

Descriptive Analysis of Breast Cancer Surgery Trends, South Carolina, 2005-2013

Jacques W. Clerville, MD, MPH; Susan Bolick, MSPH, CTR; Stephanie Clugstone, MSPH

1. Haitian Ministry of Public Health (MSPP) 2. South Carolina Central Cancer Registry (SCCCR) 3. Former SCCCR employee

INTRODUCTION

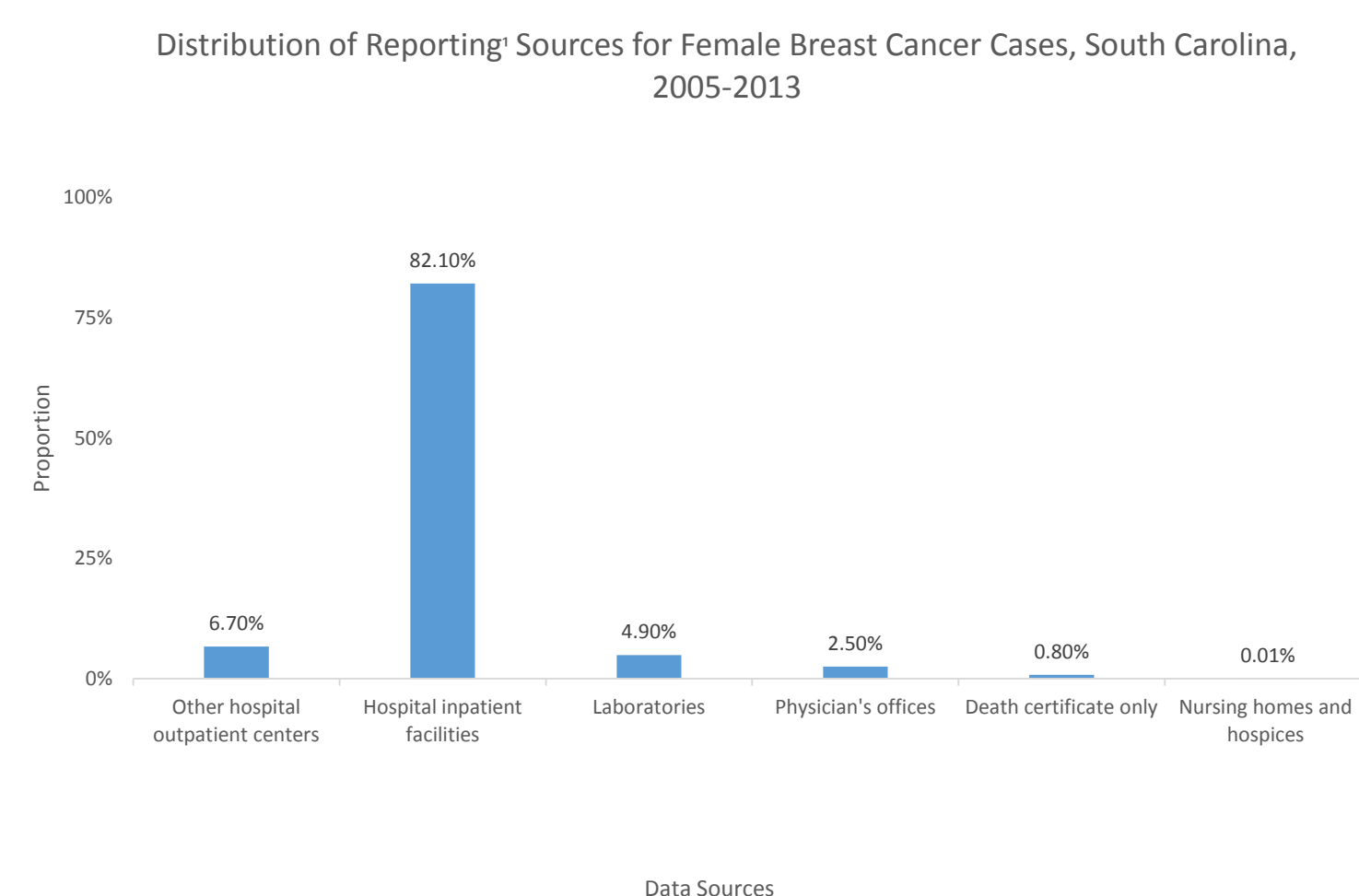
Breast cancer is the leading female cancer in South Carolina (SC). Previous studies conducted in the United States have shown a significant increase in the contralateral prophylactic mastectomy (CPM) trends. CPM is defined as the surgical removal of the affected breast and the uninvolved contralateral breast. Much controversy has been associated with CPM as an effective method to increase breast cancer survival. To date there are no data on CPM rates and trends in SC. We sought to determine whether CPM rates have increased over time in SC. Thus, we conducted a descriptive analysis of types of breast cancer surgery recorded for cases in the South Carolina Central Cancer Registry (SCCCR) to evaluate the trends of different breast cancer surgery types in SC from 2005 through 2013, emphasizing the trend for CPM.

