and Prevention (CDC) as a preventable cancer when timely and appropriate colonoscopy screening is performed. The CDC recommends colon cancer screening colonoscopy beginning at age 50 years, and every 10 years thereafter. Up-to-date, there is limited literature regarding colorectal cancer screening practices among male Veterans.

The theory used to guide the development of this study was the Health Belief Model (HBM). It was originally developed in the 1950s to explain why medical screening programs offered by the U.S. public health departments were not successful. This theory has been used to study screening programs for diseases such as tuberculosis and HIV. It examines the perception of a disease process and how an individual may act upon it. Health behaviors have been described as activities performed by individuals that influence one's total being; emotional, mental, physical, psychological and spiritual being.

### Purpose/Objectives

The purpose of this study is to explore and compare differences in variables that are associated with the rate of colorectal cancer screening among male Veterans. The study compared differences among male Veterans and cancer screening practices based on the recommended guidelines. The Behavioral Risk Factor Surveillance System (BRFSS) 2014 survey data was explored for answers to the study research questions and hypotheses.

The BRFSS is recognized and supported by the CDCs Population Health Surveillance Branch, under the Division of Population Health at the National Center for Chronic Disease Prevention and Health Promotion. The BRFSS is a public domain and is open for data review which does not include any personal identifiable information. Information will be extracted and explored which will address the study independent variables defined as age, race, income, educational level and marital status. The dependent variables were defined as colorectal cancer screening rates performed on male Veterans, ages 50-74 years and CRC cancer screening completed within the recommended time. According to the U.S. Department of Health and Human Services, colorectal cancer screening can potentially reduce morbidity and mortality by up to 60% for anyone 50 years and older, if they are screened regularly. Fecal occult blood testing (FOBT), sigmoidoscopy, or colonoscopy have been shown to be effective in early detection of colorectal cancer (CDC, MMWR, 2011).

### Methods

Using an exploratory-comparative design, this secondary data analysis addresses study questions using data from the 2014 Behavior Risk Factor Surveillance System (BRFSS). Male veterans from 50 to 74 years are included in analysis. Colorectal cancer screening is measured as meet or not meet the screening recommendations. Relationships among the screening behavior and demographic variables

(age, race, income, educational level & marital status) are analyzed using Chi-Square tests and ANOVA. For all analysis Alpha is set at 0.05.

**Results**

Data are currently being collected and results will be available for the International Nursing Research Congress conference. We anticipate that our findings will reveal a significant relationship between variables identified and male Veterans rate of recommended colorectal cancer screening.

**Conclusions:**

The BRFSS data analysis reflects whether a relationship exists among the identified variables, and suggests how changes in health practices might improve a reduction in CRC among this Veteran population.

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**Title:**
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**References:**

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**Abstract Summary:**
Participants will identify if any disparities or barriers exist related to the impact of variables identified (age, race, income, educational level, marital status) on colorectal screening rates among male Veterans.

**Content Outline:**

1. **I. Introduction**
2. Colon cancer is a major health concern and public health problem in the United States (U.S.) despite the availability of screening methods used for early detection of this disease.
3. Colorectal cancer (CRC) has been identified by the Center for Disease Control and Prevention (CDC) as a preventable cancer when timely and appropriate colonoscopy screening is performed.
4. **Body**

*Main Point* #1 CRC is the third most common cancer and the fourth leading cause of cancer deaths worldwide (Agency for Healthcare Research and Quality (AHRQ), 2013; CDC, 2014).

1. Supporting point #1
2. a)  In 2014, about 1.6 million people were projected to be diagnosed with cancer in the United States (BRFSS, 2014).
3. b)  In the United States of America (USA), the benefits of early detection from screening for colorectal cancer are not fully realized and not shared equally by different segments of the population.
4. Supporting point #2
5. a)  Increased colorectal screening rates have been shown to decrease mortality when completed timely.
6. b)  Improved cancer screening knowledge and health beliefs can influence health behavior choices.

*Main Point* #2:  There are gaps in the literature that identify influencing factors on male Veterans decision to have CRC screening as recommended by CDC guidelines.

1. Supporting point #1
2. a) Gender, age, race, ethnicity, marital status, insurance and income are variables that have been associated with CRC in previous research.
3. b) There were gaps in the literature which sought to explain any relationship between these variables and colorectal screening rates among male Veterans when compared to the general population (Baber, 2014;Zubero et al., 2014).

2. Supporting point #2
3. a) It is important to identify variables that are associated with CRC and the male population who have lower screening rates (CDC, 2014).

4. b) Although Veterans generally have access to care at a VA facility, no current research was found that explores the relationship of colorectal cancer screening rates of male Veterans to influencing factors age, race, income, educational level and marital status or identifying differences in colorectal cancer screening of U.S. male Veterans, aged 50-74years, by race and timely colorectal screening.
5. *Main Point* #3: An exploratory-comparative secondary data analysis design addressed whether two variables or more were correlated.
6. Supporting point #1
7. a) The sample for this study included male Veterans who participated in the 2014 data collection by the Behavior Risk Factor Surveillance System (BRFSS).

1. b) BRFSS provides retrospective secondary data analysis which provided convenience sampling for this study and was also cost effective.
2. Supporting point #2
3. a) The BRFSS collects standardized state specific data on risk behaviors andidentified prevention screening practices that can be related to chronic diseases, such as colorectal cancer, as well as other disease that are considered preventable (BRFSS, 2016).

1. b) BRFSS provides retrospective secondary data analysis which provided convenience sampling for this study and was also cost effective.

## III. Conclusion

1. Identifying causes associated with low CRC screening rates may lead to development of targeted interventions or strategies to improve adherence to recommended screening guidelines for male Veterans and prevention of colorectal cancer.
2. We anticipate that our findings will reveal a significant relationship between variables identified and male Veterans rate of recommended colorectal cancer screening.

First Primary Presenting Author
*Primary Presenting Author*
Patricia D. Dotson, DNP, APRN-BC

George Washington University
Nursing
Student, MSN, APRN-BC
Washington DC
USA

**Professional Experience:** Ms. Patricia Dotson is a Psychiatric MH, Board Certified, Clinical Nurse Specialist. She currently works for the Veteran Administration Healthcare System in San Antonio, Texas, with vulnerable populations, to include Substance Use Disorders and Homeless Veterans. She is a retired Air Force nurse where she served in many capacities focused on disease prevention and health promotion. 2009-present - APRN-BC, Psychiatric MH, Nurse Manager, Substance Use Disorder, Homeless Domiciliary, VA Medical Center, San Antonio, Texas. 2007-2009 – Director, Inpatient/Outpatient Mental Health Services. Public Hospital for low income and uninsured patients. East St. Louis, Illinois. 2001-2007- Chief Nurse Executive, Missouri Department of Health, Acute Psychiatric Facility. St. Louis, Missouri. 1984-1993- Active Duty Air Force. 1993-2005-Air Force Reservist. Responsible for implementation of workload management system. Flight Nurse, Nurse Educator, Nurse Manager, Critical Care Nurse, Family Practice Nurse, Infection Control Nurse.
**Author Summary:** Ms. Patricia Dotson is a Psychiatric MH, Board Certified, Clinical Nurse Specialist. She currently works for the Veteran Administration Healthcare System in San Antonio, Texas, with vulnerable populations, to include Substance Use Disorders and Homeless Veterans. She is a retired Air Force nurse where she served in many capacities focused on disease prevention and health promotion.