Supplementary Table 2. Stage-stratified crude and adjusted rate ratios (RRs).

Crude and adjusted rate ratios (RRs) and 95% confidence intervals (CIs) among women diagnosed with first primary invasive breast cancer between 2000-2017, captured in the SEER-Medicare database, with continuous fee-for-service Medicare coverage for at least 12 months prior and at least 3 months after index cancer diagnosis (n=215,605). *Denotes fewer than 11 patients per race-ethnicity group in one or both levels of the outcome. **Denotes fewer than 11 patients per race-ethnicity group were eligible for analysis/outcome (i.e., across both levels of the outcome).

			Black	American Indian/ Alaska Native	Asian/Pacific Islander	Hispanic White
Mammography	Stage 1-3 (n=191581)	Crude	**0.99 (0.98-0.99)**	**0.97 (0.95-0.99)**	0.99 (0.99-1.01)	**1.01 (1.00-1.02)**
		Adjusted[a]	**0.97 (0.96-0.98)**	**0.94 (0.91-0.96)**	**0.97 (0.96-0.97)**	**0.98 (0.98-0.99)**
	Stage 4 (n=9317)	Crude	**0.93 (0.88-0.99)**	**1.27* (1.13-1.44)**	**0.89 (0.81-0.97)**	0.95 (0.89-1.02)
		Adjusted[a]	0.96 (0.91-1.02)	**1.28* (1.10-1.49)**	0.91 (0.82-1.00)	0.96 (0.89-1.04)
	Stage unknown (n=14707)	Crude	**0.95 (0.91-0.99)**	1.04 (0.94-1.15)	0.99 (0.94-1.05)	1.01 (0.97-1.06)
		Adjusted[a]	1.00 (0.96-1.04)	1.07 (0.95-1.22)	0.98 (0.92-1.04)	1.02 (0.97-1.07)
Initial needle breast biopsy	Stage 1-3 (n=191581)	Crude	**0.95 (0.94-0.95)**	**0.96 (0.93-0.99)**	1.01 (0.99-1.01)	0.99 (0.99-1.00)
		Adjusted[a]	**0.96 (0.95-0.97)**	**0.95 (0.92-0.98)**	**0.99 (0.98-0.99)**	0.99 (0.99-1.01)
	Stage 4 (n=9317)	Crude	0.98 (0.94-1.03)	1.08 (0.90-1.29)	1.02 (0.95-1.10)	1.04 (0.98-1.11)
		Adjusted[a]	0.99 (0.94-1.04)	1.06 (0.88-1.28)	1.00 (0.93-1.08)	1.03 (0.97-1.10)
	Stage unknown (n=14707)	Crude	0.98 (0.94-1.03)	0.95 (0.79-1.13)	1.00 (0.94-1.07)	1.01 (0.96-1.07)
		Adjusted[a]	1.02 (0.98-1.07)	0.96 (0.81-1.15)	0.97 (0.91-1.03)	1.00 (0.95-1.06)
Node biopsy	Stage 1-3 (n=191581)	Crude	**0.98 (0.97-0.99)**	0.99 (0.96-1.01)	0.99 (0.99-1.01)	**1.01 (1.00-1.02)**
		Adjusted[a]	**0.99 (0.98-0.99)**	0.98 (0.96-1.01)	0.99 (0.98-1.00)	1.01 (0.99-1.01)
	Stage 4 (n=9317)	Crude	1.06 (0.95-1.17)	0.99 (0.61-1.60)	**1.19 (1.01-1.41)**	1.09 (0.94-1.25)
		Adjusted[a]	1.06 (0.95-1.18)	1.07 (0.67-1.72)	**1.26 (1.07-1.48)**	1.09 (0.95-1.27)
Node biopsy (continued)	Stage unknown (n=14707)	Crude	**0.87 (0.81-0.94)**	1.02 (0.81-1.29)	1.07 (0.98-1.18)	1.07 (0.99-1.15)
		Adjusted[a]	0.96 (0.90-1.02)	1.12 (0.90-1.40)	1.08 (0.99-1.17)	**1.12 (1.04-1.21)**
Grade known	Stage 1-3 (n=191581)	Crude	**0.98 (0.98-0.99)**	**1.02 (1.01-1.04)**	**1.02 (1.02-1.03)**	0.99 (0.99-1.00)
		Adjusted[a]	**0.98 (0.98-0.99)**	**1.02 (1.00-1.03)**	**1.02 (1.01-1.02)**	0.99 (0.99-1.00)
	Stage 4 (n=9317)	Crude	1.01 (0.97-1.06)	1.00 (0.82-1.22)	1.04 (0.97-1.12)	1.05 (0.99-1.12)

