

Breast Cancer Among the US Male Population

June 2015

Background

- ❑ **Focus on female breast cancer**
- ❑ **Few studies on male breast cancer**
 - *Generally small caseload studies*
 - *5 US larger studies*
 - *3,672 cases; 2,537 cases; 2,923 cases; 5,494 cases; 4,279 cases*
- ❑ **Increasing incidence**
- ❑ **Differences at diagnosis**
 - *Older age*
 - *Later stage*
 - *Biomarkers*
 - *Treatment*
 - *Survival*



Purpose

- ❑ **USCS 1998-2012**
 - *30,246 cases male breast cancer*
- ❑ **Are the results from previous smaller studies seen in this significantly larger dataset?**



Age-Adjusted IR by Diagnosis Year



Total percent change: 13%

Annual percent change: 0.5%*

APCs were calculated using weighted least squares method. *The APC is significantly different from zero ($p < 0.05$).

Geographic Region USCS, 1998-2012

Geographic Region	Number	Percentage	Rate	Confidence Interval
<i>Midwest</i>	6,577	22%	1.4	1.4-1.5
<i>Northeast</i>	6,541	22%	1.7	1.6-1.7
<i>South</i>	11,541	38%	1.6	1.5-1.6
<i>West</i>	5,587	18%	1.3	1.2-1.3

Age at Diagnosis USCS, 1998-2012

Age	Number	Percent	Rate	Confidence Interval
<50	3,507	12%	0.2	0.2-0.2
50-59	5,884	19%	2.2	2.1-2.2
60-69	7,989	26%	4.7	4.6-4.8
70-79	7,782	26%	7.3	7.1-7.5
≥80	5,084	17%	9.5	9.2-9.7

Median Age: 43 (all ages), 53 (20+)

Peak Age: 68

Race and Ethnicity

USCS, 1998-2012

Race/Ethnicity	Number	Percent	Rate	Confidence Interval	Rate Ratio
<i>All Races</i>	30,246		1.5	1.5-1.5	
<i>White</i>	25,363	84%	1.4	1.4-1.5	0.9688*
<i>Black</i>	3,861	13%	2.1	2.0-2.2	1.4073*
<i>American Indian/ Alaska Native</i>	76	<1%	0.5	0.4-0.7	0.3587*
<i>Asian/Pacific Islander</i>	599	2%	0.8	0.7-0.9	0.5302*
<i>Non-Hispanic</i>	28,857	95%	1.5	1.5-1.6	
<i>Hispanic</i>	1,389	5%	0.9	0.8-0.9	0.5804**

*The rate ratio indicates that the rate is significantly different than the rate for All races ($p < 0.05$).

**The rate ratio indicates that the rate is significantly different than the rate for Non-Spanish-Hispanic-Latino ($p < 0.05$).

Economic Status USCS, 1998-2012

Economic Status	Number	Percent	Rate	Confidence Interval	Rate Ratio
<i>Attainment</i>	3,170	10%	1.6	1.6-1.7	
<i>Competitive</i>	4,926	16%	1.5	1.4-1.5	0.8686*
<i>Transitional</i>	18,123	60%	1.5	1.5-1.5	0.8876*
<i>At-Risk</i>	2,334	8%	1.4	1.3-1.4	0.8064*
<i>Distressed</i>	914	3%	1.3	1.2-1.4	0.7343*

*The rate ratio indicates that the rate is significantly different than the rate for Attainment ($p < 0.05$).

Histology

USCS, 1998-2012

Histology	Number	Percent	Rate	Confidence Interval	Rate Ratio
<i>Adenocarcinoma</i>	25,180	83%	1.2	1.2-1.3	
<i>Ductal</i>	21,451	71%	1.1	1.0-1.1	0.8505*
<i>Lobular</i>	2,180	7%	0.1	0.1-0.1	0.0868*
<i>Other Histologies</i>	1,664	6%	0.1	0.1-0.1	0.0633*
<i>In Situ</i>	3,399	11%	0.2	0.2-0.2	0.1293*

*The rate ratio indicates that the rate is significantly different than the rate for Adenocarcinoma ($p < 0.05$).

