SMR Calculations - US Reference Population

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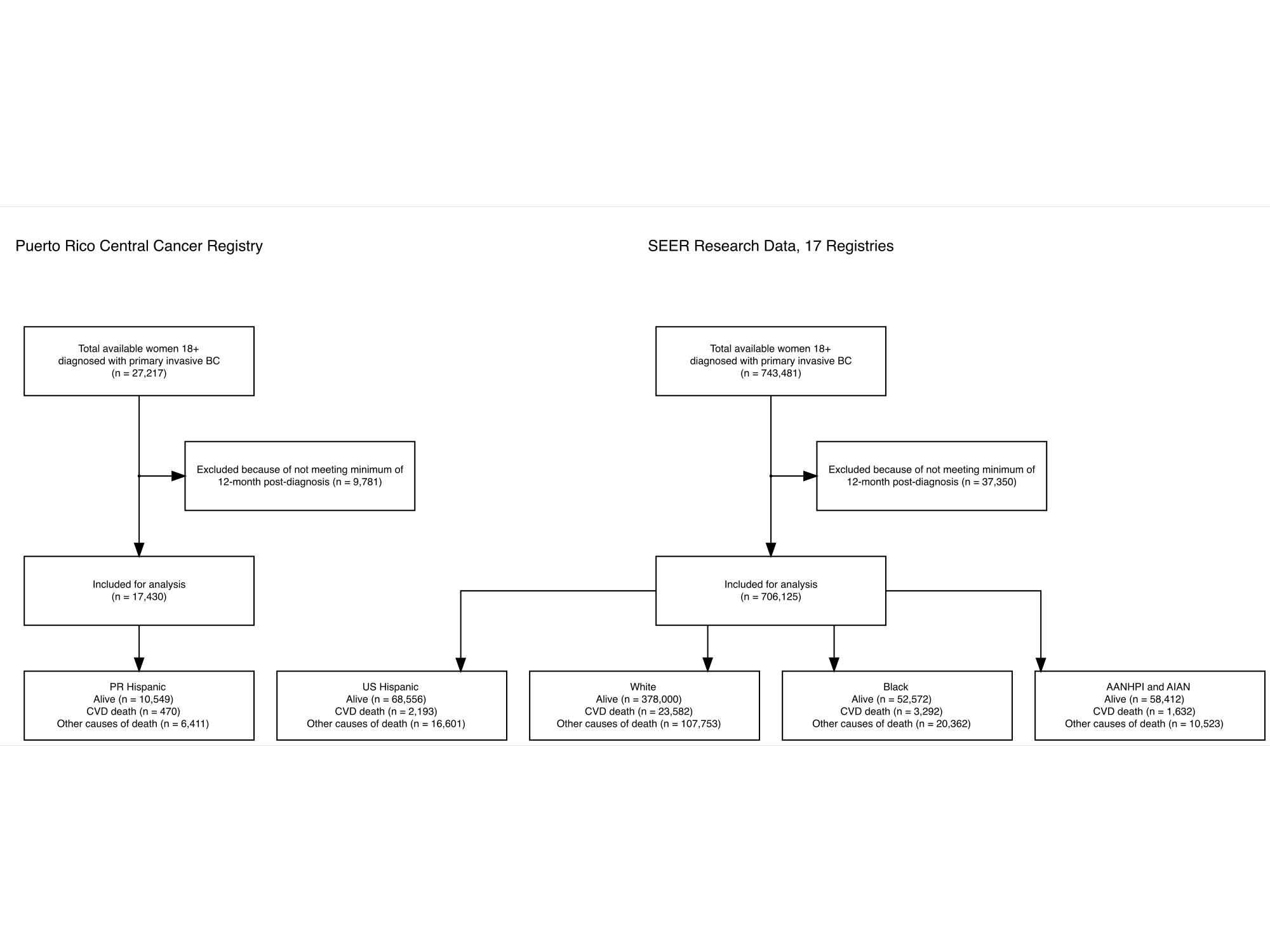
Figure 1 Flow diagram defining selection of women diagnosed with first breast cancer between 2004-2019 and followed through 2021 in PR and 17 SEER registries. 

Table 1 Baseline Characteristics of women who died in Puerto Rico diagnosed with Breast Cancer from 2004-2019 and followed through 2021

| **Characteristic** | **All death causes** N = 6,881 | **BC death** N = 3,636 | **CVD death** N = 470 | **Other Death** N = 2,775 | **p-value** |
| --- | --- | --- | --- | --- | --- |
| Age at Diagnosis (Continuous) |  |  |  |  | <0.001 |
| Mean(±SD) | 64.9(±14.6) | 60.1(±14.4) | 73.9(±11.0) | 69.6(±13.0) |  |
| Median (Q1-Q3) | 66.0 (55.0-76.0) | 60.0 (50.0-70.0) | 75.0 (67.0-82.0) | 71.0 (62.0-79.0) |  |
| Min-Max | 18.0-104.0 | 18.0-97.0 | 35.0-101.0 | 26.0-104.0 |  |
| Age at Diagnosis (Categorical) |  |  |  |  | <0.001 |
| 18-39 | 362 (5.3%) | 288 (7.9%) | 2 (0.4%) | 72 (2.6%) |  |
| 40-49 | 779 (11%) | 618 (17%) | 13 (2.8%) | 148 (5.3%) |  |
| 50-59 | 1,241 (18%) | 849 (23%) | 31 (6.6%) | 361 (13%) |  |
| 60-69 | 1,650 (24%) | 897 (25%) | 105 (22%) | 648 (23%) |  |
| 70-79 | 1,660 (24%) | 630 (17%) | 160 (34%) | 870 (31%) |  |
| 80+ | 1,189 (17%) | 354 (9.7%) | 159 (34%) | 676 (24%) |  |
| FollowUpYears |  |  |  |  | <0.001 |
| Mean(±SD) | 4.4(±3.6) | 3.5(±3.2) | 5.3(±3.7) | 5.3(±3.9) |  |
| Median (Q1-Q3) | 3.3 (1.4-6.4) | 2.6 (1.2-4.9) | 4.5 (2.1-7.7) | 4.5 (2.1-7.8) |  |
| Min-Max | 0.1-16.6 | 0.1-16.4 | 0.1-16.6 | 0.1-16.6 |  |
| Age at Death |  |  |  |  | <0.001 |
| 18-39 | 196 (2.8%) | 164 (4.5%) | 0 (0%) | 32 (1.2%) |  |
| 40-49 | 510 (7.4%) | 416 (11%) | 6 (1.3%) | 88 (3.2%) |  |
| 50-59 | 998 (15%) | 738 (20%) | 21 (4.5%) | 239 (8.6%) |  |
| 60-69 | 1,393 (20%) | 917 (25%) | 53 (11%) | 423 (15%) |  |
| 70-79 | 1,665 (24%) | 782 (22%) | 123 (26%) | 760 (27%) |  |
| 80+ | 2,119 (31%) | 619 (17%) | 267 (57%) | 1,233 (44%) |  |
| Time to death (years) |  |  |  |  | <0.001 |
| Mean(±SD) | 4.4(±3.6) | 3.5(±3.2) | 5.3(±3.7) | 5.3(±3.9) |  |
| Median (Q1-Q3) | 3.3 (1.4-6.4) | 2.6 (1.2-4.9) | 4.5 (2.1-7.7) | 4.5 (2.1-7.8) |  |
| Min-Max | 0.1-16.6 | 0.1-16.4 | 0.1-16.6 | 0.1-16.6 |  |
| Health Region |  |  |  |  | 0.091 |
| Noreste Metro | 1,731 (25%) | 918 (25%) | 127 (27%) | 686 (25%) |  |
| Central Bayamon | 1,030 (15%) | 532 (15%) | 59 (13%) | 439 (16%) |  |
| Oeste Aguadilla/Mayaguez | 1,041 (15%) | 546 (15%) | 75 (16%) | 420 (15%) |  |
| Sureste Caguas | 953 (14%) | 499 (14%) | 61 (13%) | 393 (14%) |  |
| Sur Ponce | 1,018 (15%) | 582 (16%) | 75 (16%) | 361 (13%) |  |
| Norte Arecibo | 833 (12%) | 418 (11%) | 55 (12%) | 360 (13%) |  |
| Este Fajardo | 270 (3.9%) | 140 (3.9%) | 18 (3.8%) | 112 (4.0%) |  |
| County Unknown | 5 (<0.1%) | 1 (<0.1%) | 0 (0%) | 4 (0.1%) |  |
| Marital Status |  |  |  |  | <0.001 |
| Married | 2,996 (44%) | 1,700 (47%) | 159 (34%) | 1,137 (41%) |  |
| Unmarried | 3,242 (47%) | 1,629 (45%) | 263 (56%) | 1,350 (49%) |  |
| Unknown | 643 (9.3%) | 307 (8.4%) | 48 (10%) | 288 (10%) |  |
| Treatment |  |  |  |  | <0.001 |
| Surgery Only | 1,066 (15%) | 436 (12%) | 105 (22%) | 525 (19%) |  |
| Chemotherapy Only | 686 (10.0%) | 492 (14%) | 23 (4.9%) | 171 (6.2%) |  |
| Radiotherapy Only | 889 (13%) | 321 (8.8%) | 80 (17%) | 488 (18%) |  |
| Chemotherapy and Radiotherapy | 1,753 (25%) | 1,156 (32%) | 74 (16%) | 523 (19%) |  |
| Other | 2,487 (36%) | 1,231 (34%) | 188 (40%) | 1,068 (38%) |  |
| Stage at Diagnosis |  |  |  |  | <0.001 |
| Distant | 621 (9.0%) | 490 (13%) | 10 (2.1%) | 121 (4.4%) |  |
| Localized | 2,893 (42%) | 1,042 (29%) | 300 (64%) | 1,551 (56%) |  |
| Regional | 2,980 (43%) | 1,895 (52%) | 137 (29%) | 948 (34%) |  |
| Unstaged | 387 (5.6%) | 209 (5.7%) | 23 (4.9%) | 155 (5.6%) |  |

## CVD SMR for PR BC Survivors with PR Population as Referent

| Observed | Expected | pyrs | SMR (95%) |
| --- | --- | --- | --- |
| 470 | 219 | 66378 | 2.1(2.0-2.3%) |

