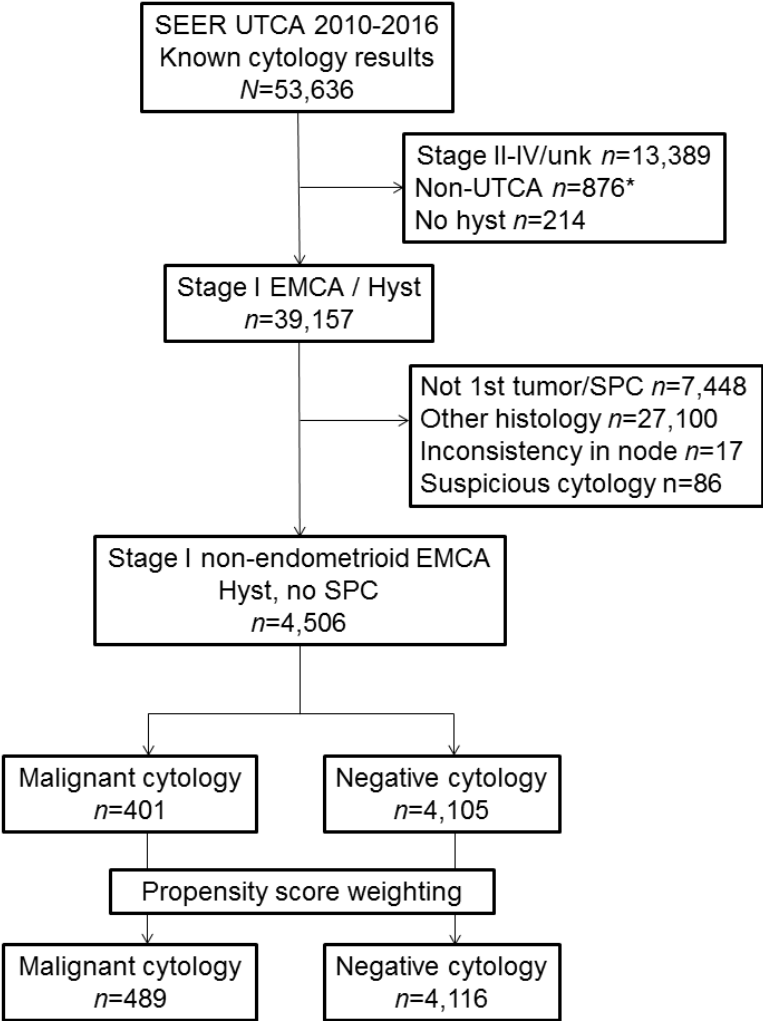
