ELSEVIER

Cancer Detection and Prevention 31 (2007) 166–172

Cancer Detection and Prevention

www.elsevier.com/locate/cdp

Mammography screening in six diverse communities in Chicago—A population study

Steve Whitman PhD[a,*], Ami M. Shah MPH[a], Abigail Silva MPH[a],
David Ansell MD, MPH[b]

[a] Urban Health Institute, Sinai Health System, 1500 South California Avenue, Chicago, IL 60608, United States
[b] Department of Internal Medicine, Rush University Medical Center, 1653 W. Congress Parkway, Chicago, IL 60612, United States

Accepted 9 December 2006

Abstract

Background: Despite the fact that recent studies suggest a narrowing in access to mammography, Black women are much more likely to die from breast cancer than White women. Data at the community level regarding mammography screening can help explain health disparities and inform plans for improved screening efforts. *Methods*: In 2002–2003, a comprehensive household health survey in English or Spanish was conducted in six community areas with 1700 households. The module on mammography was based on a state-based nationwide health survey and included questions on frequency of mammography, repeat screenings, and several demographic variables. *Results*: The proportion of women ≥40 years ($n = 482$) who received a mammogram in the past 2 years ranged from 74% to 90% across the six communities. The community with the highest screening proportion was predominantly Mexican and included recent immigrants. The screening proportion in the poorest community area, which was all Black, was 77%. Women with health insurance, higher income, and more education were more likely to receive a mammogram. Proportions for women ≥50 years ($n = 286$) were slightly higher but similar. Repeat screening, which is recommended, occurred at lower levels. *Conclusions*: Access to and utilization of mammography have grown in recent years so that even these vulnerable communities had screening proportions at or even higher than the national average and the Healthy People Year 2010 objective. Nonetheless, repeat screening sequences were lower and may require attention if mammography screening efforts are to have a greater impact on female breast cancer mortality.

Keywords: Breast cancer screening; Racial and ethnic disparities; Community health survey; Community level data; White women; Black women; Health insurance; Sample selection; Response rates; Income; Education; Methodological concerns

1. Introduction

Breast cancer accounts for one out of every three female cancer deaths and is the second leading cause of cancer death among U.S. women. It is estimated that more than 211,000 women were diagnosed with breast cancer and that about 40,000 died from it in 2005 [1]. While the incidence of breast cancer in the U.S. is higher among White women, Black women are more likely to die from it [2,3]. National data also show that Black women tend to have poorer health outcomes following a breast cancer diagnosis even when they are diagnosed at the same stage [4]. Mammography may be an important tool for detecting cancers of the breast at its earliest and most treatable stage. As such, one of the Healthy People 2010 goals is for 70% of women ≥40 years to have received a mammogram within the last 2 years [5].

While progress is being made to ensure that all women meet this goal at the state and national level, few studies have examined the prevalence of screening at the local level. Local or community level mammography screening information is important because it is here that these data may help explain health disparities and offer the potential to inform plans for improved community screening efforts. A recently completed community health survey in Chicago, the largest and most comprehensive such survey ever

---

* Corresponding author at: Urban Health Institute, Mount Sinai Hospital, Room K437, 1500 South California Avenue, Chicago, IL 60608, United States. Tel.: +1 773 257 5661; fax: +1 773 257 5680.
E-mail address: whist@sinai.org (S. Whitman).

0361-090X/$30.00 © 2007 International Society for Preventive Oncology. Published by Elsevier Ltd. All rights reserved.
doi:10.1016/j.cdp.2006.12.008

conducted in the city, collected substantial data describing mammography screening in six racially and ethnically diverse community areas. This paper presents community-specific data describing such screening and the demographic and social correlates of receiving a mammogram. It also contrasts the mammography experience among the better off predominately White community with the other five communities of color.

2. Methods

2.1. The survey

Data analyzed in this report were obtained from the Sinai Health System's "Improving Community Health Survey." This was a 469-question health questionnaire, designed to take about an hour [6].