Table 2 CVD SMRs by Year of Death for BC Survivors in Puerto Rico Using PR Population as Referent

| deathyear | observed | expected | pyrs | sir | sir.lo | sir.hi | p\_value |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2005 | 0 | 1.7876 | 523.6932 | 0.0000 | 0.0000000 | 2.063593 | 0.99957 |
| 2006 | 7 | 5.0225 | 1472.4000 | 1.3937 | 0.5603510 | 2.871613 | 0.37976 |
| 2007 | 10 | 7.8021 | 2147.0603 | 1.2817 | 0.6146279 | 2.357103 | 0.43255 |
| 2008 | 10 | 9.8859 | 2799.4645 | 1.0115 | 0.4850736 | 1.860261 | 0.97105 |
| 2009 | 11 | 12.3280 | 3474.8575 | 0.8923 | 0.4454218 | 1.596531 | 0.70542 |
| 2010 | 19 | 14.9116 | 4094.0795 | 1.2742 | 0.7671371 | 1.989783 | 0.29089 |
| 2011 | 14 | 16.4184 | 4647.6904 | 0.8527 | 0.4661800 | 1.430689 | 0.55104 |
| 2012 | 26 | 17.3435 | 5112.0082 | 1.4991 | 0.9792754 | 2.196559 | 0.03897 |
| 2013 | 25 | 18.4390 | 5497.7507 | 1.3558 | 0.8774164 | 2.001461 | 0.12800 |
| 2014 | 33 | 19.5731 | 5453.1068 | 1.6860 | 1.1605561 | 2.367753 | 0.00269 |
| 2015 | 46 | 17.0879 | 5536.9260 | 2.6920 | 1.9708555 | 3.590702 | 0.00000 |
| 2016 | 28 | 18.0690 | 5496.6421 | 1.5496 | 1.0297082 | 2.239626 | 0.02046 |
| 2017 | 26 | 17.4810 | 5257.8055 | 1.4873 | 0.9715727 | 2.179282 | 0.04295 |
| 2018 | 45 | 14.7810 | 4893.2055 | 3.0445 | 2.2206420 | 4.073712 | 0.00000 |
| 2019 | 61 | 12.2768 | 4362.2493 | 4.9687 | 3.8006782 | 6.382531 | 0.00000 |
| 2020 | 57 | 10.2415 | 3528.8497 | 5.5656 | 4.2153243 | 7.210869 | 0.00000 |
| 2021 | 52 | 5.5307 | 2080.2000 | 9.4021 | 7.0219117 | 12.329557 | 0.00000 |

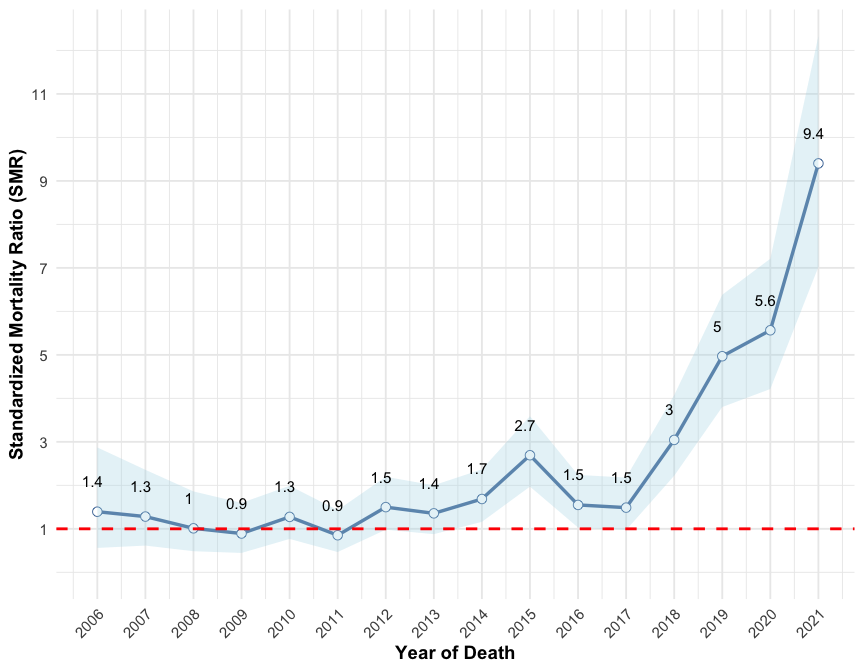
Figure 2 CVD SMRs by Year of Death for BC survivors in Puerto Rico Using PR population as Referent 

Table 3 CVD SMRs by Year of Death for BC Survivors in Puerto Rico Using PR Population as Referent

| Year of Death | Observed | Expected | SMR | CI.Lower | CI.Upper |
| --- | --- | --- | --- | --- | --- |
| 2005-2010 | 57 | 51.7377 | 1.101711 | 0.8344253 | 1.427395 |
| 2011-2016 | 172 | 106.9309 | 1.608515 | 1.3771058 | 1.867683 |
| 2017-2021 | 241 | 60.3110 | 3.995954 | 3.5073389 | 4.533596 |

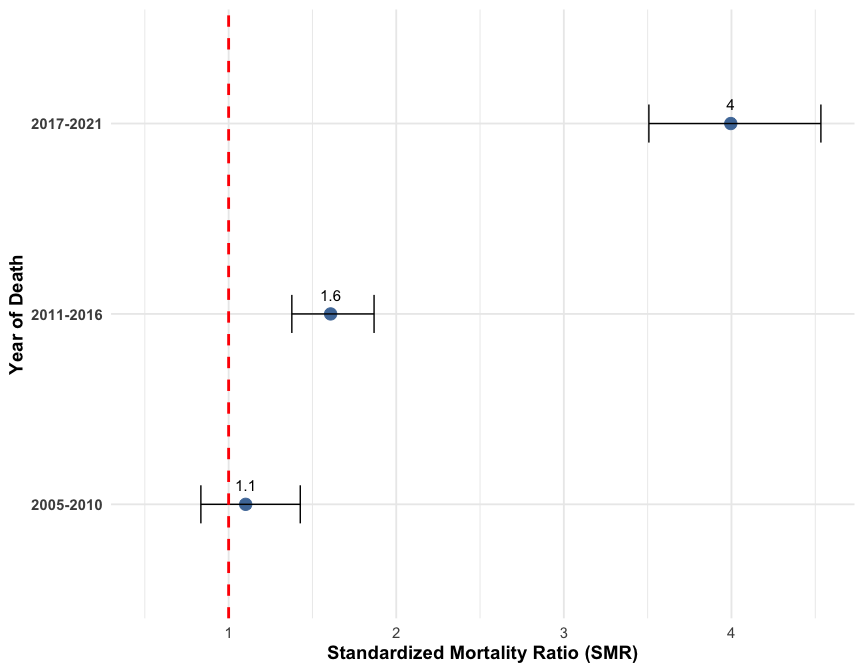
Figure 3 CVD SMRs by Year of Death for BC survivors in Puerto Rico Using PR population as Referent 

Table 4 CVD SMRs by Year of Diagnosis for BC Survivors in Puerto Rico Using PR Population as Referent

| ydiag | observed | expected | pyrs | sir | sir.lo | sir.hi | p\_value |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2004 | 45 | 30.0760 | 6945.3897 | 1.4962 | 1.091346 | 2.002046 | 0.00687 |
| 2005 | 41 | 25.4642 | 6888.3128 | 1.6101 | 1.155438 | 2.184287 | 0.00229 |
| 2006 | 40 | 22.6376 | 5938.2341 | 1.7670 | 1.262351 | 2.406114 | 0.00032 |
| 2007 | 47 | 23.9226 | 6237.3750 | 1.9647 | 1.443565 | 2.612594 | 0.00000 |
| 2008 | 37 | 21.6141 | 6084.2441 | 1.7118 | 1.205297 | 2.359554 | 0.00108 |
| 2009 | 45 | 17.3703 | 5354.7157 | 2.5906 | 1.889622 | 3.466465 | 0.00000 |
| 2010 | 33 | 16.7004 | 5409.2472 | 1.9760 | 1.360188 | 2.775039 | 0.00009 |
| 2011 | 35 | 14.3978 | 4762.5874 | 2.4309 | 1.693230 | 3.380831 | 0.00000 |
| 2012 | 27 | 11.7011 | 4093.9995 | 2.3075 | 1.520641 | 3.357256 | 0.00001 |
| 2013 | 26 | 9.8842 | 3749.2226 | 2.6305 | 1.718304 | 3.854234 | 0.00000 |
| 2014 | 19 | 7.6202 | 2853.5634 | 2.4934 | 1.501173 | 3.893711 | 0.00007 |
| 2015 | 19 | 6.1120 | 2587.7168 | 3.1086 | 1.871604 | 4.854524 | 0.00000 |
| 2016 | 21 | 4.3810 | 1985.2865 | 4.7934 | 2.967206 | 7.327261 | 0.00000 |
| 2017 | 13 | 3.1486 | 1506.9074 | 4.1289 | 2.198422 | 7.060407 | 0.00000 |
| 2018 | 11 | 2.6134 | 1232.3728 | 4.2090 | 2.101156 | 7.531200 | 0.00000 |
| 2019 | 11 | 1.3361 | 748.8141 | 8.2328 | 4.109842 | 14.730962 | 0.00000 |

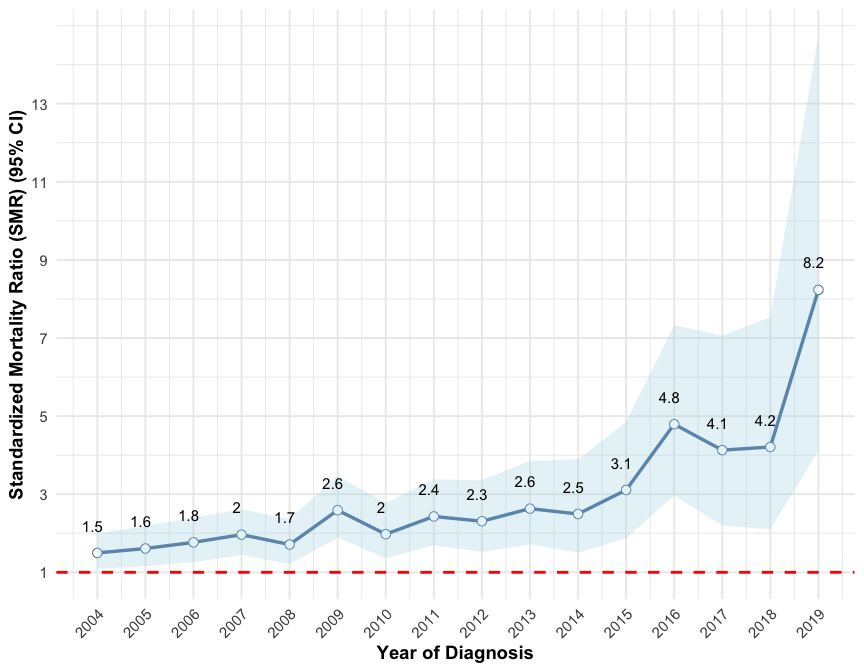
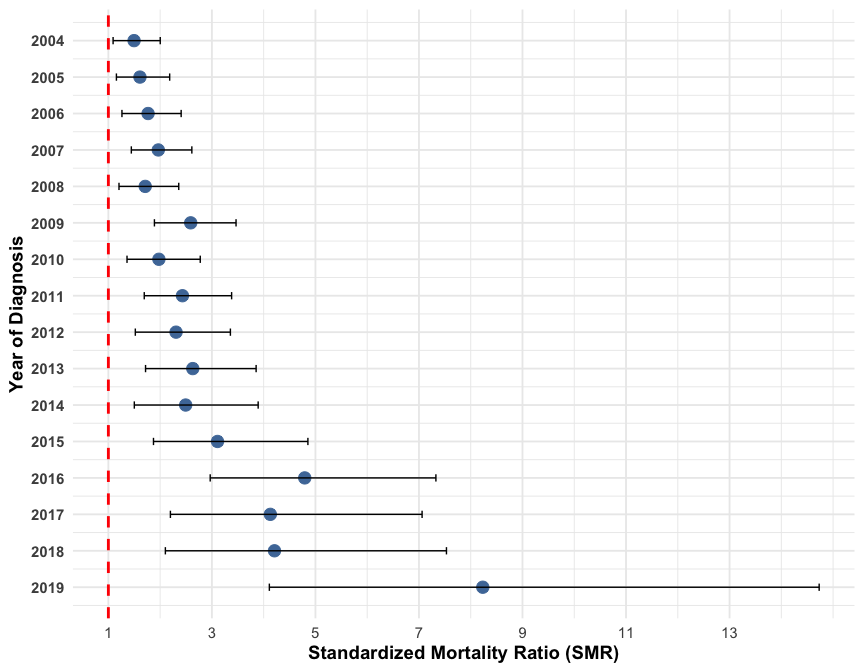
Figure 4 CVD SMRs by Year of Diagnosis for BC survivors in Puerto Rico Using PR population as Referent  V2: Figure 5 CVD SMRs by Year of Diagnosis for BC survivors in Puerto Rico Using PR population as Referent 