MATERIAL AND METHODS

Our study examined data from a single state cancer registry and used SAS 9.3 for the analysis. The SCCCR is funded by the Centers for Disease Control and Prevention (CDC) through the National Program of Cancer Registries (NPCR). The SC Department of Health and Environmental Control (DHEC), the state's health agency, houses the SCCCR.

The data were restricted to females with breast cancer surgery from the period 2005-2013. Cases without surgery where breast cancer was diagnosed at autopsy and cases with unknown surgery status were excluded. Of the 37,924 total numbers of breast cancer cases, 34,085 cases were included. Also, the data were stratified by surgery type, race/ethnicity, region, age group, SEER Summary Stage 2000, morphology (histology), and behavior. Microsoft Excel was used to generate the trends over time of different types of breast surgeries.

Figure 1



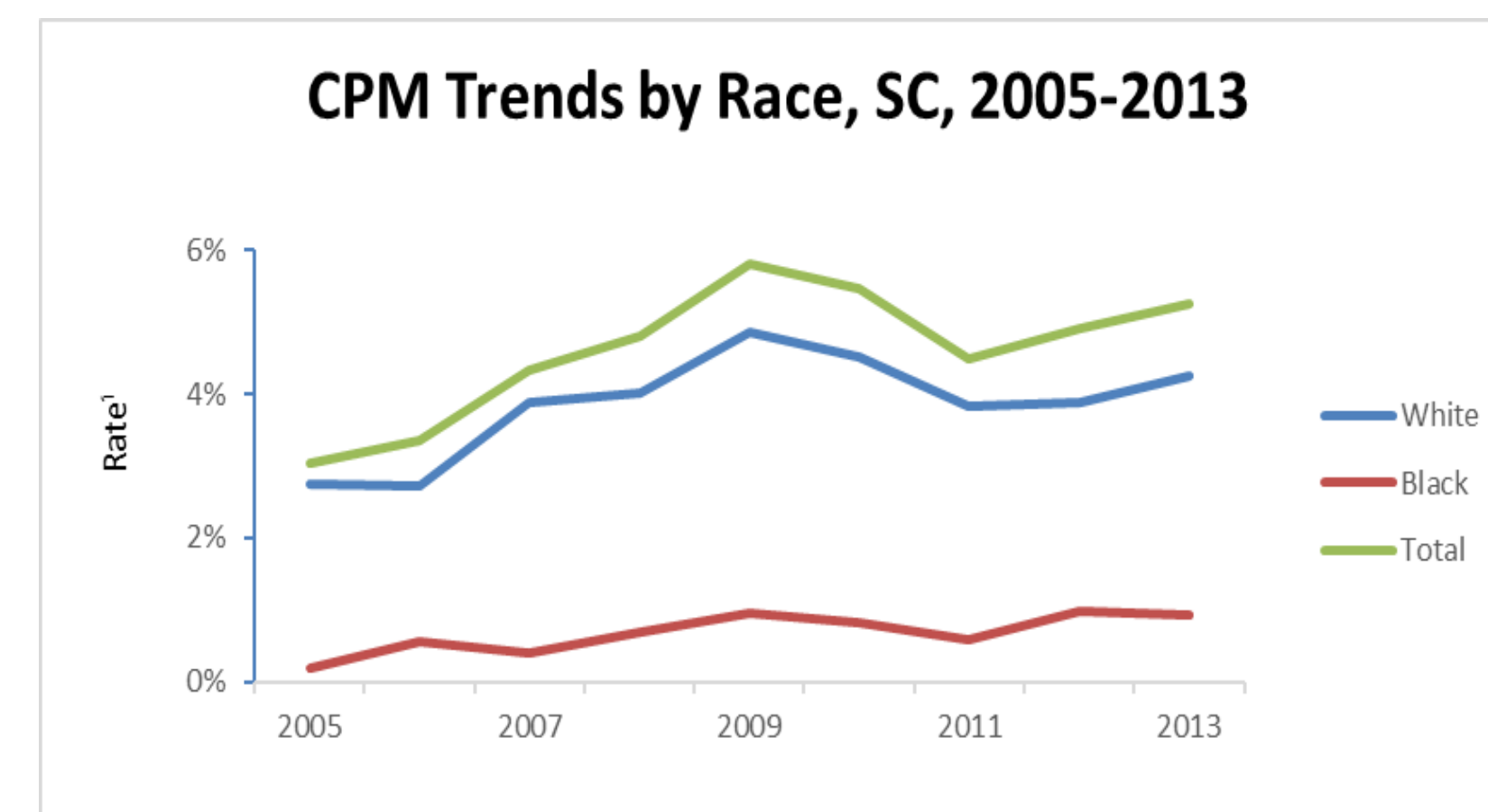
OBJECTIVES

Evaluate the trends of different breast cancer surgery types and emphasize the contralateral prophylactic mastectomy trends and rates in South Carolina from 2005 through 2013.

RESULTS

We found that 1,587 (4.66%) females surgically treated for breast cancer underwent contralateral prophylactic mastectomy. The overall rate increased from 3.03% in 2005 to 5.25% in 2013. Among Whites, the rate increased from 2.75% to 4.24%; among Blacks, it increased from 0.18% to 0.92%. Among non-Hispanics, regardless of race, the contralateral prophylactic mastectomy rate increased from 2.94% in 2003 to 5.08% in 2013; they represented 97.3% of the total number of CPMs performed. Meanwhile, the unilateral mastectomy rate decreased from 23.62% in 2005 to 17.97% in 2013; the breast-conserving surgery rate was steady