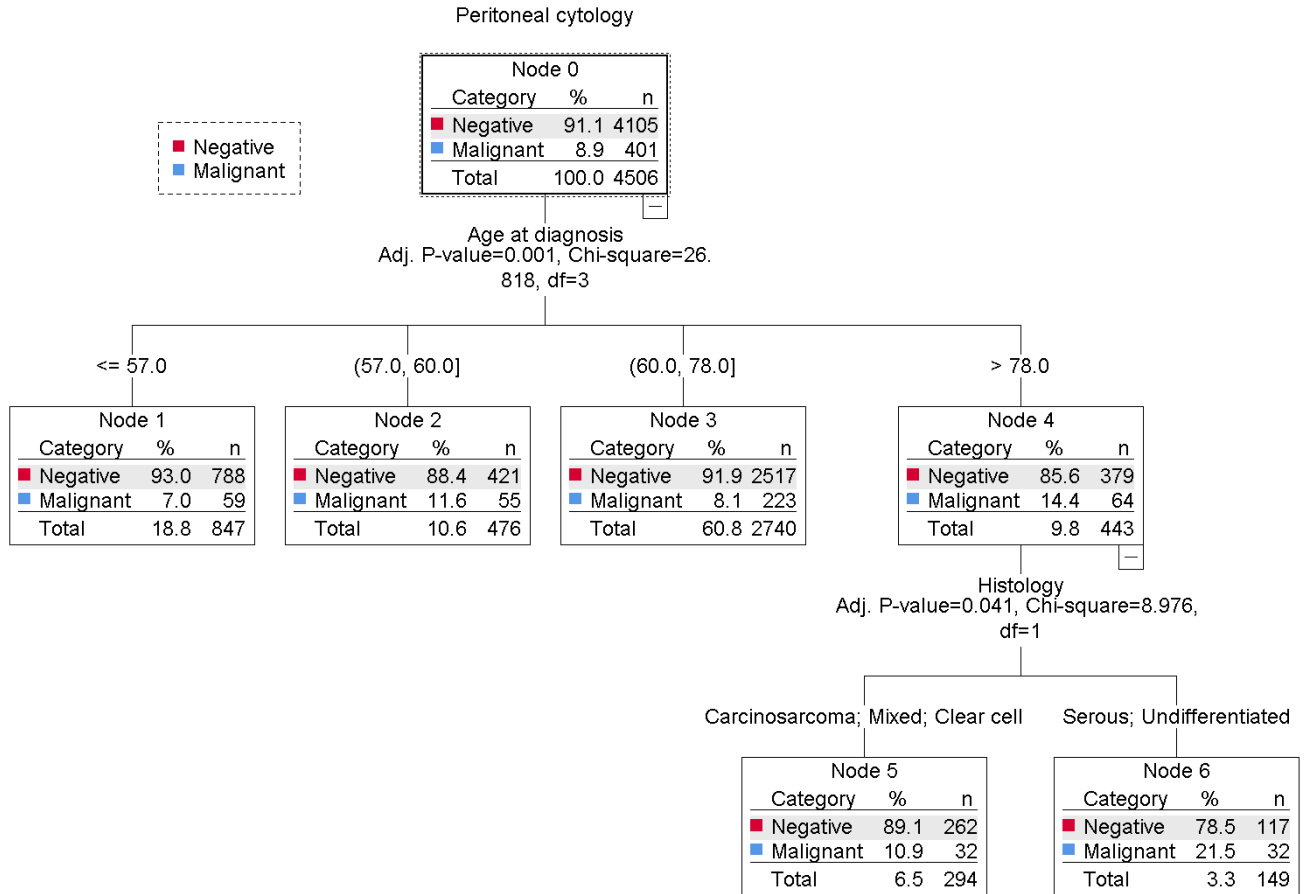


