Supplementary Table 1. Overall and cancer-specific survival outcomes according to diagnosis era, age group, and histologic subtype among patients with cervical cancer, SEER 2004-2023

Subgroup	Category	N	OS events, n (%)	Median OS, months (95% CI)	1-year OS (95% CI)	3-year OS (95% CI)	5-year OS (95% CI)	CSS events, n (%)	Median CSS, months (95% CI)	1-year CSS (95% CI)	3-year CSS (95% CI)	5-year CSS (95% CI)	OS log-rank p	CSS log-rank p
Diagnosis era	2004-2008	15,739	7,533 (47.9)	207 (199-216)	85.0% (84.4-85.5)	71.2% (70.5-71.9)	66.1% (65.3-66.8)	5,163 (32.8)	Not reached	87.1% (86.5-87.6)	74.8% (74.1-75.5)	70.9% (70.2-71.6)	**0.010**	**0.010**
	2009-2013	15,007	6,613 (44.1)	Not reached	84.4% (83.8-85.0)	70.4% (69.7-71.2)	65.0% (64.2-65.7)	4,958 (33.0)	Not reached	86.2% (85.7-86.8)	74.0% (73.2-74.7)	69.7% (68.9-70.4)		
	2014-2018	15,871	5,974 (37.6)	Not reached	84.6% (84.0-85.2)	70.9% (70.1-71.6)	65.0% (64.2-65.7)	4,807 (30.3)	Not reached	86.4% (85.8-86.9)	74.5% (73.8-75.2)	70.0% (69.3-70.7)		
	2019-2023	15,431	3,448 (22.3)	Not reached	84.5% (83.9-85.1)	71.3% (70.4-72.2)	66.8% (65.5-67.9)	2,913 (18.9)	Not reached	86.7% (86.1-87.3)	75.1% (74.2-75.9)	71.6% (70.4-72.7)		
Age group, years	<40	16,893	3,395 (20.1)	Not reached	93.1% (92.7-93.5)	83.9% (83.4-84.5)	80.9% (80.2-81.5)	2,878 (17.0)	Not reached	93.8% (93.4-94.2)	85.2% (84.7-85.8)	82.6% (81.9-83.2)	**<0.001**	**<0.001**
	40-59	28,805	10,229 (35.5)	222 (214-233)	87.5% (87.1-87.8)	73.7% (73.1-74.2)	68.1% (67.5-68.6)	8,094 (28.1)	Not reached	88.7% (88.3-89.1)	76.3% (75.8-76.8)	71.7% (71.2-72.3)		
	60-74	11,660	6,279 (53.9)	69 (65-73)	76.9% (76.1-77.6)	59.6% (58.6-60.5)	52.2% (51.2-53.1)	4,397 (37.7)	218 (185-NR)	80.1% (79.3-80.8)	65.5% (64.6-66.4)	60.3% (59.3-61.2)		
	≥75	4,690	3,665 (78.1)	17 (15-18)	56.0% (54.5-57.4)	35.0% (33.6-36.5)	26.6% (25.2-27.9)	2,472 (52.7)	25 (23-28)	62.7% (61.2-64.1)	45.1% (43.5-46.7)	39.2% (37.6-40.9)		
Histologic subtype	Squamous cell carcinoma	40,245	15,438 (38.4)	185 (180-192)	85.8% (85.5-86.2)	71.2% (70.7-71.7)	65.4% (64.9-65.9)	11,350 (28.2)	Not reached	87.7% (87.4-88.0)	75.0% (74.6-75.5)	70.7% (70.3-71.2)	**<0.001**	**<0.001**
	Adenocarcinoma	15,026	4,261 (28.4)	Not reached	89.9% (89.4-90.4)	79.7% (79.0-80.3)	74.6% (73.8-75.3)	3,287 (21.9)	Not reached	91.2% (90.8-91.7)	82.2% (81.6-82.9)	78.2% (77.5-78.9)		
	Adenosquamous carcinoma	1,889	817 (43.3)	177 (149-201)	85.8% (84.1-87.3)	68.3% (66.0-70.4)	62.2% (59.9-64.5)	656 (34.7)	Not reached	87.3% (85.7-88.8)	71.4% (69.2-73.5)	66.3% (63.9-68.5)		
	Neuroendocrine/small cell carcinoma	927	637 (68.7)	18 (16-20)	61.0% (57.7-64.1)	33.7% (30.6-36.9)	29.4% (26.3-32.6)	573 (61.8)	20 (18-23)	64.1% (60.8-67.2)	37.0% (33.7-40.4)	32.7% (29.4-36.1)		
	Other/rare histology	3,961	2,415 (61.0)	23 (20-26)	57.4% (55.8-58.9)	45.1% (43.5-46.7)	41.1% (39.5-42.7)	1,975 (49.9)	38 (32-47)	62.0% (60.4-63.5)	50.3% (48.6-51.9)	47.0% (45.3-48.7)		