		Adjusted[a]	1.01 (0.97-1.06)	1.00 (0.82-1.23)	1.03 (0.96-1.11)	1.04 (0.98-1.11)
	Stage unknown (n=14707)	Crude	**0.92 (0.88-0.97)**	1.09 (0.93-1.28)	1.04 (0.97-1.11)	1.04 (0.98-1.1)
		Adjusted[a]	**0.94 (0.9-0.99)**	1.11 (0.95-1.3)	1.03 (0.96-1.10)	1.05 (0.99-1.12)
HR documentation	Stage 1-3 (n=191581)	Crude	**0.98 (0.98-0.99)**	1.01 (0.99-1.03)	**1.02 (1.01-1.02)**	**0.99 (0.98-0.99)**
		Adjusted[a]	**0.99 (0.98-0.99)**	1.00 (0.98-1.02)	**1.01 (1.00-1.01)**	**0.99 (0.98-0.99)**
	Stage 4 (n=9317)	Crude	1.01 (0.98-1.04)	0.86 (0.71-1.04)	1.03 (0.98-1.08)	0.99 (0.95-1.04)
		Adjusted[a]	1.02 (0.99-1.05)	0.85 (0.7-1.04)	1.00 (0.96-1.05)	0.98 (0.94-1.03)
	Stage unknown (n=14707)	Crude	0.97 (0.92-1.02)	1.02 (0.84-1.23)	**1.1 (1.02-1.18)**	**1.06 (1.00-1.13)**
		Adjusted[a]	0.98 (0.93-1.04)	1.03 (0.85-1.26)	1.05 (0.98-1.13)	1.05 (0.99-1.12)
HER2 documentation	Stage 1-3 (n=85467)	Crude	0.99 (0.99-1.00)	1.01 (0.99-1.03)	1.00 (0.99-1.01)	**0.99 (0.98-1.00)**
		Adjusted[a]	1.00 (0.99-1.01)	1.01 (0.99-1.03)	1.00 (0.99-1.01)	0.99 (0.99-1.00)
	Stage 4 (n=4443)	Crude	1.01 (0.97-1.05)	**0.71 (0.52-0.97)**	1.03 (0.97-1.10)	1.00 (0.95-1.06)
		Adjusted[a]	1.02 (0.97-1.06)	**0.72 (0.52-0.99)**	1.03 (0.97-1.10)	1.01 (0.95-1.07)
	Stage unknown (n=4354)	Crude	0.98 (0.90-1.08)	0.79 (0.52-1.18)	1.08 (0.96-1.21)	1.08 (0.98-1.19)
		Adjusted[a]	1.02 (0.93-1.11)	0.81 (0.53-1.23)	1.08 (0.96-1.21)	1.08 (0.98-1.2)
Surgery	Stage 1-3 (n=191581)	Crude	**0.98 (0.98-0.99)**	**0.98 (0.97-0.99)**	0.99 (0.99-1.00)	1.00 (0.99-1.01)
		Adjusted[b]	**0.99 (0.98-0.99)**	0.99 (0.97-1.00)	1.00 (0.99-1.01)	**1.01 (1.00-1.01)**
	Stage 4 (n=9317)	Crude	**1.09 (1.00-1.18)**	0.73 (0.45-1.17)	1.02 (0.88-1.18)	1.05 (0.93-1.18)
		Adjusted[b]	1.02 (0.94-1.10)	0.84 (0.54-1.30)	1.07 (0.92-1.23)	1.06 (0.94-1.19)
	Stage unknown (n=14707)	Crude	**0.88 (0.83-0.93)**	1.03 (0.87-1.21)	0.98 (0.91-1.05)	1.00 (0.95-1.06)
		Adjusted[b]	**0.94 (0.9-0.99)**	1.11 (0.96-1.28)	0.99 (0.93-1.06)	1.05 (0.99-1.11)
Radiation among BCS-treated	Stage 1-3 (n=100163)	Crude	1.01 (1.00-1.03)	0.97 (0.92-1.03)	**1.03 (1.02-1.05)**	**1.03 (1.02-1.04)**
		Adjusted[b]	**1.02 (1.01-1.03)**	0.97 (0.92-1.02)	**1.02 (1.00-1.03)**	**1.02 (1.01-1.04)**
	Stage 4 (n=1368)	Crude	0.95 (0.79-1.15)	0.96** (0.36-2.59)	0.92 (0.63-1.35)	0.96 (0.75-1.22)
		Adjusted[b]	0.92 (0.76-1.12)	1.04** (0.41-2.68)	0.92 (0.62-1.36)	0.97 (0.76-1.24)
	Stage unknown (n=4483)	Crude	0.95 (0.84-1.06)	1.06 (0.73-1.53)	1.13 (0.97-1.32)	1.11 (0.98-1.26)
		Adjusted[b]	1.02 (0.92-1.14)	1.18 (0.87-1.61)	0.99 (0.86-1.16)	1.10 (0.97-1.24)