Table 5 CVD SMRs by Year of Diagnosis for BC Survivors in Puerto Rico Using PR Population as Referent

| Year of Diagnosis | Observed | Expected | SMR | CI.Lower | CI.Upper |
| --- | --- | --- | --- | --- | --- |
| 2004-2009 | 255 | 141.0848 | 1.807424 | 1.592372 | 2.043420 |
| 2010-2014 | 140 | 60.3037 | 2.321582 | 1.952958 | 2.739558 |
| 2015-2019 | 75 | 17.5911 | 4.263520 | 3.353529 | 5.344359 |

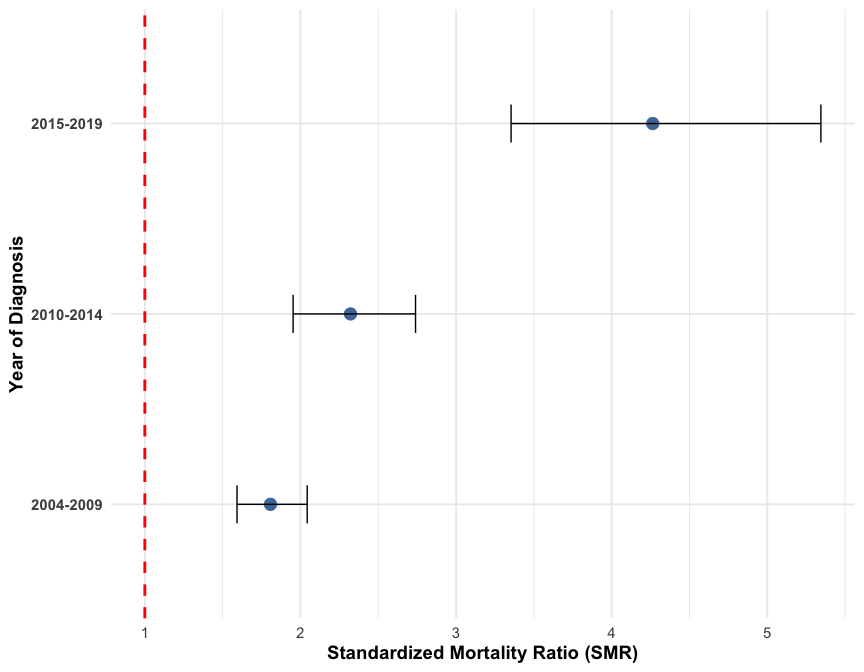
Figure 6 CVD SMRs by Year of Diagnosis for BC survivors in Puerto Rico Using PR population as Referent 

Table 6 CVD SMRs by Age for BC Survivors in Puerto Rico Using PR Population as Referent

| AgeDxCat | observed | expected | pyrs | sir | sir.lo | sir.hi | p\_value |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 18-39 | 2 | 0.3618 | 4335.471 | 5.5282 | 0.6694563 | 19.968733 | 0.0156 |
| 40-49 | 13 | 3.0177 | 11221.510 | 4.3079 | 2.2937842 | 7.366669 | 0.0000 |
| 50-59 | 31 | 10.3163 | 15789.738 | 3.0049 | 2.0417200 | 4.265291 | 0.0000 |
| 60-69 | 105 | 31.8479 | 17462.728 | 3.2969 | 2.6965545 | 3.991123 | 0.0000 |
| 70-79 | 160 | 92.2412 | 12236.839 | 1.7346 | 1.4762222 | 2.025151 | 0.0000 |
| 80+ | 159 | 81.1944 | 5331.703 | 1.9583 | 1.6657077 | 2.287411 | 0.0000 |

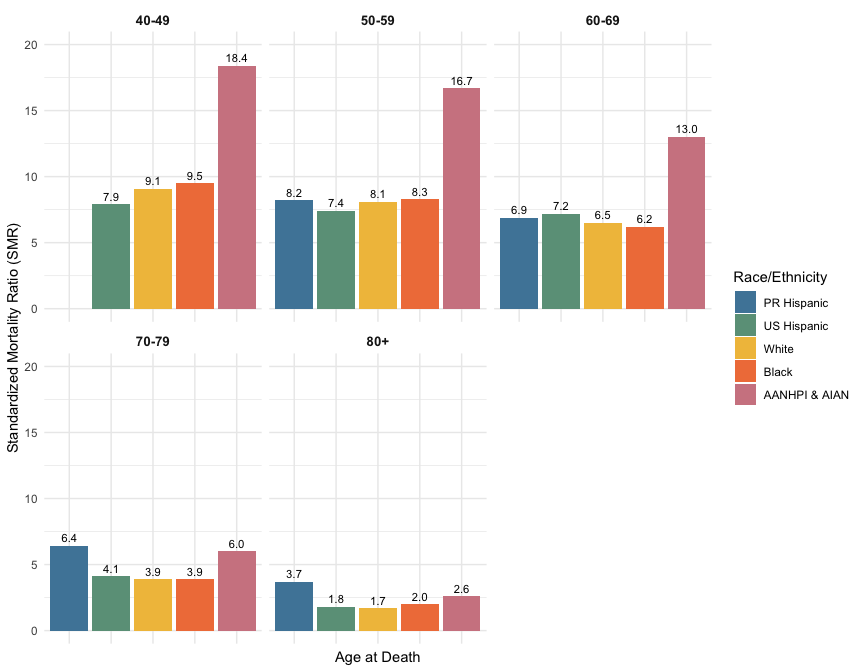
Figure 7 CVD SMRs by Age for BC survivors in Puerto Rico Using PR population as Referent 

Table 7 CVD SMRs by Initial Treatment Type for BC Survivors in Puerto Rico Using PR Population as Referent

| Procedure | observed | expected | pyrs | sir | sir.lo | sir.hi | p\_value |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Surgery Only | 105 | 49.4422 | 10255.05 | 2.1237 | 1.736970 | 2.570859 | 0e+00 |
| Chemotherapy Only | 23 | 10.0487 | 6180.92 | 2.2889 | 1.450937 | 3.434404 | 7e-05 |
| Radiotherapy Only | 80 | 45.8998 | 11781.60 | 1.7429 | 1.382033 | 2.169224 | 0e+00 |
| Chemotherapy and Radiotherapy | 74 | 30.7605 | 17319.30 | 2.4057 | 1.888978 | 3.020114 | 0e+00 |
| Other | 188 | 82.8283 | 20841.12 | 2.2698 | 1.956887 | 2.618421 | 0e+00 |

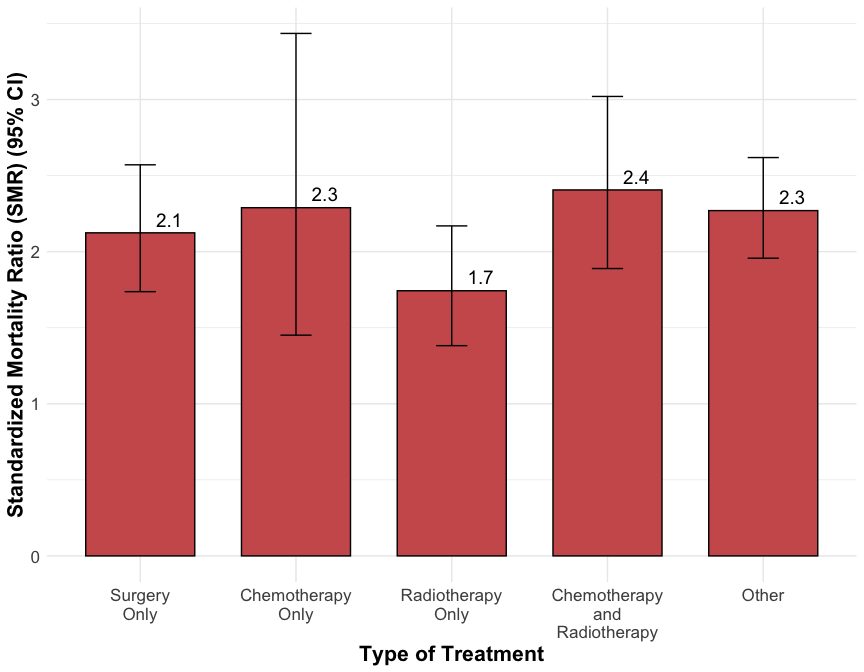
Figure 8 CVD SMRs by Initial Treatment Type for BC survivors in Puerto Rico Using PR population as Referent 

Table 8 CVD SMRs for BC Survivors in Puerto Rico and US Race/Ethnicity Groups Using US Population as Referent

| **PR Hispanic** | | | | **US Hispanic** | | | | **White** | | | | **Black** | | | | **AANHPI & AIAN** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI |
| 470 | 101.6 | 4.6 | (4.2 - 5.1) | 2,193 | 901.9 | 2.4 | (2.3 - 2.5) | 23,582 | 11,360.5 | 2.1 | (2.0 - 2.1) | 3,292 | 1,089.8 | 3.0 | (2.9 - 3.1) | 1,632 | 467.6 | 3.5 | (3.3 - 3.7) |
| SMRs were calculated as the observed number of cardiovascular disease deaths among breast cancer patients divided by the expected number of cardiovascular disease deaths in the race- and ethnic-matched general female U.S. population. SMR calculations for results with <10 events were suppressed. O = Observed; E = Expected; SMR = Standarized Mortality Ratio; AANHPI & AIAN encompasses: Asian American, Native Hawaiian and other Pacific Islanders along with American Indian/Alaska Natives. | | | | | | | | | | | | | | | | | | | |