Values are presented as number (%) or Kaplan-Meier estimates with 95% confidence intervals unless otherwise indicated. Diagnosis era was categorized as 2004-2008, 2009-2013, 2014-2018, and 2019-2023. OS was defined as time from diagnosis to death from any cause. CSS was defined as time from diagnosis to death attributable to cervical cancer, with deaths from other causes censored. Survival probabilities were estimated at 12, 36, and 60 months using the Kaplan-Meier method. P values were calculated using the log-rank test across categories within each subgroup. Later diagnosis eras have shorter maximum follow-up because of the SEER 2023 study cutoff; therefore, long-term survival estimates for recent eras should be interpreted with caution. These analyses are descriptive and unadjusted.Kaplan-Meier summaries; adjusted associations accounting for summary stage and other clinicopathologic covariates are presented in the multivariable Cox regression model.
CI: Confidence interval, CSS: Cancer-specific survival, NR: Not reached, OS: Overall survival, SEER: Surveillance, Epidemiology, and End Results

Supplementary Table 2. Univariable Cox regression analysis for overall and cancer-specific survival, SEER 2004-2023

Variable	Category	Overall survival HR (95% CI)	p value	Cancer-specific survival HR (95% CI)	p value
Histologic subtype	Squamous cell carcinoma	1 [Reference]		1 [Reference]	
	Adenocarcinoma	0.69 (0.67-0.72)	**<0.001**	0.73 (0.70-0.76)	**<0.001**
	Adenosquamous carcinoma	1.07 (1.00-1.15)	**0.053**	1.19 (1.10-1.28)	**<0.001**
	Neuroendocrine/small cell carcinoma	2.78 (2.56-3.00)	**<0.001**	3.21 (2.95-3.50)	**<0.001**
	Other/rare histology	2.26 (2.16-2.36)	**<0.001**	2.50 (2.38-2.62)	**<0.001**
Age group, years	<40	1 [Reference]		1 [Reference]	
	40-59	1.97 (1.89-2.04)	**<0.001**	1.80 (1.72-1.88)	**<0.001**
	60-74	3.67 (3.51-3.82)	**<0.001**	2.85 (2.72-2.99)	**<0.001**
	≥75	7.84 (7.48-8.21)	**<0.001**	5.55 (5.26-5.86)	**<0.001**
Year of diagnosis	2004-2009	1 [Reference]		1 [Reference]	
	2010-2015	1.07 (1.04-1.11)	**<0.001**	1.08 (1.04-1.12)	**<0.001**
	2016-2023	1.02 (0.99-1.06)	**0.192**	1.01 (0.98-1.05)	**0.448**
Race/ethnicity	Non-Hispanic White	1 [Reference]		1 [Reference]	
	Non-Hispanic Black	1.45 (1.40-1.50)	**<0.001**	1.41 (1.36-1.47)	**<0.001**
	Non-Hispanic American Indian/Alaska Native	1.00 (0.88-1.14)	**0.970**	1.04 (0.90-1.21)	**0.568**
	Non-Hispanic Asian or Pacific Islander	0.90 (0.86-0.95)	**<0.001**	0.91 (0.86-0.96)	**<0.001**
	Hispanic, all races	0.83 (0.80-0.85)	**<0.001**	0.84 (0.80-0.87)	**<0.001**