Radiation among Mastectomy-treated N2+ or T3	Stage 1-3 (n=84918)	Crude	0.98 (0.94-1.02)	1.10 (0.94-1.30)	**1.10 (1.04-1.16)**	1.03 (0.98-1.08)
		Adjusted[b]	1.04 (0.99-1.08)	1.02 (0.87-1.19)	**1.09 (1.03-1.15)**	1.03 (0.99-1.09)
	Stage 4 (n=2116)	Crude	**1.18 (1.04-1.34)**	0.99** (0.5-1.94)	0.78 (0.6-1.03)	1.02 (0.83-1.25)
		Adjusted[b]	**1.20 (1.05-1.36)**	1.12** (0.61-2.08)	0.79 (0.6-1.04)	1.05 (0.85-1.29)
Radiation among no surgery patients	Stage 1-3 (n=6500)	Crude	1.07 (0.92-1.25)	0.65* (0.26-1.62)	0.94 (0.71-1.24)	0.94 (0.73-1.22)
		Adjusted[b]	0.97 (0.83-1.13)	0.58* (0.23-1.44)	0.9 (0.68-1.19)	0.87 (0.67-1.12)
	Stage 4 (n=5833)	Crude	0.96 (0.85-1.08)	1.12 (0.73-1.7)	1.08 (0.90-1.30)	1.01 (0.86-1.18)
		Adjusted[b]	0.94 (0.83-1.06)	1.15 (0.77-1.71)	1.12 (0.93-1.34)	1.01 (0.86-1.19)
	Stage unknown (n=5701)	Crude	**1.25 (1.01-1.54)**	1.17* (0.45-3.04)	0.82 (0.52-1.28)	0.96 (0.68-1.35)
		Adjusted[b]	**1.29 (1.04-1.60)**	1.30* (0.51-3.34)	0.79 (0.5-1.25)	0.96 (0.68-1.35)
Chemotherapy among triple-negative	Stage 1-3 (n=7184)	Crude	**1.08 (1.03-1.14)**	1.12 (0.87-1.43)	1.04 (0.95-1.14)	**1.14 (1.05-1.22)**
		Adjusted[a]	**1.07 (1.02-1.12)**	1.08 (0.82-1.42)	1.04 (0.96-1.12)	1.07 (0.99-1.14)
	Stage 4 (n=427)	Crude	**1.19 (1.03-1.38)**	0.62** (0.23-1.66)	0.92* (0.68-1.26)	**1.30* (1.07-1.59)**
		Adjusted[a]	**1.20 (1.03-1.39)**	0.56** (0.21-1.53)	0.92* (0.67-1.26)	**1.34* (1.08-1.67)**
HER2-targeted therapy among HER2+	Stage 1-3 (n=8572)	Crude	0.97 (0.90-1.03)	0.85 (0.65-1.12)	**1.11 (1.03-1.18)**	**1.08 (1.01-1.16)**
		Adjusted[b]	0.97 (0.91-1.03)	0.84 (0.63-1.11)	1.06 (0.99-1.13)	**1.08 (1.01-1.15)**
	Stage 4 (n=715)	Crude	**0.81 (0.68-0.96)**	**3.85** (3.67-4.03)**	0.96* (0.79-1.16)	0.92 (0.72-1.18)
		Adjusted[b]	0.84 (0.71-1.00)	**3.28** (2.93-3.66)**	0.96* (0.8-1.15)	0.9 (0.71-1.14)
Hormone therapy among HR+	Stage 1-3 (n=62182)	Crude	1.01 (0.99-1.03)	0.94 (0.87-1.01)	**1.03 (1.01-1.05)**	**1.03 (1.01-1.04)**
		Adjusted[a]	1.01 (0.99-1.03)	**0.93 (0.86-0.99)**	**1.02 (1.01-1.04)**	**1.02 (1.00-1.04)**
	Stage 4 (n=2615)	Crude	1.02 (0.96-1.09)	0.85** (0.53-1.37)	1.00 (0.92-1.09)	0.91 (0.83-1.01)
		Adjusted[a]	1.01 (0.94-1.07)	0.85** (0.53-1.35)	0.99 (0.9-1.08)	**0.91 (0.82-1.00)**
	Stage unknown (n=2319)	Crude	0.94 (0.84-1.05)	0.80* (0.50-1.26)	0.97 (0.86-1.1)	1.01 (0.92-1.12)
		Adjusted[a]	0.96 (0.85-1.07)	0.81* (0.50-1.32)	0.99 (0.87-1.12)	1.03 (0.93-1.14)

[a]Adjusted model includes: marital, low-income subsidy, hospitalizations, year, age, PCP count, NCI index, frailty. [b] Adjusted model includes: HR status, and marital, low-income subsidy, hospitalizations, year, age, PCP count, NCI index, frailty. Bolded values reflect significant associations, with respect to non-Hispanic White patients, at the 0.05 significance level. HER2 status was first made available for cases diagnosed in 2010; HER2 status available refers to patients from the Primary cohort diagnosed 2010 or later. Part D eligible patients were those with at least three months of continuous Part D prescription drug coverage after diagnosis. Radiation was analyzed within subgroups of surgery type; mastectomy-treated patients were further restricted to patients for whom radiation with mastectomy is indicated (AJCC >=N2 or T3).