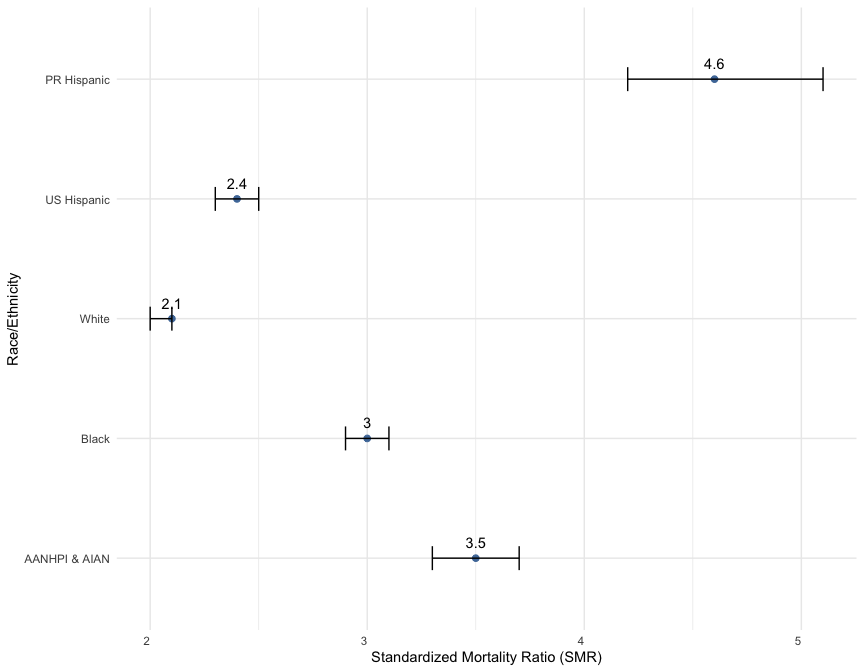
Figure 1 CVD SMRs for BC survivors in Puerto Rico and US Race/Ethnicity groups using US population as referent 

Table 9 CVD SMRs by Year of Death for BC Survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent

|  | **PR Hispanic** | | | | **US Hispanic** | | | | **White** | | | | **Black** | | | | **AANHPI & AIAN** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year of Death | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI |
| 2005 | <10 | - | - | - | <10 | - | - | - | 98 | 3.8 | 25.6 | (20.8 - 31.3) | 13 | 0.4 | 34.0 | (18.1 - 58.1) | <10 | - | - | - |
| 2006 | <10 | - | - | - | 24 | 1.7 | 13.9 | (8.9 - 20.8) | 280 | 26.3 | 10.6 | (9.4 - 12.0) | 49 | 3.5 | 13.9 | (10.3 - 18.4) | 19 | 0.6 | 31.5 | (18.9 - 49.1) |
| 2007 | 10 | 3.0 | 3.3 | (1.6 - 6.0) | 22 | 3.8 | 5.8 | (3.6 - 8.8) | 435 | 69.1 | 6.3 | (5.7 - 6.9) | 57 | 7.6 | 7.5 | (5.7 - 9.8) | 25 | 2.0 | 12.3 | (8.0 - 18.2) |
| 2008 | 10 | 4.0 | 2.5 | (1.2 - 4.6) | 61 | 9.0 | 6.8 | (5.2 - 8.7) | 600 | 115.6 | 5.2 | (4.8 - 5.6) | 77 | 14.8 | 5.2 | (4.1 - 6.5) | 31 | 3.1 | 9.9 | (6.8 - 14.1) |
| 2009 | 11 | 5.1 | 2.2 | (1.1 - 3.9) | 63 | 12.5 | 5.1 | (3.9 - 6.5) | 710 | 189.7 | 3.7 | (3.5 - 4.0) | 97 | 19.4 | 5.0 | (4.0 - 6.1) | 48 | 5.0 | 9.5 | (7.0 - 12.7) |
| 2010 | 19 | 5.9 | 3.2 | (1.9 - 5.0) | 76 | 18.6 | 4.1 | (3.2 - 5.1) | 970 | 259.1 | 3.7 | (3.5 - 4.0) | 134 | 26.7 | 5.0 | (4.2 - 5.9) | 63 | 7.6 | 8.2 | (6.3 - 10.6) |
| 2011 | 14 | 6.8 | 2.1 | (1.1 - 3.5) | 79 | 23.7 | 3.3 | (2.6 - 4.2) | 1,071 | 354.9 | 3.0 | (2.8 - 3.2) | 158 | 38.3 | 4.1 | (3.5 - 4.8) | 55 | 11.0 | 5.0 | (3.8 - 6.5) |
| 2012 | 26 | 7.5 | 3.5 | (2.3 - 5.1) | 108 | 28.2 | 3.8 | (3.1 - 4.6) | 1,226 | 457.9 | 2.7 | (2.5 - 2.8) | 169 | 42.3 | 4.0 | (3.4 - 4.6) | 83 | 13.8 | 6.0 | (4.8 - 7.5) |
| 2013 | 25 | 8.4 | 3.0 | (1.9 - 4.4) | 91 | 39.8 | 2.3 | (1.8 - 2.8) | 1,364 | 563.0 | 2.4 | (2.3 - 2.5) | 188 | 49.9 | 3.8 | (3.2 - 4.3) | 70 | 18.5 | 3.8 | (3.0 - 4.8) |
| 2014 | 33 | 8.6 | 3.9 | (2.7 - 5.4) | 119 | 45.1 | 2.6 | (2.2 - 3.2) | 1,514 | 652.7 | 2.3 | (2.2 - 2.4) | 194 | 58.7 | 3.3 | (2.9 - 3.8) | 90 | 22.7 | 4.0 | (3.2 - 4.9) |
| 2015 | 46 | 9.0 | 5.1 | (3.8 - 6.8) | 150 | 57.1 | 2.6 | (2.2 - 3.1) | 1,784 | 812.7 | 2.2 | (2.1 - 2.3) | 226 | 71.6 | 3.1 | (2.8 - 3.6) | 111 | 33.3 | 3.3 | (2.7 - 4.0) |
| 2016 | 28 | 8.7 | 3.2 | (2.1 - 4.6) | 190 | 72.9 | 2.6 | (2.2 - 3.0) | 1,957 | 947.6 | 2.1 | (2.0 - 2.2) | 246 | 85.3 | 2.9 | (2.5 - 3.3) | 137 | 34.2 | 4.0 | (3.4 - 4.7) |
| 2017 | 26 | 8.5 | 3.0 | (2.0 - 4.5) | 199 | 88.8 | 2.2 | (1.9 - 2.6) | 2,124 | 1,106.1 | 1.9 | (1.8 - 2.0) | 279 | 104.3 | 2.7 | (2.4 - 3.0) | 162 | 46.0 | 3.5 | (3.0 - 4.1) |
| 2018 | 45 | 7.9 | 5.7 | (4.2 - 7.7) | 211 | 93.0 | 2.3 | (2.0 - 2.6) | 2,185 | 1,239.4 | 1.8 | (1.7 - 1.8) | 330 | 112.5 | 2.9 | (2.6 - 3.3) | 160 | 52.3 | 3.1 | (2.6 - 3.6) |
| 2019 | 61 | 6.8 | 9.0 | (6.9 - 11.5) | 233 | 112.8 | 2.1 | (1.8 - 2.4) | 2,307 | 1,309.0 | 1.8 | (1.7 - 1.8) | 350 | 127.3 | 2.8 | (2.5 - 3.0) | 182 | 66.7 | 2.7 | (2.4 - 3.1) |
| 2020 | 57 | 5.6 | 10.2 | (7.8 - 13.3) | 264 | 135.1 | 1.9 | (1.7 - 2.2) | 2,469 | 1,599.8 | 1.5 | (1.5 - 1.6) | 339 | 160.0 | 2.1 | (1.9 - 2.4) | 184 | 74.1 | 2.5 | (2.1 - 2.9) |
| 2021 | 52 | 3.1 | 17.0 | (12.7 - 22.3) | 294 | 159.4 | 1.8 | (1.6 - 2.1) | 2,488 | 1,653.7 | 1.5 | (1.4 - 1.6) | 386 | 167.1 | 2.3 | (2.1 - 2.5) | 206 | 76.5 | 2.7 | (2.3 - 3.1) |
| SMRs were calculated as the observed number of cardiovascular disease deaths among breast cancer patients divided by the expected number of cardiovascular disease deaths in the race- and ethnic-matched general female U.S. population. SMR calculations for results with <10 events were suppressed. O = Observed; E = Expected; SMR = Standarized Mortality Ratio; AANHPI & AIAN encompasses: Asian American, Native Hawaiian and other Pacific Islanders along with American Indian/Alaska Natives. | | | | | | | | | | | | | | | | | | | | |

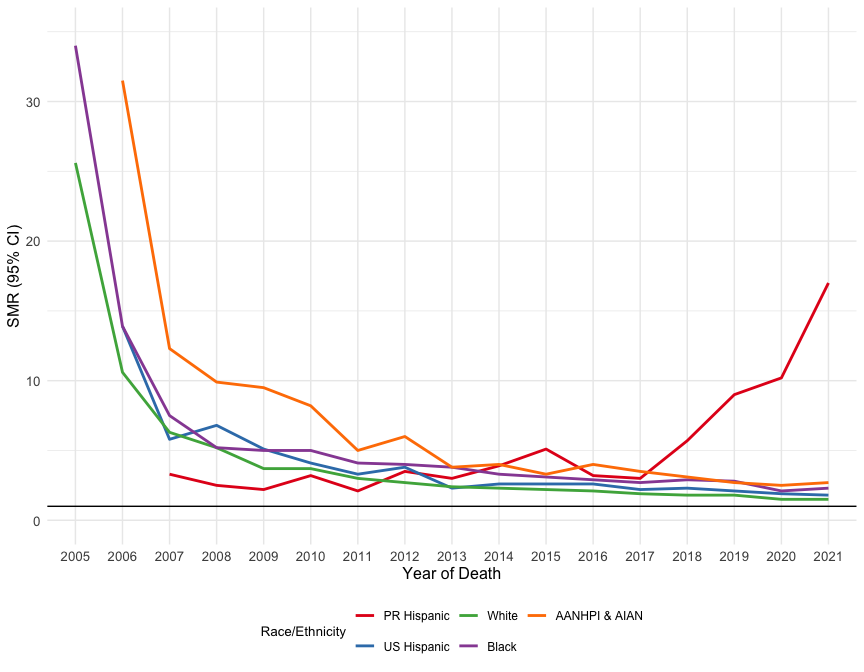
Figure 2 CVD SMRs by Year of Death for BC survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent 

Table 10 CVD SMRs by Year of Death for BC Survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent

|  | **PR Hispanic** | | | | **US Hispanic** | | | | **White** | | | | **Black** | | | | **AANHPI & AIAN** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year of Death | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI |
| 2005-2010 | 57 | 20.8 | 2.7 | (2.1 - 3.5) | 255 | 46.0 | 5.5 | (4.9 - 6.3) | 3,093 | 663.6 | 4.7 | (4.5 - 4.8) | 427 | 72.4 | 5.9 | (5.4 - 6.5) | 192 | 18.5 | 10.4 | (9.0 - 11.9) |
| 2011-2016 | 172 | 49.0 | 3.5 | (3.0 - 4.1) | 737 | 266.8 | 2.8 | (2.6 - 3.0) | 8,916 | 3,788.8 | 2.4 | (2.3 - 2.4) | 1,181 | 346.1 | 3.4 | (3.2 - 3.6) | 546 | 133.5 | 4.1 | (3.8 - 4.4) |
| 2017-2021 | 241 | 31.8 | 7.6 | (6.6 - 8.6) | 1,201 | 589.1 | 2.0 | (1.9 - 2.2) | 11,573 | 6,908.0 | 1.7 | (1.6 - 1.7) | 1,684 | 671.2 | 2.5 | (2.4 - 2.6) | 894 | 315.5 | 2.8 | (2.7 - 3.0) |
| SMRs were calculated as the observed number of cardiovascular disease deaths among breast cancer patients divided by the expected number of cardiovascular disease deaths in the race- and ethnic-matched general female U.S. population. SMR calculations for results with <10 events were suppressed. O = Observed; E = Expected; SMR = Standarized Mortality Ratio; AANHPI & AIAN encompasses: Asian American, Native Hawaiian and other Pacific Islanders along with American Indian/Alaska Natives. | | | | | | | | | | | | | | | | | | | | |