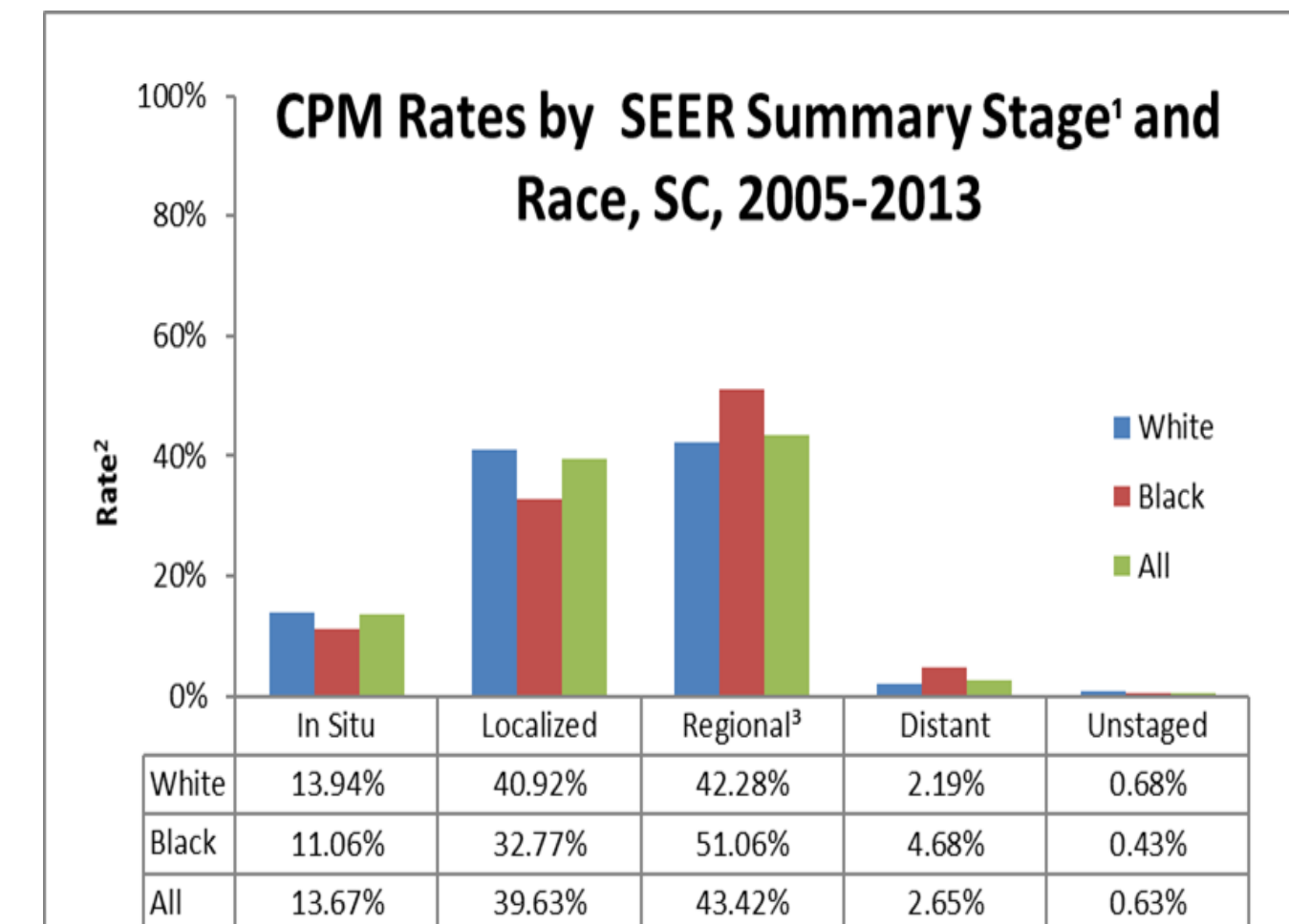
Figure 2



Note:

¹Proportion of all females surgically treated for breast cancer who underwent CPM
Source: South Carolina Central Cancer Registry (SCCCR)

Figure 3



Note:

¹Refers to SEER summary stage 2000

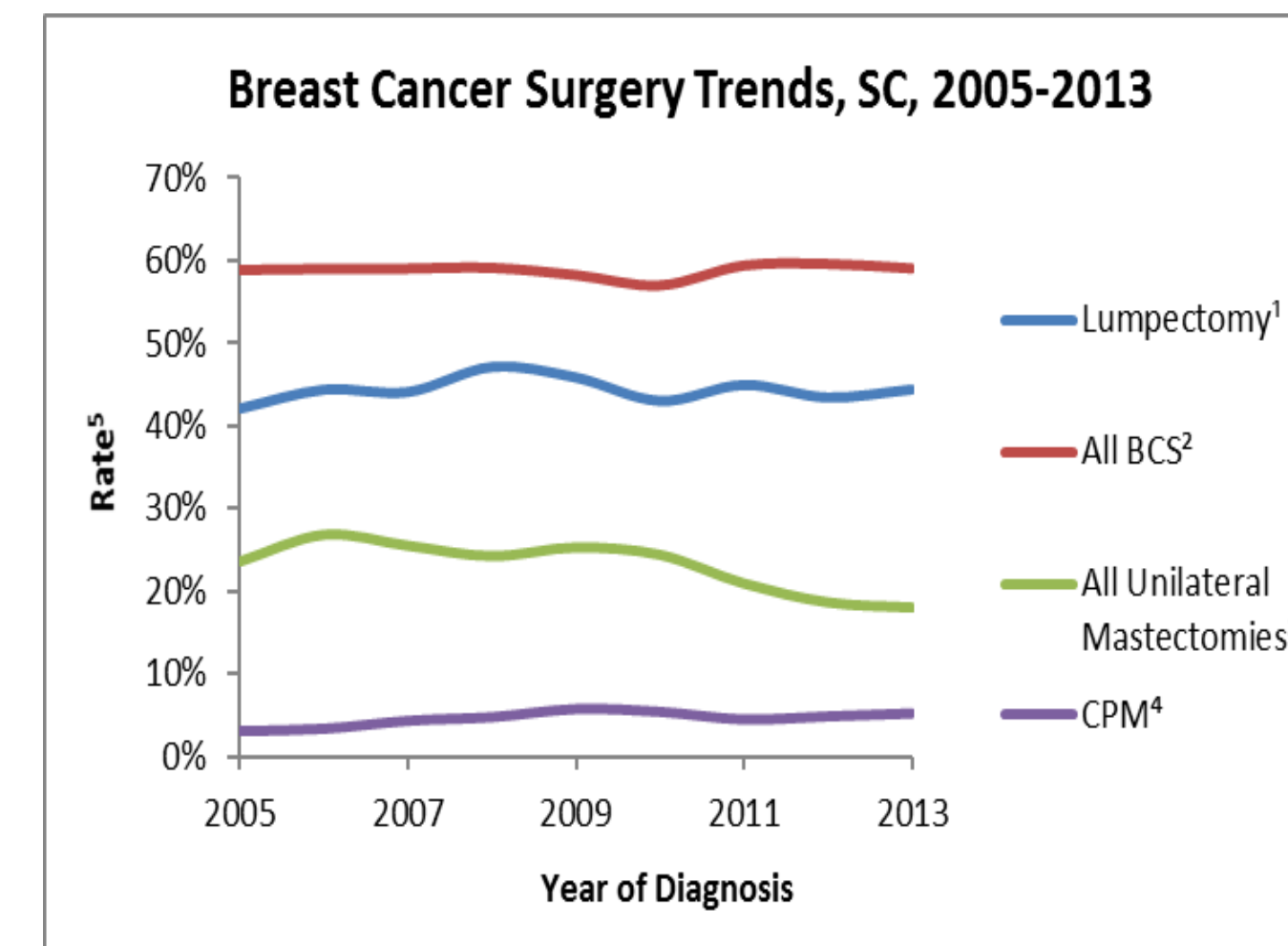
²Proportion of all females surgically treated for breast cancer with a specific cancer stage who underwent CPM

³Encompasses regional with direct extension only, regional with direct extension and regional lymph nodes.

No regional (NOS) cases were found

Source: South Carolina Central Cancer Registry (SCCCR)

Figure 4



Note:

¹Resection of the lump in the affected breast

²All breast-conserving surgeries including lumpectomy

³Total mastectomy, modified radical mastectomy, radical mastectomy (NOS) or extended radical mastectomy, without removal of the affected breast

⁴Removal of the affected breast with the uninvolved contralateral breast (contralateral prophylactic mastectomy)

⁵Proportion of all females surgically treated for breast cancer who underwent a specific type of breast cancer surgery

Source: South Carolina Central Cancer Registry (SCCCR)

CONCLUSIONS

Similarly to what was observed in many other states, the CPM rate increased in SC among females treated with breast cancer surgery for the period 2005-2013. White females had a higher rate, but Blacks females had the highest change over time. The trend also increased among non-Hispanics. Further research should assess the risk factors of CPM among South Carolina females with breast cancer

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