Stage at Diagnosis

USCS, 1998-2012

Stage	Number	Percent	Rate
<i>In Situ</i>	3,399	11%	0.2
<i>Localized</i>	12,761	42%	0.6
<i>Regional</i>	11,835	39%	0.5
<i>Distant</i>	1,496	5%	0.1
<i>Unknown/Not Applicable</i>	755	2%	0.1

Treatment USCS, 1998-2012

Treatment	Number	Percent	Rate	Confidence Interval
<i>Surgery</i>	25,518	84%	1.3	1.2-1.3
<i>Breast Conserving</i>	5,132	17%	0.3	0.2-0.3
<i>Mastectomy</i>	17,944	59%	0.9	0.9-0.9
<i>Chemotherapy</i>	7,810	26%	0.4	0.4-0.4
<i>Hormone</i>	8,786	29%	0.4	0.4-0.4

Biomarkers

USCS, 2010-2012

Biomarker	Number	Percent	Rate	Confidence Interval
<i>Triple Negative ER/PR/HER2</i>	159	2%	~	~
<i>Triple Positive ER/PR/HER2</i>	390	6%	0.1	0.1-0.1
<i>ER/PR Positive</i>	5,375	77%	1.2	1.1-1.2
<i>ER Positive/PR Negative</i>	484	7%	0.1	0.1-0.1
<i>ER Positive</i>	5,912	84%	1.3	1.2-1.3
<i>PR Positive</i>	5,413	77%	1.2	1.1-1.2

Five-Year Survival, Region, NPCR, 2003-2010

Survival Rate	Number	Percent	Confidence Interval
<i>NPCR</i>	8,757	85.4%	83.9-86.9%
<i>West</i>	1,399	85.4%	81.1-88.8%
<i>Midwest</i>	909	83.7%	78.9-87.5%
<i>South</i>	4,421	85.1%	83.0-87.1%
<i>Northeast</i>	2,028	86.8%	83.3-89.6%

States Included in Survival Analysis Dataset

<i>Alabama</i>	<i>Florida</i>	<i>Louisiana</i>	<i>Nebraska</i>	<i>Ohio</i>	<i>South Carolina</i>
<i>Alaska</i>	<i>Georgia</i>	<i>Maine</i>	<i>New Hampshire</i>	<i>Oklahoma</i>	<i>Tennessee</i>
<i>California</i>	<i>Idaho</i>	<i>Maryland</i>	<i>New Jersey</i>	<i>Oregon</i>	<i>Texas</i>
<i>Colorado</i>	<i>Kansas</i>	<i>Mississippi</i>	<i>New York</i>	<i>Pennsylvania</i>	<i>West Virginia</i>
<i>Delaware</i>	<i>Kentucky</i>	<i>Montana</i>	<i>North Carolina</i>	<i>Rhode Island</i>	<i>Wisconsin</i>

Five-Year Survival, Age Group and Race, NPCR, 2003-2010

Survival Rate	Number	Percent	Confidence Interval
All Races			
20-49	1,104	85.3%	82.1-87.9%
50+	7,653	85.5%	83.8-87.1%
White			
20-49	800	85.7%	82.0-88.8%
50+	6,390	86.6%	84.7-88.3%
Black			
20-49	231	82.5%	74.3-88.2%
50+	980	77.6%	72.2-82.1%

Conclusions

- ❑ **USCS largest dataset of MBC**
 - *Generalizable to US*
 - *90% US population coverage*
 - *Sufficient level of data available for detailed analyses*
- ❑ **Differences in cancer characteristics compared to FBC**
 - *MBC increasing, FBC decreasing*
 - *MBC diagnosed at slightly later age*
 - *Black MBC incidence rate higher than White MBC*
 - *Black FBC lower than White FBC*
 - *Less in situ MBC*
 - *Lower percentage diagnosed at early stage*
 - *Fewer males have breast conserving surgery*
 - *MBC slightly lower survival rate*

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*The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the
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