Supplemental Figure S1. CONSORT study schema.



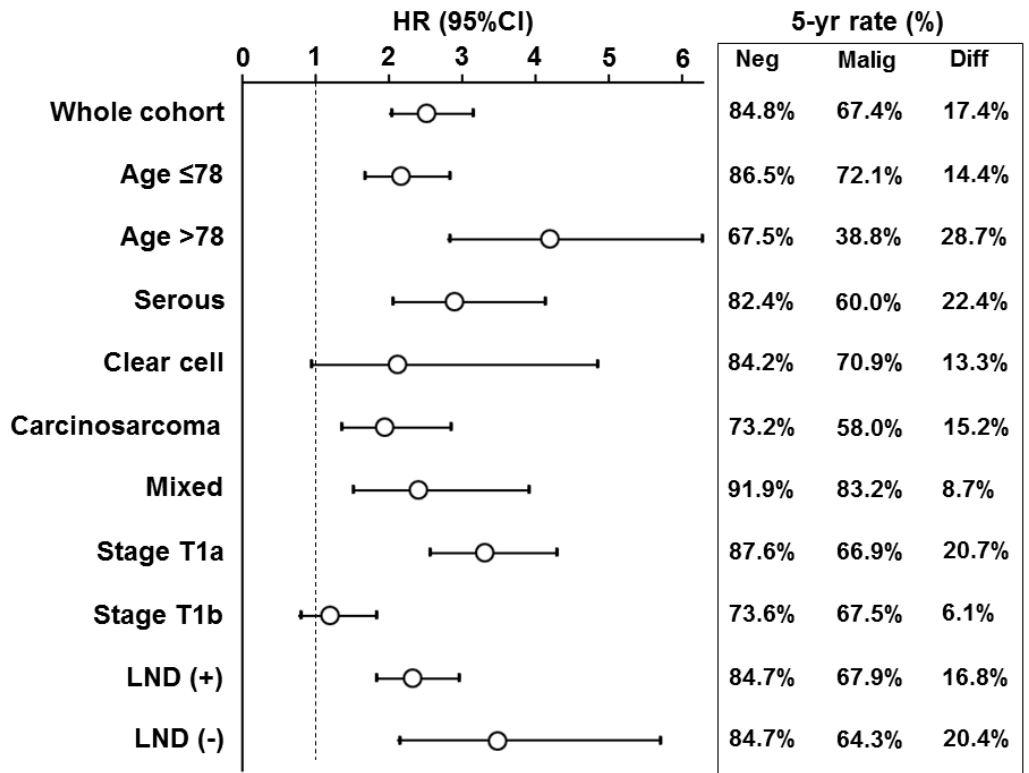
*including uterine sarcoma. Abbreviations: SEER, Surveillance, Epidemiology, and End Result Program; UTCA, uterine cancer; unk, unknown; EMCA, endometrial cancer; SPC, secondary primary cancer; cytology; peritoneal cytology; and hyst, hysterectomy.