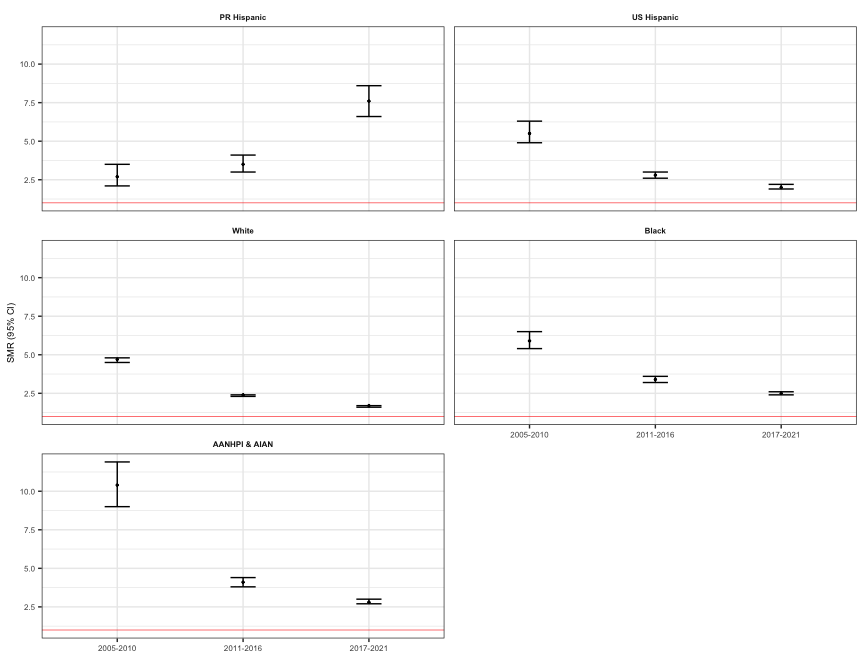
Figure 3 CVD SMRs by Year of Death for BC survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent 

Table 11 CVD SMRs by Year of Diagnosis for BC Survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent

|  | **PR Hispanic** | | | | **US Hispanic** | | | | **White** | | | | **Black** | | | | **AANHPI & AIAN** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year of Diagnosis | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI |
| 2004 | 45 | 13.0 | 3.4 | (2.5 - 4.6) | 227 | 124.8 | 1.8 | (1.6 - 2.1) | 2,927 | 1,858.3 | 1.6 | (1.5 - 1.6) | 340 | 154.5 | 2.2 | (2.0 - 2.5) | 162 | 62.9 | 2.6 | (2.2 - 3.0) |
| 2005 | 41 | 11.1 | 3.7 | (2.7 - 5.0) | 246 | 128.6 | 1.9 | (1.7 - 2.2) | 2,695 | 1,611.2 | 1.7 | (1.6 - 1.7) | 317 | 129.5 | 2.5 | (2.2 - 2.7) | 181 | 64.7 | 2.8 | (2.4 - 3.2) |
| 2006 | 40 | 9.9 | 4.0 | (2.9 - 5.5) | 189 | 97.0 | 2.0 | (1.7 - 2.2) | 2,510 | 1,437.0 | 1.8 | (1.7 - 1.8) | 306 | 122.7 | 2.5 | (2.2 - 2.8) | 158 | 51.9 | 3.0 | (2.6 - 3.6) |
| 2007 | 47 | 10.8 | 4.4 | (3.2 - 5.8) | 190 | 96.5 | 2.0 | (1.7 - 2.3) | 2,304 | 1,269.1 | 1.8 | (1.7 - 1.9) | 278 | 115.4 | 2.4 | (2.1 - 2.7) | 154 | 53.0 | 2.9 | (2.5 - 3.4) |
| 2008 | 37 | 9.8 | 3.8 | (2.7 - 5.2) | 182 | 82.0 | 2.2 | (1.9 - 2.6) | 2,058 | 1,092.4 | 1.9 | (1.8 - 2.0) | 286 | 111.5 | 2.6 | (2.3 - 2.9) | 143 | 47.0 | 3.0 | (2.6 - 3.6) |
| 2009 | 45 | 8.0 | 5.6 | (4.1 - 7.5) | 187 | 70.8 | 2.6 | (2.3 - 3.0) | 1,952 | 956.3 | 2.0 | (2.0 - 2.1) | 269 | 87.3 | 3.1 | (2.7 - 3.5) | 126 | 41.2 | 3.1 | (2.5 - 3.6) |
| 2010 | 33 | 7.9 | 4.2 | (2.9 - 5.8) | 168 | 60.7 | 2.8 | (2.4 - 3.2) | 1,700 | 773.2 | 2.2 | (2.1 - 2.3) | 230 | 80.0 | 2.9 | (2.5 - 3.3) | 123 | 32.4 | 3.8 | (3.2 - 4.5) |
| 2011 | 35 | 7.0 | 5.0 | (3.5 - 7.0) | 150 | 60.4 | 2.5 | (2.1 - 2.9) | 1,521 | 637.1 | 2.4 | (2.3 - 2.5) | 209 | 67.5 | 3.1 | (2.7 - 3.5) | 118 | 28.6 | 4.1 | (3.4 - 4.9) |
| 2012 | 27 | 5.8 | 4.7 | (3.1 - 6.8) | 132 | 45.9 | 2.9 | (2.4 - 3.4) | 1,321 | 511.4 | 2.6 | (2.5 - 2.7) | 210 | 62.7 | 3.4 | (2.9 - 3.8) | 106 | 24.3 | 4.4 | (3.6 - 5.3) |
| 2013 | 26 | 5.0 | 5.2 | (3.4 - 7.6) | 127 | 41.1 | 3.1 | (2.6 - 3.7) | 1,112 | 396.4 | 2.8 | (2.6 - 3.0) | 194 | 50.9 | 3.8 | (3.3 - 4.4) | 103 | 21.4 | 4.8 | (3.9 - 5.8) |
| 2014 | 19 | 3.9 | 4.8 | (2.9 - 7.5) | 114 | 34.2 | 3.3 | (2.8 - 4.0) | 977 | 284.9 | 3.4 | (3.2 - 3.6) | 152 | 35.1 | 4.3 | (3.7 - 5.1) | 66 | 13.7 | 4.8 | (3.7 - 6.1) |
| 2015 | 19 | 3.2 | 6.0 | (3.6 - 9.4) | 95 | 23.6 | 4.0 | (3.3 - 4.9) | 817 | 221.7 | 3.7 | (3.4 - 4.0) | 149 | 28.2 | 5.3 | (4.5 - 6.2) | 58 | 10.8 | 5.4 | (4.1 - 7.0) |
| 2016 | 21 | 2.3 | 9.0 | (5.6 - 13.8) | 58 | 15.9 | 3.6 | (2.8 - 4.7) | 648 | 151.1 | 4.3 | (4.0 - 4.6) | 120 | 19.2 | 6.2 | (5.2 - 7.5) | 54 | 7.3 | 7.4 | (5.5 - 9.6) |
| 2017 | 13 | 1.7 | 7.6 | (4.0 - 12.9) | 54 | 11.4 | 4.7 | (3.6 - 6.2) | 458 | 89.1 | 5.1 | (4.7 - 5.6) | 117 | 14.3 | 8.2 | (6.8 - 9.8) | 37 | 4.3 | 8.6 | (6.0 - 11.8) |
| 2018 | 11 | 1.4 | 7.7 | (3.8 - 13.7) | 45 | 6.2 | 7.2 | (5.3 - 9.7) | 376 | 51.8 | 7.3 | (6.6 - 8.0) | 72 | 8.2 | 8.8 | (6.9 - 11.1) | 24 | 2.8 | 8.7 | (5.6 - 12.9) |
| 2019 | 11 | 0.7 | 14.9 | (7.4 - 26.7) | 29 | 2.8 | 10.3 | (6.9 - 14.7) | 206 | 19.4 | 10.6 | (9.2 - 12.2) | 43 | 3.0 | 14.4 | (10.4 - 19.4) | 19 | 1.3 | 14.5 | (8.8 - 22.7) |
| SMRs were calculated as the observed number of cardiovascular disease deaths among breast cancer patients divided by the expected number of cardiovascular disease deaths in the race- and ethnic-matched general female U.S. population. SMR calculations for results with <10 events were suppressed. O = Observed; E = Expected; SMR = Standarized Mortality Ratio; AANHPI & AIAN encompasses: Asian American, Native Hawaiian and other Pacific Islanders along with American Indian/Alaska Natives. | | | | | | | | | | | | | | | | | | | | |

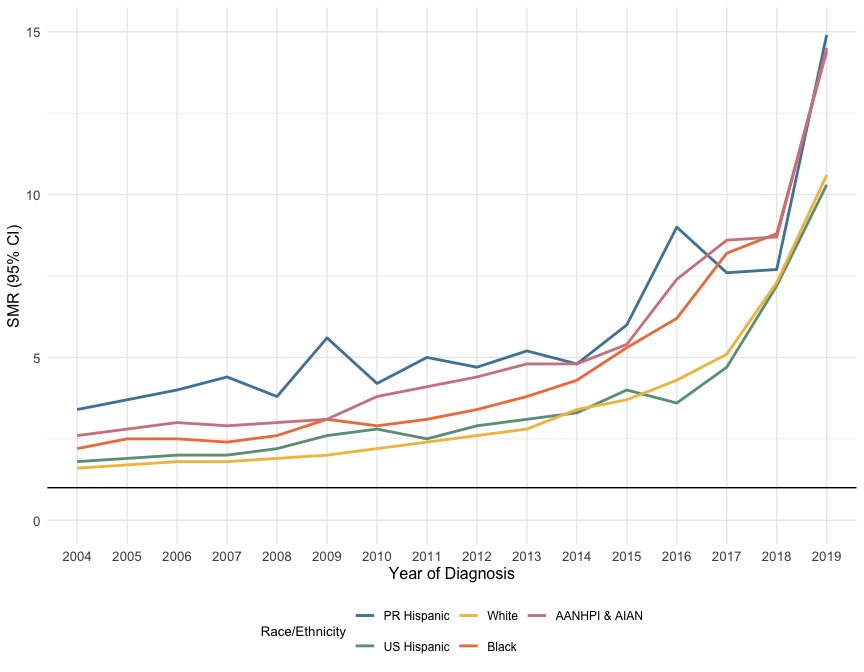
Figure 4 CVD SMRs by Year of Diagnosis for BC survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent 