	Non-Hispanic unknown race	0.17 (0.12-0.25)	**<0.001**	0.11 (0.06-0.18)	**<0.001**
Marital status	Married	1 [Reference]		1 [Reference]	
	Single/never married	1.31 (1.26-1.35)	**<0.001**	1.34 (1.29-1.39)	**<0.001**
	Divorced/separated/widowed	2.09 (2.02-2.15)	**<0.001**	1.89 (1.82-1.96)	**<0.001**
	Unmarried/domestic partner	0.96 (0.78-1.18)	**0.680**	0.94 (0.75-1.18)	**0.602**
	Unknown	1.21 (1.14-1.29)	**<0.001**	1.12 (1.04-1.20)	**0.002**
County-level median household income	≥$100,000	1 [Reference]		1 [Reference]	
	$75,000-$99,999	1.16 (1.12-1.20)	**<0.001**	1.18 (1.13-1.23)	**<0.001**
	<$75,000	1.38 (1.33-1.43)	**<0.001**	1.35 (1.29-1.40)	**<0.001**
Rural-urban continuum	Metropolitan ≥1 million	1 [Reference]		1 [Reference]	
	Metropolitan <1 million	1.06 (1.02-1.09)	**<0.001**	1.04 (1.00-1.07)	**0.029**
	Nonmetropolitan	1.24 (1.19-1.29)	**<0.001**	1.18 (1.12-1.23)	**<0.001**
	Unknown/missing	0.84 (0.62-1.15)	**0.279**	0.84 (0.59-1.20)	**0.334**
Primary cervical site	Cervix uteri, NOS	1 [Reference]		1 [Reference]	
	Endocervix	0.59 (0.57-0.61)	**<0.001**	0.57 (0.55-0.60)	**<0.001**
	Exocervix	0.61 (0.55-0.67)	**<0.001**	0.57 (0.51-0.64)	**<0.001**
	Overlapping lesion	0.89 (0.81-0.98)	**0.017**	0.89 (0.80-0.99)	**0.033**
Summary stage	Localized	1 [Reference]		1 [Reference]	
	Regional	4.07 (3.92-4.21)	**<0.001**	5.73 (5.46-6.01)	**<0.001**
	Distant	14.15 (13.61-14.72)	**<0.001**	22.19 (21.11-23.32)	**<0.001**
	Unknown/unstaged	6.13 (5.80-6.48)	**<0.001**	8.63 (8.06-9.24)	**<0.001**
Tumor grade	Grade I/well differentiated	1 [Reference]		1 [Reference]	
	Grade II/moderately differentiated	0.68 (0.64-0.73)	**<0.001**	0.66 (0.61-0.71)	**<0.001**
	Grade III/IV/poorly-undifferentiated	1.36 (1.29-1.44)	**<0.001**	1.39 (1.31-1.48)	**<0.001**
	Unknown/blank	1.17 (1.14-1.20)	**<0.001**	1.18 (1.14-1.22)	**<0.001**
Tumor size	≤20 mm	1 [Reference]		1 [Reference]	
	21-40 mm	2.82 (2.65-3.00)	**<0.001**	3.90 (3.59-4.23)	**<0.001**
	41-60 mm	4.77 (4.50-5.05)	**<0.001**	7.18 (6.64-7.76)	**<0.001**
	>60 mm	7.58 (7.16-8.02)	**<0.001**	12.31 (11.40-13.29)	**<0.001**
	Unknown/missing	4.81 (4.56-5.07)	**<0.001**	7.41 (6.88-7.98)	**<0.001**
Primary tumor surgery	Surgery performed	1 [Reference]		1 [Reference]	
	No surgery	4.63 (4.50-4.76)	**<0.001**	5.31 (5.13-5.50)	**<0.001**
	Unknown	14.88 (13.62-16.25)	**<0.001**	17.60 (15.94-19.45)	**<0.001**
Radiation therapy	No/unknown radiation	1 [Reference]		1 [Reference]	
	Radiation given	1.90 (1.84-1.95)	**<0.001**	1.90 (1.84-1.96)	**<0.001**
Chemotherapy	No/unknown chemotherapy	1 [Reference]		1 [Reference]	
	Chemotherapy yes	1.86 (1.82-1.91)	**<0.001**	2.07 (2.01-2.13)	**<0.001**