Supplemental Figure S2. A regression-tree model for malignant peritoneal cytology.



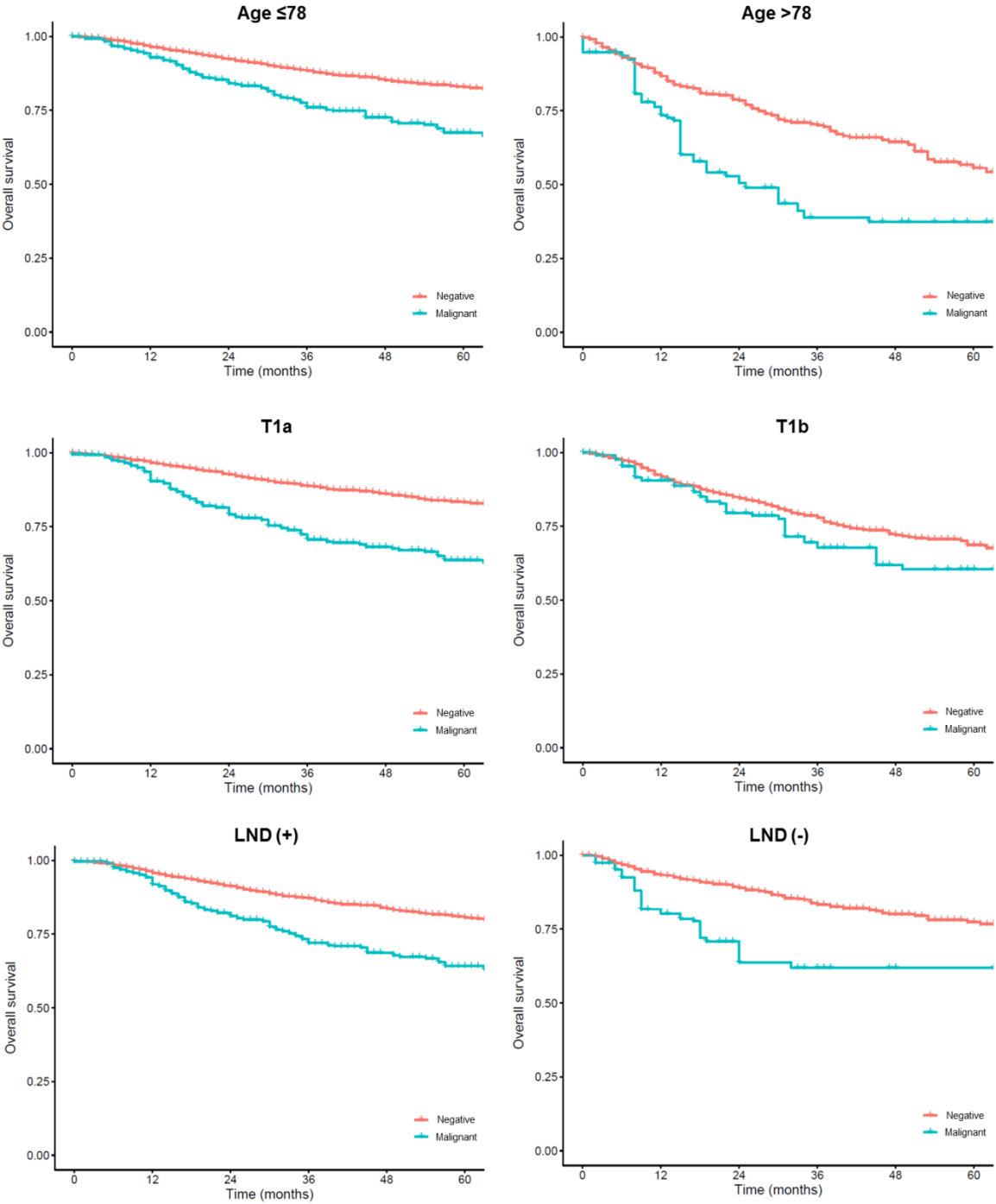
A recursive partitioning analysis was performed to construct a classification-tree model for patterns of malignant peritoneal cytology. All the independent characteristics for malignant peritoneal cytology in multivariable model (Table 1) are entered in the analysis. Women aged >78 years old with serous or undifferentiated histology types had a disproportionately high incidence of malignant peritoneal cytology of 21.5%.