Table 12 CVD SMRs by Year of Diagnosis for BC Survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent

|  | **PR Hispanic** | | | | **US Hispanic** | | | | **White** | | | | **Black** | | | | **AANHPI & AIAN** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year of Diagnosis | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI |
| 2004-2009 | 255 | 62.6 | 4.1 | (3.6 - 4.6) | 1,221 | 599.8 | 2.0 | (1.9 - 2.2) | 14,446 | 8,224.3 | 1.8 | (1.7 - 1.8) | 1,796 | 720.8 | 2.5 | (2.4 - 2.6) | 924 | 320.6 | 2.9 | (2.7 - 3.1) |
| 2010-2015 | 159 | 32.8 | 4.9 | (4.1 - 5.7) | 786 | 265.8 | 3.0 | (2.8 - 3.2) | 7,448 | 2,824.7 | 2.6 | (2.6 - 2.7) | 1,144 | 324.3 | 3.5 | (3.3 - 3.7) | 574 | 131.3 | 4.4 | (4.0 - 4.7) |
| 2016-2021 | 56 | 6.2 | 9.0 | (6.8 - 11.7) | 186 | 36.3 | 5.1 | (4.4 - 5.9) | 1,688 | 311.4 | 5.4 | (5.2 - 5.7) | 352 | 44.7 | 7.9 | (7.1 - 8.7) | 134 | 15.7 | 8.5 | (7.2 - 10.1) |
| SMRs were calculated as the observed number of cardiovascular disease deaths among breast cancer patients divided by the expected number of cardiovascular disease deaths in the race- and ethnic-matched general female U.S. population. SMR calculations for results with <10 events were suppressed. O = Observed; E = Expected; SMR = Standarized Mortality Ratio; AANHPI & AIAN encompasses: Asian American, Native Hawaiian and other Pacific Islanders along with American Indian/Alaska Natives. | | | | | | | | | | | | | | | | | | | | |

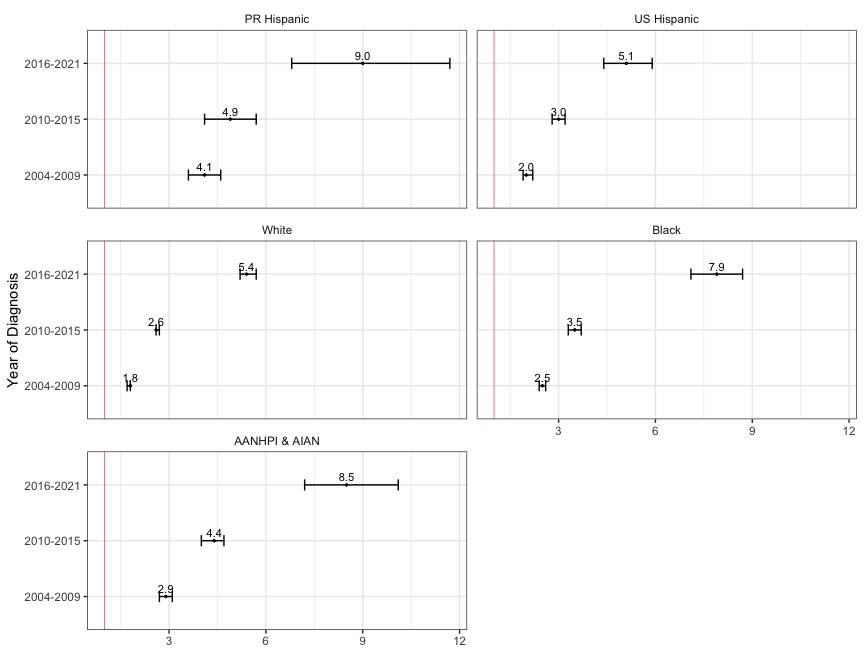
Figure 5 CVD SMRs by Year of Diagnosis for BC survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent 

Table 13 CVD SMRs by Age at Diagnosis for BC Survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent

|  | **PR Hispanic** | | | | **US Hispanic** | | | | **White** | | | | **Black** | | | | **AANHPI & AIAN** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Age at Diagnosis | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI |
| 18-39 | <10 | - | - | - | 15 | 1.1 | 13.2 | (7.4 - 21.8) | 43 | 2.9 | 14.8 | (10.7 - 19.9) | 40 | 2.6 | 15.6 | (11.2 - 21.3) | 12 | 0.3 | 36.3 | (18.8 - 63.4) |
| 40-49 | 13 | 1.5 | 8.4 | (4.5 - 14.4) | 63 | 7.2 | 8.8 | (6.7 - 11.2) | 299 | 28.0 | 10.7 | (9.5 - 12.0) | 206 | 17.8 | 11.6 | (10.1 - 13.3) | 43 | 2.2 | 19.3 | (14.0 - 26.0) |
| 50-59 | 31 | 5.1 | 6.0 | (4.1 - 8.5) | 189 | 23.4 | 8.1 | (7.0 - 9.3) | 1,190 | 138.2 | 8.6 | (8.1 - 9.1) | 490 | 64.2 | 7.6 | (7.0 - 8.3) | 157 | 9.1 | 17.2 | (14.6 - 20.1) |
| 60-69 | 105 | 15.2 | 6.9 | (5.7 - 8.4) | 493 | 79.0 | 6.2 | (5.7 - 6.8) | 3,665 | 663.6 | 5.5 | (5.3 - 5.7) | 774 | 157.2 | 4.9 | (4.6 - 5.3) | 295 | 32.9 | 9.0 | (8.0 - 10.1) |
| 70-79 | 160 | 42.8 | 3.7 | (3.2 - 4.4) | 710 | 316.1 | 2.2 | (2.1 - 2.4) | 7,610 | 3,500.8 | 2.2 | (2.1 - 2.2) | 971 | 361.6 | 2.7 | (2.5 - 2.9) | 541 | 153.2 | 3.5 | (3.2 - 3.8) |
| 80+ | 159 | 36.8 | 4.3 | (3.7 - 5.0) | 723 | 475.1 | 1.5 | (1.4 - 1.6) | 10,775 | 7,027.0 | 1.5 | (1.5 - 1.6) | 811 | 486.5 | 1.7 | (1.6 - 1.8) | 584 | 269.9 | 2.2 | (2.0 - 2.4) |
| SMRs were calculated as the observed number of cardiovascular disease deaths among breast cancer patients divided by the expected number of cardiovascular disease deaths in the race- and ethnic-matched general female U.S. population. SMR calculations for results with <10 events were suppressed. O = Observed; E = Expected; SMR = Standarized Mortality Ratio; AANHPI & AIAN encompasses: Asian American, Native Hawaiian and other Pacific Islanders along with American Indian/Alaska Natives. | | | | | | | | | | | | | | | | | | | | |

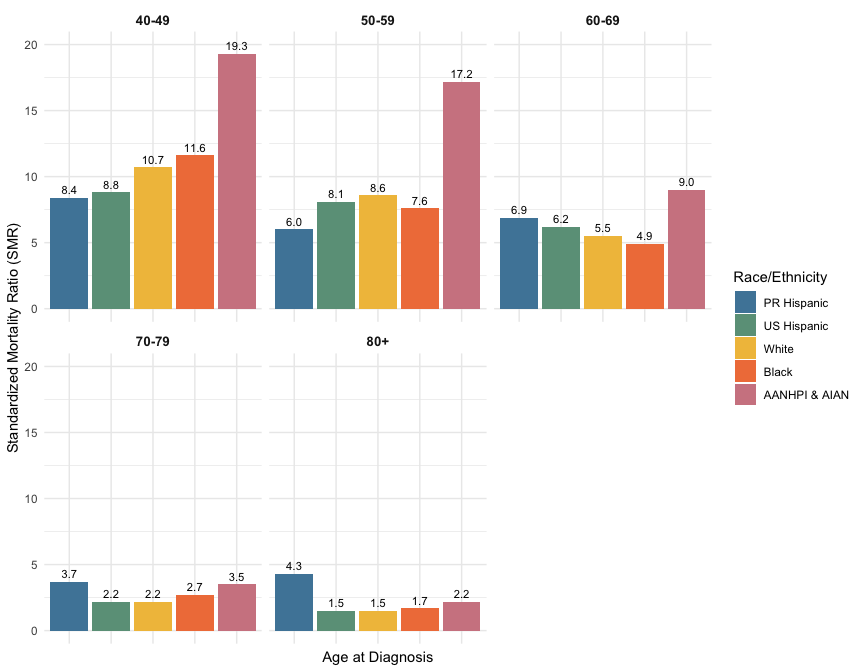
Figure 6 CVD SMRs by Age at Diagnosis for BC survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent 

Table 14 CVD SMRs by Age at Death for BC Survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent

|  | **PR Hispanic** | | | | **US Hispanic** | | | | **White** | | | | **Black** | | | | **AANHPI & AIAN** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Age Group | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI |
| 18-39 | <10 | - | - | - | <10 | - | - | - | 16 | 0.8 | 21.3 | (12.2 - 34.6) | 15 | 0.8 | 18.9 | (10.6 - 31.2) | <10 | - | - | - |
| 40-49 | <10 | - | - | - | 25 | 3.1 | 7.9 | (5.1 - 11.7) | 87 | 9.6 | 9.1 | (7.3 - 11.2) | 72 | 7.6 | 9.5 | (7.4 - 12.0) | 17 | 0.9 | 18.4 | (10.7 - 29.5) |
| 50-59 | 21 | 2.6 | 8.2 | (5.1 - 12.5) | 94 | 12.7 | 7.4 | (6.0 - 9.1) | 471 | 58.5 | 8.1 | (7.3 - 8.8) | 296 | 35.5 | 8.3 | (7.4 - 9.3) | 72 | 4.3 | 16.7 | (13.0 - 21.0) |
| 60-69 | 53 | 7.7 | 6.9 | (5.2 - 9.1) | 269 | 37.2 | 7.2 | (6.4 - 8.1) | 1,693 | 262.0 | 6.5 | (6.2 - 6.8) | 591 | 96.1 | 6.2 | (5.7 - 6.7) | 198 | 15.3 | 13.0 | (11.2 - 14.9) |
| 70-79 | 123 | 19.3 | 6.4 | (5.3 - 7.6) | 516 | 126.6 | 4.1 | (3.7 - 4.4) | 4,556 | 1,171.2 | 3.9 | (3.8 - 4.0) | 865 | 222.2 | 3.9 | (3.6 - 4.2) | 337 | 56.0 | 6.0 | (5.4 - 6.7) |
| 80+ | 267 | 71.6 | 3.7 | (3.3 - 4.2) | 1,285 | 721.9 | 1.8 | (1.7 - 1.9) | 16,759 | 9,858.4 | 1.7 | (1.7 - 1.7) | 1,453 | 727.6 | 2.0 | (1.9 - 2.1) | 1,005 | 391.0 | 2.6 | (2.4 - 2.7) |
| SMRs were calculated as the observed number of cardiovascular disease deaths among breast cancer patients divided by the expected number of cardiovascular disease deaths in the race- and ethnic-matched general female U.S. population. SMR calculations for results with <10 events were suppressed. O = Observed; E = Expected; SMR = Standarized Mortality Ratio; AANHPI & AIAN encompasses: Asian American, Native Hawaiian and other Pacific Islanders along with American Indian/Alaska Natives. | | | | | | | | | | | | | | | | | | | | |