The multivariable Cox proportional hazards models included 62,048 patients. OS events: 23,568; CSS events: 17,841. The models were adjusted for all prespecified clinically relevant covariates, including histologic subtype, age group, year of diagnosis, race/ethnicity, marital status, county-level household income, rural-urban continuum, primary cervical site, summary stage, tumor size, primary tumor surgery, radiation therapy, and chemotherapy. Covariates were selected a priori based on clinical relevance and data availability rather than statistical significance in univariable analyses. OS was defined as death from any cause; CSS was defined as death attributable to cervical cancer, with deaths from other causes censored. Zero-month survival was recoded as 0.5 months for time-to-event modeling.
CI: Confidence interval, CSS: Cancer-specific survival, HR: Hazard ratio, NOS: Not otherwise specified, OS: Overall survival, SEER: Surveillance, Epidemiology, and End Results

Supplementary Table 3. Fine-Gray competing-risk regression for cervical cancer-specific mortality, SEER 2004-2023

Variable	Category	Adjusted subdistribution HR (95% CI)	p value
Histologic subtype	Squamous cell carcinoma	1 [Reference]	
	Adenocarcinoma	1.18 (1.13-1.23)	**<0.001**
	Adenosquamous carcinoma	1.43 (1.32-1.55)	**<0.001**
	Neuroendocrine/small cell carcinoma	2.03 (1.87-2.21)	**<0.001**
	Other/rare histology	1.66 (1.57-1.75)	**<0.001**
Age group, years	<40	1 [Reference]	
	40-59	1.20 (1.15-1.26)	**<0.001**
	60-74	1.36 (1.29-1.43)	**<0.001**
	≥75	1.80 (1.70-1.91)	**<0.001**
Year of diagnosis	2004-2009	1 [Reference]	
	2010-2015	0.97 (0.93-1.00)	**0.083**
	2016-2023	0.88 (0.84-0.92)	**<0.001**
Race/ethnicity	Non-Hispanic White	1 [Reference]	
	Non-Hispanic Black	1.07 (1.03-1.12)	**<0.001**
	Non-Hispanic American Indian/Alaska Native	1.15 (0.98-1.35)	**0.084**
	Non-Hispanic Asian or Pacific Islander	0.89 (0.85-0.94)	**<0.001**
	Hispanic, all races	0.86 (0.83-0.90)	**<0.001**
	Non-Hispanic unknown race	0.15 (0.09-0.25)	**<0.001**
Marital status	Married	1 [Reference]	
	Single/never married	1.14 (1.10-1.19)	**<0.001**
	Divorced/separated/widowed	1.14 (1.10-1.19)	**<0.001**
	Unmarried/domestic partner	1.02 (0.81-1.28)	**0.874**
	Unknown	0.92 (0.85-0.99)	**0.019**
County-level median household income	≥$100,000	1 [Reference]	
	$75,000-$99,999	1.12 (1.08-1.17)	**<0.001**
	<$75,000	1.18 (1.12-1.24)	**<0.001**
Rural-urban continuum	Metropolitan ≥1 million	1 [Reference]	
	Metropolitan <1 million	0.97 (0.94-1.01)	**0.141**
	Nonmetropolitan	0.95 (0.90-1.00)	**0.069**
	Unknown/missing	0.87 (0.59-1.29)	**0.488**
Primary cervical site	Cervix uteri, NOS	1 [Reference]	
	Endocervix	0.87 (0.83-0.91)	**<0.001**
	Exocervix	0.83 (0.75-0.93)	**0.001**
	Overlapping lesion	1.05 (0.95-1.17)	**0.344**
Summary stage	Localized	1 [Reference]	
	Regional	3.58 (3.38-3.80)	**<0.001**
	Distant	10.12 (9.53-10.75)	**<0.001**
	Unknown/unstaged	2.71 (2.50-2.94)	**<0.001**
Tumor grade	Grade I/well differentiated	1 [Reference]	
	Grade II/moderately differentiated	0.75 (0.70-0.82)	**<0.001**
	Grade III/IV/poorly-undifferentiated	0.96 (0.90-1.03)	**0.227**
	Unknown/blank	0.83 (0.80-0.86)	**<0.001**
Tumor size	≤20 mm	1 [Reference]	
	21-40 mm	1.80 (1.65-1.96)	**<0.001**
	41-60 mm	2.07 (1.90-2.25)	**<0.001**
	>60 mm	2.54 (2.34-2.77)	**<0.001**
	Unknown/missing	2.29 (2.11-2.48)	**<0.001**
Primary tumor surgery	Surgery performed	1 [Reference]	
	No surgery	1.92 (1.84-2.01)	**<0.001**
	Unknown	4.25 (3.79-4.76)	**<0.001**
Radiation therapy	No/unknown radiation	1 [Reference]	
	Radiation given	0.85 (0.82-0.89)	**<0.001**
Chemotherapy	No/unknown chemotherapy	1 [Reference]	
	Chemotherapy yes	0.79 (0.75-0.82)	**<0.001**