Supplemental Figure S3. Forest plots for cause-specific survival (weighted models).



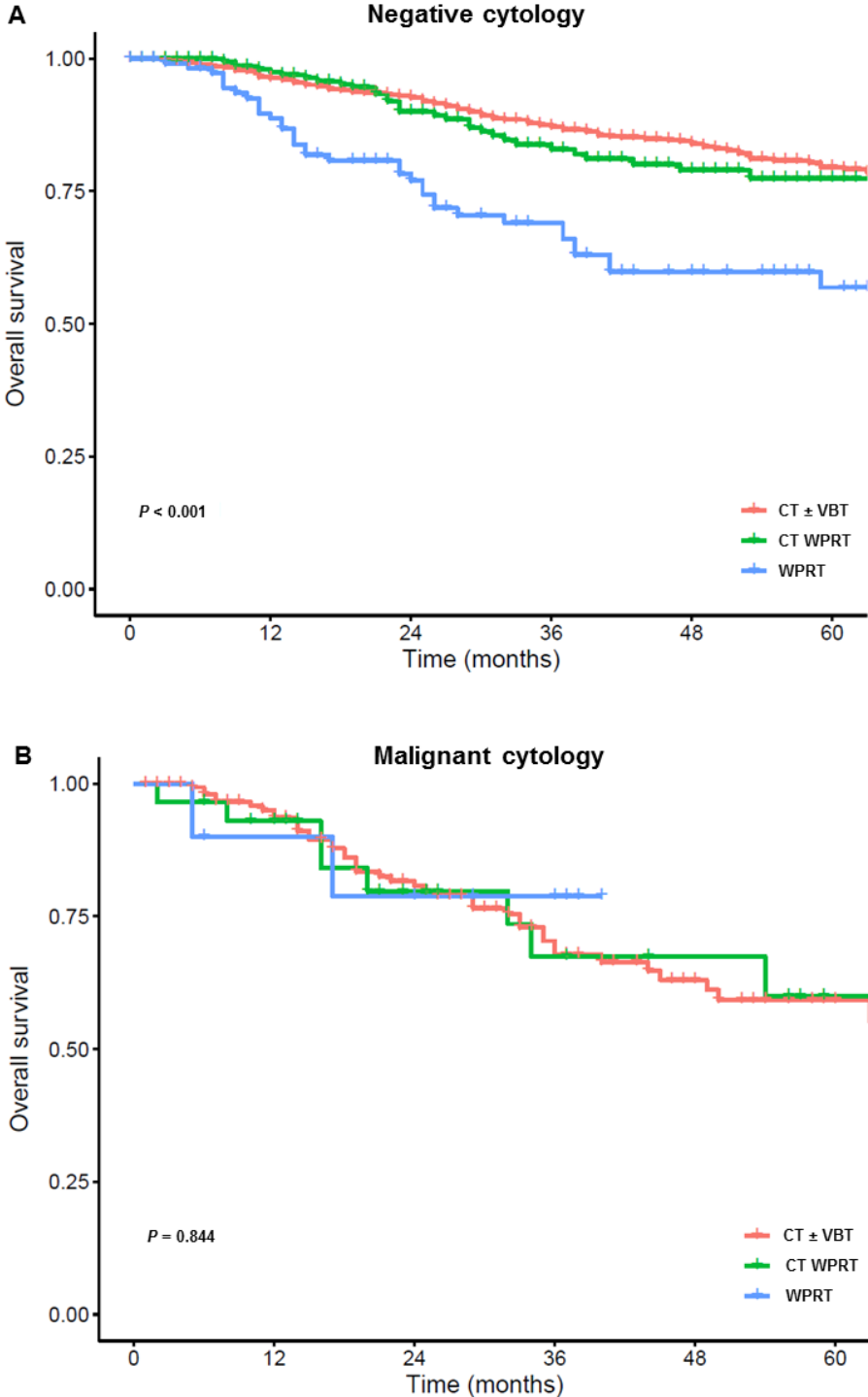
Association of peritoneal cytology (malignant *versus* negative) and cause-specific survival was assessed with Cox proportional hazard regression test in the PS-IPTW models. The 5-year survival rates and differences are shown. Circles represent HR, and bars represent 95%CI. Abbreviations: HR, hazard ratio; CI, confidence interval; LND, lymphadenectomy; Neg, negative peritoneal cytology; Malig, malignant peritoneal cytology; and Diff, difference in 5-year survival rate between the negative and malignant cytology groups.