The Survey Research Laboratory at the University of Illinois in Chicago administered the questionnaire from September 2002 through April 2003. Interviewers were experienced, thoroughly trained (with 21 h of formal training), and culturally sensitive to the communities in which the interviews were conducted. In most cases, the interviewers were from the communities being surveyed. In all cases, interviewers working in Spanish-speaking communities were required to be bilingual in English and Spanish. Ten percent of each interviewer's work was validated at random by phone or in person.

The survey contained a series of questions on breast cancer screening for women 40–75 years (older people were not eligible for the survey). Questions included, "Have you ever had a mammogram or a breast X-ray?" and "How long ago did you have your most recent mammogram?" [7]. In addition, the survey asked, "How many mammograms have you had in the past 3 years, that is since [1999 or 2000, depending on the date of the interview]?" to assess repeat screenings [8]. Having had more than one was considered a measure of adequate sequence. These questions are based on the Behavioral Risk Factor Surveillance System (BRFSS) survey, a state-based nationwide. Lastly, if women had never been screened, they were asked why. Data describing many social and demographic characteristics were also collected.

This project was approved by the Institutional Review Boards of the Sinai Health System and the University of Illinois at Chicago. All participants signed an informed consent. During the course of the survey one interviewer was shot at and another was robbed at knifepoint. Both incidents were reported to the Police Department and to both Review Boards. These incidents illustrate some of the challenges faced by interviewers working in these communities.

2.2. Sample selection

In 2000, Chicago was the third largest city in the U.S., with a diverse population of almost 3,000,000, consisting of 36% non-Hispanic Black people, 31% non-Hispanic White people, and 26% Hispanic people. Chicago, which has been labeled "hyper-segregated" by a seminal study [9], is divided into 77 officially designated community areas, which often serve as loci for describing health, for delivering health care services and for implementing community-based interventions [10]. Six of these community areas (Fig. 1) were selected for study for various social and political reasons, but primarily to reflect the racial/ethnic diversity of Chicago.

Table 1 presents social and demographic characteristics of these communities based on the 2000 Census. North Lawndale and Roseland are almost entirely African American; South Lawndale is almost entirely Mexican; Humboldt Park is about half African American, a quarter Puerto Rican and a quarter Mexican; West Town is about half White, a quarter Puerto Rican and a quarter Mexican; and Norwood Park is almost entirely White. The median household incomes, which range from $ 18,000 to $ 53,000, may be compared with $ 42,000 for the U.S. and $ 39,000 for Chicago.

2.3. Subjects

The questionnaire was administered face-to-face in selected households. The sample was stratified in order to complete approximately equal numbers of interviews within

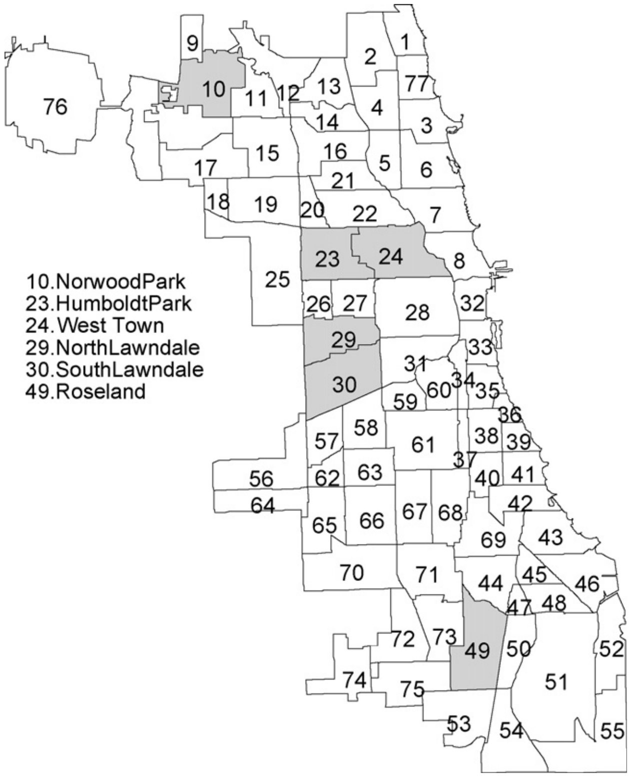

Fig. 1. Six of 77 Chicago community areas surveyed: Norwood Park, Humboldt Park, West Town, North Lawndale, South Lawndale, and Roseland.