Fine-Gray competing-risk regression was performed for cervical cancer-specific mortality, treating death from other causes as a competing event. The model included 62,048 patients and was adjusted for all variables shown in the table. Cervical cancer-specific death was defined according to the SEER cause-specific death classification. Zero-month survival was recoded as 0.5 months for time-to-event modeling.
CI: Confidence interval, CSS: Cancer-specific survival, NOS: Not otherwise specified, SEER: Surveillance, Epidemiology, and End Results, sHR: subdistribution hazard ratio

Supplementary Table 4. Stage-stratified multivariable Cox analysis according to histologic subtype, SEER 2004-2023

Summary stage	Histologic subtype	N	OS events	OS aHR (95% CI)	P value	CSS events	CSS aHR (95% CI)	p value
Localized	Squamous cell carcinoma	27,048	4,188	1 [Reference]		2,131	1 [Reference]	
	Adenocarcinoma			0.90 (0.83-0.98)	**0.018**		1.03 (0.92-1.15)	**0.626**
	Adenosquamous carcinoma			1.37 (1.17-1.60)	**<0.001**		1.83 (1.51-2.22)	**<0.001**
	Neuroendocrine/small cell carcinoma			4.43 (3.54-5.55)	**<0.001**		5.89 (4.61-7.53)	**<0.001**
	Other/rare histology			1.40 (1.22-1.61)	**<0.001**		1.87 (1.55-2.25)	**<0.001**
Regional	Squamous cell carcinoma	22,699	10,475	1 [Reference]		7,949	1 [Reference]	
	Adenocarcinoma			1.21 (1.14-1.28)	**<0.001**		1.30 (1.22-1.39)	**<0.001**
	Adenosquamous carcinoma			1.38 (1.24-1.53)	**<0.001**		1.47 (1.31-1.65)	**<0.001**
	Neuroendocrine/small cell carcinoma			2.28 (1.98-2.62)	**<0.001**		2.44 (2.10-2.84)	**<0.001**
	Other/rare histology			1.56 (1.42-1.71)	**<0.001**		1.68 (1.51-1.86)	**<0.001**
Distant	Squamous cell carcinoma	8,982	7,127	1 [Reference]		6,419	1 [Reference]	
	Adenocarcinoma			1.13 (1.05-1.21)	**<0.001**		1.15 (1.07-1.23)	**<0.001**
	Adenosquamous carcinoma			1.26 (1.11-1.44)	**<0.001**		1.26 (1.09-1.45)	**0.001**
	Neuroendocrine/small cell carcinoma			1.73 (1.54-1.94)	**<0.001**		1.74 (1.54-1.96)	**<0.001**
	Other/rare histology			1.59 (1.47-1.72)	**<0.001**		1.63 (1.50-1.77)	**<0.001**