Supplemental Figure S4. Sensitivity analysis for overall survival (age, stage, and lymphadenectomy).



Survival curves for overall survival are shown per peritoneal cytology status. All weighted models. Survival statistics are shown in Figure 5. When the study cohort was restricted to stage IA disease, the 5-year overall survival rate was 82.9% for unstaged cases with negative peritoneal cytology, 83.3% for staged cases with negative peritoneal cytology, 60.4% for unstaged cases with malignant peritoneal cytology, and 61.2% for staged cases with malignant peritoneal cytology.

Supplemental Figure S5. Overall survival per postop therapy type stratified by peritoneal cytology status.



Log-rank test for P -values. Serous, clear cell, and uterine carcinosarcoma cases were examined. Survival curves are shown for **(A)** negative peritoneal cytology cases and **(B)** malignant peritoneal cytology cases. Abbreviations: CT, chemotherapy; VBT, vaginal brachytherapy; and WPRT, whole pelvic radiotherapy.

Supplemental Table S1. Patient demographics per peritoneal cytology status (N=4506).

Characteristics	Negative	Malignant
No.	n=4105	n=401
Age (yr)		
≤57	788 (93.0%)	59 (7.0%)
58-60	421 (88.4%)	55 (11.6%)
61-78	2517 (91.9%)	223 (8.1%)
>78	379 (85.6%)	64 (14.4%)
Year		
2010	489 (91.1%)	48 (8.9%)
2011	528 (91.5%)	49 (8.5%)
2012	587 (91.1%)	57 (8.9%)
2013	615 (90.4%)	65 (9.6%)
2014	603 (91.6%)	55 (8.4%)
2015	638 (91.7%)	58 (8.3%)
2016	645 (90.3%)	69 (9.7%)
Race/ethnicity		
White	2581 (90.4%)	275 (9.6%)
Black	680 (93.3%)	49 (6.7%)
Hispanic	443 (91.7%)	40 (8.3%)
Asian	352 (91.4%)	33 (8.6%)
Others	28 (96.6%)	1 (3.4%)
Unknown	21 (87.5%)	3 (12.5%)
Marital status		
Single	669 (90.5%)	70 (9.5%)
Married	2033 (90.4%)	215 (9.6%)
Divorced	514 (93.5%)	36 (6.5%)
Separated	48 (90.6%)	5 (9.4%)
Widowed	632 (91.9%)	56 (8.1%)
Unmarried/domestic	15 (93.8%)	1 (6.3%)
Unknown	194 (91.5%)	18 (8.5%)
Insurance		
Yes	3988 (91.2%)	385 (8.8%)
No	69 (89.6%)	8 (10.4%)
Unknown	48 (85.7%)	8 (10.4%)
Registry area		
West	2074 (90.6%)	214 (9.4%)
Central	770 (92.5%)	62 (7.5%)
East	1261 (91.0%)	125 (9.0%)
Histology type		
Serous	1294 (89.2%)	156 (10.8%)
Clear cell	248 (89.2%)	30 (10.8%)
Carcinosarcoma	877 (91.5%)	81 (8.5%)
Mixed	1653 (92.6%)	132 (7.4%)
Undifferentiated	33 (94.3%)	2 (5.7%)
Tumor differentiation		
Well	434 (93.9%)	28 (6.1%)
Moderate	381 (92.5%)	31 (7.5%)
Poor	2289 (90.4%)	242 (9.6%)
Unknown	1001 (90.9%)	100 (9.1%)
T stage		
IA	3161 (91.5%)	292 (8.5%)
IB	823 (89.4%)	98 (10.6%)
I NOS	121 (91.7%)	11 (8.3%)
Pelvic lymphadenectomy		
No	688 (92.0%)	60 (8.0%)
Yes	3394 (90.9%)	340 (9.1%)

Unknown	23 (95.8%)	1 (4.2%)
Para-aortic lymphadenectomy		
No	1829 (92.1%)	157 (7.9%)
Yes	2245 (90.2%)	243 (9.8%)
Unknown	31 (96.9%)	1 (3.1%)
Tumor size (cm)		
≤2.0	830 (92.5%)	67 (7.5%)
2.1-4.0	1191 (90.8%)	121 (9.2%)
4.1-6.0	711 (88.3%)	94 (11.7%)
6.1-8.0	284 (90.2%)	31 (9.8%)
>8.0	205 (91.5%)	19 (8.5%)
Unknown	884 (92.8%)	69 (7.2%)
Hysterectomy type		
Simple	3757 (91.3%)	359 (8.7%)
Modified / radical	201 (88.9%)	25 (11.1%)
Supracervical	20 (90.9%)	2 (9.1%)
NOS	127 (89.4%)	15 (10.6%)
Postop therapy		
None	1705 (94.0%)	108 (6.0%)
VBT / chemo	800 (88.9%)	100 (11.1%)
Chemo	783 (87.1%)	116 (12.9%)
VBT	337 (94.7%)	19 (5.3%)
WPRT / chemo	279 (88.0%)	38 (12.0%)
WPRT	190 (90.9%)	19 (9.1%)
RT NOS / chemo	7 (100%)	0
RT NOS	4 (80%)	1 (20%)

Number (percentage per row) is shown. Abbreviations: NOS, not otherwise significant; VBT, vaginal brachytherapy; WPRT, whole pelvic radiotherapy; RT, radiotherapy; and chemo, chemotherapy.

Supplemental Table S2. Patient demographics after PS-IPTW.