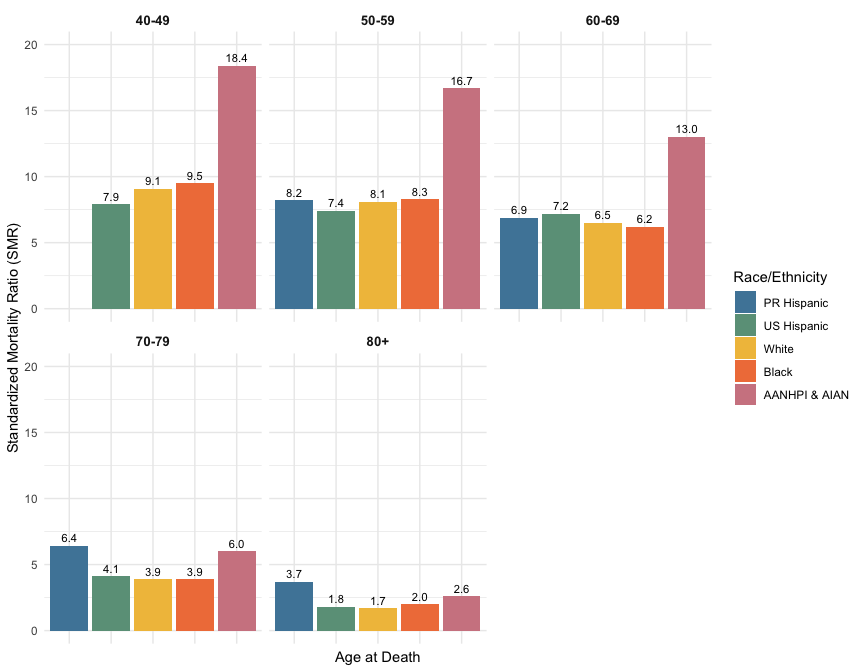
Figure 7 CVD SMRs by Age at Death for BC survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent 

Table 15 CVD SMRs by Stage for BC Survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent

|  | **PR Hispanic** | | | | **US Hispanic** | | | | **White** | | | | **Black** | | | | **AANHPI & AIAN** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Stage | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI |
| Localized | 300 | 63.9 | 4.7 | (4.2 - 5.3) | 1,417 | 603.3 | 2.4 | (2.2 - 2.5) | 16,604 | 8,124.6 | 2.0 | (2.0 - 2.1) | 1,957 | 683.5 | 2.9 | (2.7 - 3.0) | 1,108 | 323.0 | 3.4 | (3.2 - 3.6) |
| Regional | 137 | 30.2 | 4.5 | (3.8 - 5.4) | 685 | 247.5 | 2.8 | (2.6 - 3.0) | 6,008 | 2,720.3 | 2.2 | (2.1 - 2.3) | 1,138 | 334.9 | 3.4 | (3.2 - 3.6) | 441 | 120.5 | 3.7 | (3.3 - 4.0) |
| Distant | 10 | 2.7 | 3.7 | (1.8 - 6.9) | 47 | 28.0 | 1.7 | (1.2 - 2.2) | 516 | 277.0 | 1.9 | (1.7 - 2.0) | 131 | 37.5 | 3.5 | (2.9 - 4.1) | 53 | 13.9 | 3.8 | (2.9 - 5.0) |
| Unknown/unstaged | 23 | - | - | - | 44 | - | - | - | 454 | - | - | - | 66 | - | - | - | 30 | - | - | - |
| SMRs were calculated as the observed number of cardiovascular disease deaths among breast cancer patients divided by the expected number of cardiovascular disease deaths in the race- and ethnic-matched general female U.S. population. SMR calculations for results with <10 events were suppressed. O = Observed; E = Expected; SMR = Standarized Mortality Ratio; AANHPI & AIAN encompasses: Asian American, Native Hawaiian and other Pacific Islanders along with American Indian/Alaska Natives. | | | | | | | | | | | | | | | | | | | | |

Table 16 CVD SMRs by Treatment for BC Survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent

|  | **PR Hispanic** | | | | **US Hispanic** | | | | **White** | | | | **Black** | | | | **AANHPI & AIAN** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Treatment | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI |
| Surgery Only | 105 | 22.5 | 4.7 | (3.8 - 5.6) | 1,015 | 436.5 | 2.3 | (2.2 - 2.5) | 11,353 | 5,716.7 | 2.0 | (2.0 - 2.0) | 1,287 | 488.9 | 2.6 | (2.5 - 2.8) | 724 | 230.2 | 3.1 | (2.9 - 3.4) |
| Chemotherapy Only | 23 | 4.8 | 4.8 | (3.0 - 7.2) | 245 | 67.3 | 3.6 | (3.2 - 4.1) | 1,621 | 539.3 | 3.0 | (2.9 - 3.2) | 512 | 114.6 | 4.5 | (4.1 - 4.9) | 151 | 28.7 | 5.3 | (4.5 - 6.2) |
| Radiotherapy Only | 80 | 21.0 | 3.8 | (3.0 - 4.7) | 513 | 248.7 | 2.1 | (1.9 - 2.2) | 6,961 | 3,715.9 | 1.9 | (1.8 - 1.9) | 707 | 257.3 | 2.8 | (2.5 - 3.0) | 440 | 143.0 | 3.1 | (2.8 - 3.4) |
| Chemotherapy and Radiotherapy | 74 | 14.5 | 5.1 | (4.0 - 6.4) | 245 | 71.6 | 3.4 | (3.0 - 3.9) | 1,957 | 650.0 | 3.0 | (2.9 - 3.1) | 522 | 125.7 | 4.2 | (3.8 - 4.5) | 191 | 35.5 | 5.4 | (4.6 - 6.2) |
| Other | 188 | 38.8 | 4.8 | (4.2 - 5.6) | 175 | 77.9 | 2.2 | (1.9 - 2.6) | 1,690 | 738.6 | 2.3 | (2.2 - 2.4) | 264 | 103.4 | 2.5 | (2.2 - 2.9) | 126 | 30.2 | 4.2 | (3.5 - 5.0) |
| SMRs were calculated as the observed number of cardiovascular disease deaths among breast cancer patients divided by the expected number of cardiovascular disease deaths in the race- and ethnic-matched general female U.S. population. SMR calculations for results with <10 events were suppressed. O = Observed; E = Expected; SMR = Standarized Mortality Ratio; AANHPI & AIAN encompasses: Asian American, Native Hawaiian and other Pacific Islanders along with American Indian/Alaska Natives. | | | | | | | | | | | | | | | | | | | | |

Table 17 CVD SMRs by Stage and Treatment for BC Survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent

|  | **PR Hispanic** | | | | **US Hispanic** | | | | **White** | | | | **Black** | | | | **AANHPI & AIAN** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Stage | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI |
| **Surgery Only** | | | | | | | | | | | | | | | | | | | | |
| Localized | 77 | 15.9 | 4.8 | (3.8 - 6.1) | 759 | 331.0 | 2.3 | (2.1 - 2.5) | 8,791 | 4,463.9 | 2.0 | (1.9 - 2.0) | 925 | 357.4 | 2.6 | (2.4 - 2.8) | 561 | 174.2 | 3.2 | (3.0 - 3.5) |
| Regional | 24 | 5.7 | 4.2 | (2.7 - 6.3) | 245 | 96.8 | 2.5 | (2.2 - 2.9) | 2,379 | 1,150.0 | 2.1 | (2.0 - 2.1) | 338 | 119.5 | 2.8 | (2.5 - 3.1) | 147 | 51.4 | 2.9 | (2.4 - 3.4) |
| Distant | <10 | - | - | - | <10 | - | - | - | 80 | 47.7 | 1.7 | (1.3 - 2.1) | 12 | 3.3 | 3.7 | (1.9 - 6.4) | <10 | - | - | - |
| **Chemotherapy Only** | | | | | | | | | | | | | | | | | | | | |
| Localized | 10 | 1.8 | 5.4 | (2.6 - 10.0) | 70 | 21.2 | 3.3 | (2.6 - 4.2) | 650 | 186.8 | 3.5 | (3.2 - 3.8) | 176 | 37.6 | 4.7 | (4.0 - 5.4) | 52 | 9.6 | 5.4 | (4.1 - 7.1) |
| Regional | 10 | 2.5 | 4.0 | (1.9 - 7.3) | 152 | 38.7 | 3.9 | (3.3 - 4.6) | 828 | 293.0 | 2.8 | (2.6 - 3.0) | 281 | 64.6 | 4.3 | (3.9 - 4.9) | 80 | 15.8 | 5.1 | (4.0 - 6.3) |
| Distant | <10 | - | - | - | 18 | 6.0 | 3.0 | (1.8 - 4.7) | 130 | 54.1 | 2.4 | (2.0 - 2.9) | 50 | 11.1 | 4.5 | (3.4 - 6.0) | 16 | 3.0 | 5.4 | (3.1 - 8.8) |
| **Radiotherapy Only** | | | | | | | | | | | | | | | | | | | | |
| Localized | 69 | 16.3 | 4.2 | (3.3 - 5.3) | 416 | 191.5 | 2.2 | (2.0 - 2.4) | 5,573 | 2,927.5 | 1.9 | (1.9 - 1.9) | 541 | 199.0 | 2.7 | (2.5 - 3.0) | 366 | 116.1 | 3.1 | (2.8 - 3.5) |
| Regional | 10 | 4.2 | 2.4 | (1.1 - 4.4) | 91 | 51.8 | 1.8 | (1.4 - 2.2) | 1,299 | 722.8 | 1.8 | (1.7 - 1.9) | 152 | 52.2 | 2.9 | (2.5 - 3.4) | 69 | 24.6 | 2.8 | (2.2 - 3.5) |
| Distant | <10 | - | - | - | <10 | - | - | - | 71 | 53.8 | 1.3 | (1.0 - 1.7) | 13 | 5.0 | 2.6 | (1.4 - 4.4) | <10 | - | - | - |
| **Chemotherapy and Radiotherapy** | | | | | | | | | | | | | | | | | | | | |
| Localized | 25 | 5.8 | 4.3 | (2.8 - 6.3) | 71 | 20.6 | 3.4 | (2.7 - 4.3) | 683 | 199.1 | 3.4 | (3.2 - 3.7) | 178 | 40.5 | 4.4 | (3.8 - 5.1) | 71 | 11.2 | 6.3 | (5.0 - 8.0) |
| Regional | 44 | 7.9 | 5.6 | (4.1 - 7.5) | 157 | 46.4 | 3.4 | (2.9 - 4.0) | 1,197 | 417.6 | 2.9 | (2.7 - 3.0) | 313 | 78.6 | 4.0 | (3.5 - 4.5) | 113 | 21.9 | 5.2 | (4.3 - 6.2) |
| Distant | <10 | - | - | - | 11 | 3.6 | 3.1 | (1.5 - 5.5) | 67 | 28.8 | 2.3 | (1.8 - 3.0) | 29 | 6.1 | 4.8 | (3.2 - 6.9) | <10 | - | - | - |
| **Other** | | | | | | | | | | | | | | | | | | | | |
| Localized | 119 | - | - | - | 101 | - | - | - | 907 | - | - | - | 137 | - | - | - | 58 | - | - | - |
| Regional | 49 | - | - | - | 40 | - | - | - | 305 | - | - | - | 54 | - | - | - | 32 | - | - | - |
| Distant | <10 | - | - | - | <10 | - | - | - | 168 | - | - | - | 27 | - | - | - | 18 | - | - | - |
| SMRs were calculated as the observed number of cardiovascular disease deaths among breast cancer patients divided by the expected number of cardiovascular disease deaths in the race- and ethnic-matched general female U.S. population. SMR calculations for results with <10 events were suppressed. O = Observed; E = Expected; SMR = Standarized Mortality Ratio; AANHPI & AIAN encompasses: Asian American, Native Hawaiian and other Pacific Islanders along with American Indian/Alaska Natives. | | | | | | | | | | | | | | | | | | | | |