Stage-stratified Cox proportional hazards were fitted separately among patients with localized, regional, and distant-stage disease. Each model was adjusted for age group, year of diagnosis, race/ethnicity, marital status, county-level household income, rural-urban continuum, primary cervical site, tumor grade, tumor size, primary tumor surgery, radiation therapy, and chemotherapy. Squamous cell carcinoma was used as the reference category within each stage stratum. OS was defined as death from any cause; CSS was defined as death attributable to cervical cancer, with deaths from other causes censored. Zero-month survival was recoded as 0.5 months for time-to-event modeling.
aHR: adjusted hazard ratio, CI: Confidence interval, CSS: Cancer-specific survival, OS: Overall survival, SEER: Surveillance, Epidemiology, and End Results

Supplementary Table 5. Interaction between histologic subtype and summary stage for overall and cancer-specific survival

Outcome	N	Events	Interaction terms tested	Wald χ^2	Histology × stage interaction p value
Overall survival	58,729	21,790	8	215.25	<0.001
Cancer-specific survival	58,729	16,499	8	252.55	<0.001

The interaction between histologic subtype and summary stage was evaluated by adding cross-product terms between histologic subtype and summary stage to the adjusted Cox proportional hazards models. Patients with unknown/unstaged disease were excluded from this interaction analysis; therefore, the interaction contrast included patients with localized, regional, or distant-stage disease. Models were adjusted for the same covariates used in the main multivariable Cox models, including age group, year of diagnosis, race/ethnicity, marital status, county-level household income, rural-urban continuum, primary cervical site, tumor grade, tumor size, primary tumor surgery, radiation therapy, and chemotherapy. The global interaction P value was calculated using a joint Wald test of the histology × stage interaction terms.
CSS: Cancer-specific survival, OS: Overall survival

Supplementary Table 6. Metastatic site distribution among patients with distant-stage cervical cancer, SEER 2010-2023

Characteristic	Category	Total	Squamous cell carcinoma	Adenocarcinoma	Adenosquamous carcinoma	Neuroendocrine/small cell carcinoma	Other/rare histology	p value
Distant-stage cohort, 2010-2023	n	6,734	4,235	1,348	188	290	673	
Metastatic site variables available	2010+ bone/brain/liver/lung	6,734	4,235	1,348	188	290	673	
Bone metastasis	Yes, n (%)	1,166 (17.3)	685 (16.2)	203 (15.1)	34 (18.1)	90 (31.0)	154 (22.9)	**<0.001**
Brain metastasis	Yes, n (%)	155 (2.3)	81 (1.9)	32 (2.4)	3 (1.6)	13 (4.5)	26 (3.9)	**0.002**
Liver metastasis	Yes, n (%)	1,016 (15.1)	511 (12.1)	197 (14.6)	28 (14.9)	108 (37.2)	172 (25.6)	**<0.001**
Lung metastasis	Yes, n (%)	1,874 (27.8)	1,088 (25.7)	369 (27.4)	53 (28.2)	102 (35.2)	262 (38.9)	**<0.001**
Bone/brain/liver/lung site burden	No recorded bone/brain/liver/lung metastasis	3,739 (55.5)	2,504 (59.1)	784 (58.2)	106 (56.4)	96 (33.1)	249 (37.0)	**<0.001**
	Single recorded site	2,026 (30.1)	1,210 (28.6)	378 (28.0)	56 (29.8)	109 (37.6)	273 (40.6)	
	Multiple recorded sites	969 (14.4)	521 (12.3)	186 (13.8)	26 (13.8)	85 (29.3)	151 (22.4)	
Distant-stage cohort, 2016-2023	n with LN/other metastasis variables	3,957	2,462	819	89	174	413	
Distant lymph node metastasis	Yes, n (%)	1,661 (42.0)	1,062 (43.1)	326 (39.8)	38 (42.7)	80 (46.0)	155 (37.5)	**0.114**
Other metastasis	Yes, n (%)	1,178 (29.8)	599 (24.3)	353 (43.1)	30 (33.7)	66 (37.9)	130 (31.5)	**<0.001**