Characteristics	Negative	Malignant	P-value
No.	n=4116	n=489	
Age (yr)	65.4 (10.0)	65.9 (10.5)	0.374
Year			0.986
2010	490 (11.9%)	55 (11.2%)	
2011	528 (12.8%)	64 (13.1%)	
2012	588 (14.3%)	68 (13.9%)	
2013	621 (15.1%)	72 (14.7%)	
2014	600 (14.6%)	67 (13.7%)	
2015	636 (15.5%)	81 (16.5%)	
2016	652 (15.8%)	83 (16.9%)	
Race/ethnicity			0.983
White	2609 (63.4%)	316 (64.8%)	
Black	666 (16.2%)	73 (15.0%)	
Hispanic	441 (10.7%)	52 (10.7%)	
Asian	352 (8.5%)	43 (8.8%)	
Others	27 (0.7%)	2 (0.4%)	
Unknown	22 (0.5%)	2 (0.4%)	
Marital status			0.991
Single	675 (16.4%)	83 (17.0%)	
Married	2053 (49.9%)	246 (50.4%)	
Divorced	503 (12.2%)	59 (12.1%)	
Separated	48 (1.2%)	4 (0.8%)	
Widowed	629 (15.3%)	74 (15.2%)	
Unmarried/domestic	15 (0.4%)	1 (0.2%)	
Unknown	194 (4.7%)	21 (4.3%)	
Insurance			0.943
Yes	3995 (97.1%)	476 (97.1%)	
No	70 (1.7%)	8 (1.6%)	
Unknown	51 (1.2%)	6 (1.2%)	
Registry area			0.860
West	2090 (50.8%)	256 (52.4%)	
Central	760 (18.5%)	86 (17.6%)	
East	1266 (30.8%)	147 (30.1%)	
Histology type			0.981
Serous	1325 (32.2%)	158 (32.4%)	
Clear cell	254 (6.2%)	30 (6.1%)	
Carcinosarcoma	875 (21.3%)	110 (22.5%)	
Mixed	1630 (39.6%)	186 (38.1%)	
Undifferentiated	32 (0.8%)	4 (0.8%)	
Tumor differentiation			0.682
Well	422 (10.3%)	47 (9.6%)	
Moderate	376 (9.1%)	40 (8.2%)	
Poor	2313 (56.2%)	292 (59.7%)	
Unknown	1005 (24.4%)	110 (22.5%)	
T stage			0.516
IA	3153 (76.6%)	361 (73.8%)	
IB	842 (20.5%)	113 (23.1%)	
I NOS	121 (2.9%)	15 (3.1%)	
Pelvic lymphadenectomy			0.881
No	683 (16.6%)	79 (16.2%)	
Yes	3411 (82.9%)	408 (83.4%)	
Unknown	22 (0.5%)	2 (0.4%)	
Para-aortic lymphadenectomy			0.678
No	1814 (44.1%)	211 (43.1%)	
Yes	2273 (55.2%)	277 (56.5%)	

Unknown	29 (0.7%)	2 (0.4%)	
Tumor size (cm)			0.797
≤2.0	819 (19.9%)	93 (19.0%)	
2.1-4.0	1198 (29.1%)	138 (28.2%)	
4.1-6.0	736 (17.9%)	100 (20.4%)	
6.1-8.0	288 (7.0%)	39 (8.0%)	
>8.0	205 (5.0%)	26 (5.3%)	
Unknown	870 (21.1%)	93 (19.0%)	
Hysterectomy type			0.840
Simple	3761 (91.4%)	451 (92.4%)	
Modified / radical	206 (5.0%)	21 (4.3%)	
Supracervical	20 (0.5%)	1 (0.2%)	
NOS	130 (3.2%)	15 (3.1%)	
Postop therapy			0.942
None	1656 (40.2%)	189 (38.6%)	
VBT / chemo	822 (20.0%)	97 (19.8%)	
Chemo	821 (19.9%)	108 (22.0%)	
VBT	325 (7.9%)	35 (7.1%)	
WPRT / chemo	290 (7.0%)	37 (7.6%)	
WPRT	191 (4.6%)	23 (4.7%)	
RT NOS / chemo	6 (0.1%)	0	
RT NOS	5 (0.1%)	1 (0.2%)	

Total number may not be 4605 due to weighted value. Abbreviations: PS-IPTW, propensity score inverse probability of treatment weighting; NOS, not otherwise significant; VBT, vaginal brachytherapy; WPRT, whole pelvic radiotherapy; RT, radiotherapy; and chemo, chemotherapy.