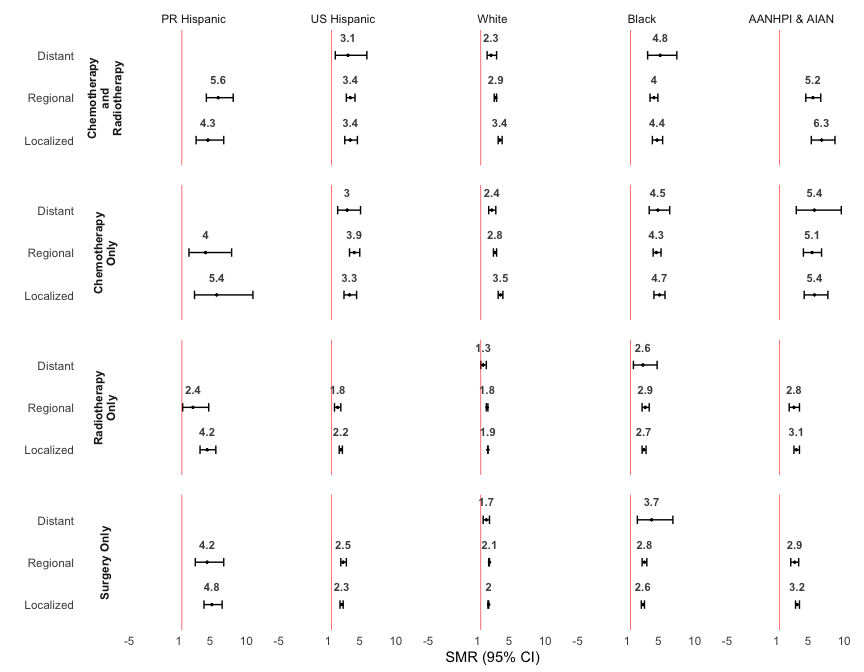
Figure 8 CVD SMRs by Stage and Treatment for BC survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent 

Table 18 CVD SMRs for BC Survivors in Puerto Rico and US Race/Ethnicity Groups Using US population as Referent

|  | **PR Hispanic** | | | | **US Hispanic** | | | | **White** | | | | **Black** | | | | **AANHPI & AIAN** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI | O | E | SMR | 95% CI |
| Overall | 470 | 101.6 | 4.6 | (4.2 - 5.1) | 2,193 | 901.9 | 2.4 | (2.3 - 2.5) | 23,582 | 11,360.5 | 2.1 | (2.0 - 2.1) | 3,292 | 1,089.8 | 3.0 | (2.9 - 3.1) | 1,632 | 467.6 | 3.5 | (3.3 - 3.7) |
| **Age at Diagnosis** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18-39 | <10 | - | - | - | 15 | 1.1 | 13.2 | (7.4 - 21.8) | 43 | 2.9 | 14.8 | (10.7 - 19.9) | 40 | 2.6 | 15.6 | (11.2 - 21.3) | 12 | 0.3 | 36.3 | (18.8 - 63.4) |
| 40-49 | 13 | 1.5 | 8.4 | (4.5 - 14.4) | 63 | 7.2 | 8.8 | (6.7 - 11.2) | 299 | 28.0 | 10.7 | (9.5 - 12.0) | 206 | 17.8 | 11.6 | (10.1 - 13.3) | 43 | 2.2 | 19.3 | (14.0 - 26.0) |
| 50-59 | 31 | 5.1 | 6.0 | (4.1 - 8.5) | 189 | 23.4 | 8.1 | (7.0 - 9.3) | 1,190 | 138.2 | 8.6 | (8.1 - 9.1) | 490 | 64.2 | 7.6 | (7.0 - 8.3) | 157 | 9.1 | 17.2 | (14.6 - 20.1) |
| 60-69 | 105 | 15.2 | 6.9 | (5.7 - 8.4) | 493 | 79.0 | 6.2 | (5.7 - 6.8) | 3,665 | 663.6 | 5.5 | (5.3 - 5.7) | 774 | 157.2 | 4.9 | (4.6 - 5.3) | 295 | 32.9 | 9.0 | (8.0 - 10.1) |
| 70-79 | 160 | 42.8 | 3.7 | (3.2 - 4.4) | 710 | 316.1 | 2.2 | (2.1 - 2.4) | 7,610 | 3,500.8 | 2.2 | (2.1 - 2.2) | 971 | 361.6 | 2.7 | (2.5 - 2.9) | 541 | 153.2 | 3.5 | (3.2 - 3.8) |
| 80+ | 159 | 36.8 | 4.3 | (3.7 - 5.0) | 723 | 475.1 | 1.5 | (1.4 - 1.6) | 10,775 | 7,027.0 | 1.5 | (1.5 - 1.6) | 811 | 486.5 | 1.7 | (1.6 - 1.8) | 584 | 269.9 | 2.2 | (2.0 - 2.4) |
| **Stage** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Localized | 300 | 63.9 | 4.7 | (4.2 - 5.3) | 1,417 | 603.3 | 2.4 | (2.2 - 2.5) | 16,604 | 8,124.6 | 2.0 | (2.0 - 2.1) | 1,957 | 683.5 | 2.9 | (2.7 - 3.0) | 1,108 | 323.0 | 3.4 | (3.2 - 3.6) |
| Regional | 137 | 30.2 | 4.5 | (3.8 - 5.4) | 685 | 247.5 | 2.8 | (2.6 - 3.0) | 6,008 | 2,720.3 | 2.2 | (2.1 - 2.3) | 1,138 | 334.9 | 3.4 | (3.2 - 3.6) | 441 | 120.5 | 3.7 | (3.3 - 4.0) |
| Distant | 10 | 2.7 | 3.7 | (1.8 - 6.9) | 47 | 28.0 | 1.7 | (1.2 - 2.2) | 516 | 277.0 | 1.9 | (1.7 - 2.0) | 131 | 37.5 | 3.5 | (2.9 - 4.1) | 53 | 13.9 | 3.8 | (2.9 - 5.0) |
| Unknown/unstaged | 23 | - | - | - | 44 | - | - | - | 454 | - | - | - | 66 | - | - | - | 30 | - | - | - |
| **Treatment** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Surgery Only | 105 | 22.5 | 4.7 | (3.8 - 5.6) | 1,015 | 436.5 | 2.3 | (2.2 - 2.5) | 11,353 | 5,716.7 | 2.0 | (2.0 - 2.0) | 1,287 | 488.9 | 2.6 | (2.5 - 2.8) | 724 | 230.2 | 3.1 | (2.9 - 3.4) |
| Chemotherapy Only | 23 | 4.8 | 4.8 | (3.0 - 7.2) | 245 | 67.3 | 3.6 | (3.2 - 4.1) | 1,621 | 539.3 | 3.0 | (2.9 - 3.2) | 512 | 114.6 | 4.5 | (4.1 - 4.9) | 151 | 28.7 | 5.3 | (4.5 - 6.2) |
| Radiotherapy Only | 80 | 21.0 | 3.8 | (3.0 - 4.7) | 513 | 248.7 | 2.1 | (1.9 - 2.2) | 6,961 | 3,715.9 | 1.9 | (1.8 - 1.9) | 707 | 257.3 | 2.8 | (2.5 - 3.0) | 440 | 143.0 | 3.1 | (2.8 - 3.4) |
| Chemotherapy and Radiotherapy | 74 | 14.5 | 5.1 | (4.0 - 6.4) | 245 | 71.6 | 3.4 | (3.0 - 3.9) | 1,957 | 650.0 | 3.0 | (2.9 - 3.1) | 522 | 125.7 | 4.2 | (3.8 - 4.5) | 191 | 35.5 | 5.4 | (4.6 - 6.2) |
| Other | 188 | 38.8 | 4.8 | (4.2 - 5.6) | 175 | 77.9 | 2.2 | (1.9 - 2.6) | 1,690 | 738.6 | 2.3 | (2.2 - 2.4) | 264 | 103.4 | 2.5 | (2.2 - 2.9) | 126 | 30.2 | 4.2 | (3.5 - 5.0) |
| **Year of Diagnosis** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2004-2009 | 255 | 62.6 | 4.1 | (3.6 - 4.6) | 1,221 | 599.8 | 2.0 | (1.9 - 2.2) | 14,446 | 8,224.3 | 1.8 | (1.7 - 1.8) | 1,796 | 720.8 | 2.5 | (2.4 - 2.6) | 924 | 320.6 | 2.9 | (2.7 - 3.1) |
| 2010-2015 | 159 | 32.8 | 4.9 | (4.1 - 5.7) | 786 | 265.8 | 3.0 | (2.8 - 3.2) | 7,448 | 2,824.7 | 2.6 | (2.6 - 2.7) | 1,144 | 324.3 | 3.5 | (3.3 - 3.7) | 574 | 131.3 | 4.4 | (4.0 - 4.7) |
| 2016-2021 | 56 | 6.2 | 9.0 | (6.8 - 11.7) | 186 | 36.3 | 5.1 | (4.4 - 5.9) | 1,688 | 311.4 | 5.4 | (5.2 - 5.7) | 352 | 44.7 | 7.9 | (7.1 - 8.7) | 134 | 15.7 | 8.5 | (7.2 - 10.1) |
| **Year of Death** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2005-2010 | 57 | 20.8 | 2.7 | (2.1 - 3.5) | 255 | 46.0 | 5.5 | (4.9 - 6.3) | 3,093 | 663.6 | 4.7 | (4.5 - 4.8) | 427 | 72.4 | 5.9 | (5.4 - 6.5) | 192 | 18.5 | 10.4 | (9.0 - 11.9) |
| 2011-2016 | 172 | 49.0 | 3.5 | (3.0 - 4.1) | 737 | 266.8 | 2.8 | (2.6 - 3.0) | 8,916 | 3,788.8 | 2.4 | (2.3 - 2.4) | 1,181 | 346.1 | 3.4 | (3.2 - 3.6) | 546 | 133.5 | 4.1 | (3.8 - 4.4) |
| 2017-2021 | 241 | 31.8 | 7.6 | (6.6 - 8.6) | 1,201 | 589.1 | 2.0 | (1.9 - 2.2) | 11,573 | 6,908.0 | 1.7 | (1.6 - 1.7) | 1,684 | 671.2 | 2.5 | (2.4 - 2.6) | 894 | 315.5 | 2.8 | (2.7 - 3.0) |
| SMRs were calculated as the observed number of cardiovascular disease deaths among breast cancer patients divided by the expected number of cardiovascular disease deaths in the race- and ethnic-matched general female U.S. population. SMR calculations for results with <10 events were suppressed. O = Observed; E = Expected; SMR = Standarized Mortality Ratio; AANHPI & AIAN encompasses: Asian American, Native Hawaiian and other Pacific Islanders along with American Indian/Alaska Natives. | | | | | | | | | | | | | | | | | | | | |

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