Values are presented as number (%) unless otherwise indicated. Percentages are column percentages within each histologic subtype. The metastatic subgroup included patients with distant-stage cervical cancer diagnosed from 2010 to 2023, because SEER site-specific metastasis variables for bone, brain, liver, and lung are available from 2010 onward. Distant lymph node and other metastasis variables are available from 2016 onward and are therefore summarized in the 2016-2023 subset. P values were calculated using the χ^2 test or Fisher's exact test, as appropriate.
LN: lymph node, SEER: Surveillance, Epidemiology, and End Results

Supplementary Table 7. Survival outcomes in the metastatic subgroup according to histologic subtype and metastatic site, SEER 2010-2023

Characteristic	Category	n	OS events, n (%)	Median OS, months (95% CI)	1-year OS (95% CI)	3-year OS (95% CI)	CSS events, n (%)	Median CSS, months (95% CI)	1-year CSS (95% CI)	3-year CSS (95% CI)	OS log-rank p value	CSS log-rank p value
Histologic subtype	Squamous cell carcinoma	4,235	3,115 (73.6)	13 (95% CI, 13-14)	52.1% (95% CI, 50.6-53.7)	26.2% (95% CI, 24.8-27.7)	2,803 (66.2)	15 (95% CI, 14-16)	55.1% (95% CI, 53.5-56.6)	29.6% (95% CI, 28.0-31.1)	**<0.001**	**<0.001**
	Adenocarcinoma	1,348	994 (73.7)	14 (95% CI, 13-16)	54.1% (95% CI, 51.4-56.8)	26.8% (95% CI, 24.3-29.4)	911 (67.6)	15 (95% CI, 14-17)	56.9% (95% CI, 54.2-59.6)	29.4% (95% CI, 26.7-32.1)		
	Adenosquamous carcinoma	188	147 (78.2)	11 (95% CI, 10-15)	45.8% (95% CI, 38.3-52.9)	23.2% (95% CI, 17.1-29.8)	132 (70.2)	12 (95% CI, 10-18)	48.3% (95% CI, 40.7-55.5)	27.0% (95% CI, 20.3-34.2)		
	Neuroendocrine/small cell carcinoma	290	256 (88.3)	8 (95% CI, 7-10)	32.7% (95% CI, 27.2-38.2)	9.0% (95% CI, 5.9-12.9)	236 (81.4)	9 (95% CI, 8-11)	36.1% (95% CI, 30.3-42.0)	10.2% (95% CI, 6.7-14.5)		
	Other/rare histology	673	589 (87.5)	4 (95% CI, 3-5)	24.3% (95% CI, 21.1-27.7)	10.8% (95% CI, 8.5-13.5)	540 (80.2)	4 (95% CI, 3-5)	27.5% (95% CI, 23.9-31.1)	12.6% (95% CI, 9.9-15.6)		
Bone metastasis	No	5,568	4,129 (74.2)	13 (95% CI, 13-14)	52.0% (95% CI, 50.6-53.3)	26.3% (95% CI, 25.0-27.5)	3,712 (66.7)	15 (95% CI, 14-16)	55.2% (95% CI, 53.8-56.5)	29.5% (95% CI, 28.1-30.8)	**<0.001**	**<0.001**
	Yes	1,166	972 (83.4)	7 (95% CI, 6-8)	33.0% (95% CI, 30.2-35.8)	12.8% (95% CI, 10.7-15.0)	910 (78.0)	8 (95% CI, 7-9)	35.2% (95% CI, 32.4-38.1)	14.7% (95% CI, 12.4-17.2)		
Brain metastasis	No	6,579	4,969 (75.5)	12 (95% CI, 12-13)	49.5% (95% CI, 48.2-50.7)	24.4% (95% CI, 23.2-25.5)	4,496 (68.3)	13 (95% CI, 13-14)	52.5% (95% CI, 51.3-53.8)	27.4% (95% CI, 26.2-28.6)	**<0.001**	**<0.001**
