

Longer Life Foundation –Final Project Report

Project Title: *Disability and breast cancer screening*
Principal Investigator: Mario Schootman, Ph.D., Assistant Professor of Epidemiology and Medicine, Division of Health Behavior Research, Departments of Pediatrics and Medicine, Washington University, St. Louis, Missouri
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Abstract

Even though screening reduces the risk of death from breast cancer by 30 percent, some population segments are not receiving mammography as recommended. Recently, attention has been directed toward women with disabilities as a potential underserved population.

Although several factors are associated with the use of breast cancer screening, one of the major predictors is having health insurance. In particular, women who belonged to managed care organizations were more likely screened for breast cancer than those who did not. However, the presence of disabilities in conjunction with health insurance status has not been investigated. Therefore, we propose to use two national databases to address this issue. Findings from the analyses may lead to identification of an underserved population and may lead to a justification for programmatic interventions.

Initially, two databases were to be analyzed: the Medical Expenditure Panel Survey (MEPS) and the Longitudinal Study of Aging (LSOA). Although the analysis of the MEPS data has resulted in the acceptance of a manuscript by Cancer Causes and Control (October 2002), the analysis of the LSOA data was not further pursued since these data did not include the cause of death that would be necessary to identify from which disease women died. The analysis of the MEPS data has shed further light on the issue of why women with disabilities are less likely screened for breast cancer. In addition, three different grants have been submitted to national funding agencies (e.g., NCI) that have benefited from the experience gained from the LLF grant. One of these grants will likely be funded (Score 172). The manuscript based on the MEPS data is included with this final report.

Introduction/brief literature review

Despite the effectiveness of routine mammography screening to reduce the risk of breast cancer mortality among women 50-69 years of age, not all women utilize these services according to recommended guidelines. Because of the increasing number of elderly women with disabilities, disability status and its relationship to breast cancer screening has recently come under scrutiny. As a result, identifying women with disabilities as a potential population for targeted outreach activities has become an important issue in breast cancer prevention and control. However, reasons for differences in the use of mammography by disability status are unclear.

Women with disabilities differ from those without disabilities in terms of barriers related to breast cancer screening. The underutilization of screening among women with disabilities, therefore, may be the result of the confounding influence of characteristics or factors related to the use of breast cancer screening and disability status that have not been taken into account by previous studies. For example, women with disabilities are more likely to be older, of lower socioeconomic status, and to have public insurance, and more difficulties accessing needed health care, all of which are associated with underutilization of breast cancer screening. Thus, a conceptual model of breast cancer screening in which disability status, in addition to other barriers and facilitators, seems to be necessary to explain differences in mammography use between women with and without disabilities.

The issue of breast cancer screening among women with disabilities is closely associated with the age-specific benefits of mammography. In addition, the prevalence of disability and breast cancer incidence both increase with age. Little is known if women 50 to 69 years of age with disabilities, the age group for which the effectiveness of mammography has been most firmly established, are less likely to be screened. This study aims to determine if underutilization of breast cancer screening by those with

long-term or short-term disabilities can be explained by a variety of factors within our conceptual framework, looking specifically at three age groups – 40 and older, 50-69, and 70 and older.

Methods

We used the MEPS household questionnaire, which includes sections on demographic characteristics, health conditions and health status, health care utilization, charge and payment information, employment and income, health insurance, and interview administration. The set of households selected for the 1996 MEPS is a subsample of those participating in the 1995 National Health Interview Survey (NHIS). Two definitions of disability were included in the study: limitation in activities of daily living (ADLs) and limitations in instrumental activities of daily living (IADLs). A single question asked about how long it had been since the woman's last mammogram. For the current study, we classified women as having had a mammogram within one year preceding the interview in contrast to having had a mammogram more than one year ago or never having had a mammogram.

A modified form of the Anderson behavioral model, frequently applied in utilization studies, was used to create five groups of factors, namely external environment (census region, urban-rural residence), predisposing characteristics (race, age, marital status, and educational attainment), enabling resources (poverty level, health insurance status, having a usual source of care, and number of office-based doctor visits), need (being without needed health care), and personal health practices/preventive care (having a recent blood pressure check). Disability status was added to this model and consisted of limitation in activities of daily living and limitations in instrumental activities of daily living. This conceptual model is aimed at identifying potential reasons for the disparity in breast cancer screening that has previously been found between persons with and those without disability.

Results

The following results are an excerpt of the findings that are described in the manuscript titled "Identifying factors associated with disability-related differences in breast cancer screening" that has been accepted for publication by Cancer, Causes, and Control in October, 2002.

Overall, 49.7 percent (95% CI: 47.8 – 51.5) of women reported having a mammogram within one year preceding their interview in 1996. Crude odds ratios showed that women with long-term limitations in their ADLs or IADLs were less likely to be screened for breast cancer compared to those without such limitations. These associations remained while controlling for possible confounders and were observed among women age 40 or older, those 50-69, and among women 70 years of age and older.

Discussion

The following are an excerpt of the discussion of the findings that are described in the manuscript titled "Identifying factors associated with disability-related differences in breast cancer screening" that has been accepted for publication by Cancer, Causes, and Control in October, 2002.

We observed in the unadjusted and adjusted analyses that women with long-term disabilities were less likely screened for breast cancer during the past year, while those with short-term limitations were not (except those 50-69 years of age with limitations in the IADL). The factors that were included in the conceptual model to explain this underutilization did not serve to explain the difference in mammography use by disability status. Future research should focus on identifying reasons for underutilization of breast cancer screening among women 50 years of age or older, and especially among women 50-69 years of age for whom screening has been shown to be beneficial in terms of reduced risk of mortality from breast cancer.

Next steps

During the extension period, we have analyzed data collected from a nationally representative survey of nearly 3,000 women age 40 and older. This survey was conducted by Dr. Brownson of Saint

Louis University School of Public Health and focused on racial differences in disability and health. It also included a question about mammography. In preliminary analyses, we found that certain racial/ethnic groups with disabilities were less likely screened for breast cancer than their counterparts without disabilities. Unfortunately, several factors that we previously found to be associated with breast cancer screening were not available or not found to be important in Dr. Brownson's data. As a result, we have not further pursued these analyses.

Also during the extension period, but not funded by LLF, we have included a question about the street address of women participating in a three-area survey of the Missouri Department of Health and Senior Services. This telephone interview has collected data from more than 1,800 adults in the Saint Louis, Kansas City and Bootheel area and asks about disability, cancer screening, and various other risk factors for major chronic diseases during 2001. We started the analysis during the extension period of the LLF grant and are currently analyzing the data to determine what the effect is of neighborhood factors (e.g., area deprivation, location of mammography facility) on use of breast cancer screening. Results of a preliminary analysis were used to submit an R21 grant to the NCI, which will likely be funded (GIS and breast cancer screening in St. Louis). Two additional grants have been based, at least in part, on the work that commenced during the LLF grant. The LLF grant has provided a basis for these submissions.