	Yes	155	132 (85.2)	4 (95% CI, 3-5)	17.1% (95% CI, 11.3-23.8)	6.9% (95% CI, 3.1-12.7)	126 (81.3)	4 (95% CI, 3-5)	18.4% (95% CI, 12.3-25.6)	7.4% (95% CI, 3.3-13.6)		
Liver metastasis	No	5,718	4,208 (73.6)	13 (95% CI, 13-14)	52.7% (95% CI, 51.3-54.0)	27.0% (95% CI, 25.7-28.2)	3,790 (66.3)	15 (95% CI, 14-16)	55.7% (95% CI, 54.4-57.1)	30.1% (95% CI, 28.8-31.5)	**<0.001**	**<0.001**
	Yes	1,016	893 (87.9)	6 (95% CI, 5-7)	26.6% (95% CI, 23.9-29.5)	6.6% (95% CI, 5.0-8.6)	832 (81.9)	7 (95% CI, 6-8)	29.1% (95% CI, 26.1-32.1)	8.1% (95% CI, 6.2-10.3)		
Lung metastasis	No	4,860	3,510 (72.2)	15 (95% CI, 14-15)	54.7% (95% CI, 53.2-56.1)	28.3% (95% CI, 26.9-29.7)	3,150 (64.8)	16 (95% CI, 15-17)	57.7% (95% CI, 56.2-59.1)	31.6% (95% CI, 30.1-33.1)	**<0.001**	**<0.001**
	Yes	1,874	1,591 (84.9)	7 (95% CI, 6-8)	33.3% (95% CI, 31.1-35.5)	12.6% (95% CI, 11.0-14.4)	1,472 (78.5)	8 (95% CI, 7-9)	36.2% (95% CI, 33.9-38.5)	14.5% (95% CI, 12.7-16.4)		
Bone/brain/liver/lung site burden	No recorded bone/brain/liver/lung metastasis	3,739	2,587 (69.2)	18 (95% CI, 16-19)	60.1% (95% CI, 58.5-61.7)	32.6% (95% CI, 31.0-34.2)	2,292 (61.3)	20 (95% CI, 19-21)	63.3% (95% CI, 61.7-64.9)	36.2% (95% CI, 34.5-37.9)	**<0.001**	**<0.001**
	Single recorded site	2,026	1,662 (82.0)	9 (95% CI, 9-10)	39.5% (95% CI, 37.3-41.7)	15.8% (95% CI, 14.1-17.6)	1,525 (75.3)	10 (95% CI, 9-11)	42.5% (95% CI, 40.3-44.8)	18.2% (95% CI, 16.3-20.2)		
	Multiple recorded sites	969	852 (87.9)	5 (95% CI, 4-6)	23.7% (95% CI, 21.0-26.5)	6.8% (95% CI, 5.2-8.8)	805 (83.1)	5 (95% CI, 5-6)	25.7% (95% CI, 22.8-28.6)	7.9% (95% CI, 6.0-10.0)		
Distant lymph node metastasis, 2016-2023 subset	No	2,296	1,570 (68.4)	13 (95% CI, 12-14)	50.6% (95% CI, 48.5-52.7)	25.4% (95% CI, 23.4-27.4)	1,410 (61.4)	14 (95% CI, 13-16)	54.3% (95% CI, 52.1-56.4)	28.8% (95% CI, 26.6-31.0)	**0.361**	**0.172**
	Yes	1,661	1,154 (69.5)	12 (95% CI, 11-13)	48.5% (95% CI, 46.0-51.0)	24.2% (95% CI, 21.9-26.6)	1,056 (63.6)	13 (95% CI, 12-14)	51.4% (95% CI, 48.9-53.9)	27.3% (95% CI, 24.7-29.8)		
Other metastasis, 2016-2023 subset	No	2,779	1,900 (68.4)	13 (95% CI, 12-14)	50.9% (95% CI, 48.9-52.8)	26.4% (95% CI, 24.6-28.3)	1,714 (61.7)	14 (95% CI, 13-16)	54.3% (95% CI, 52.4-56.3)	29.7% (95% CI, 27.7-31.7)	**<0.001**	**<0.001**
	Yes	1,178	824 (69.9)	11 (95% CI, 10-13)	47.0% (95% CI, 44.0-50.0)	21.1% (95% CI, 18.4-24.0)	752 (63.8)	13 (95% CI, 11-14)	50.1% (95% CI, 47.0-53.1)	24.2% (95% CI, 21.3-27.3)		

The metastatic subgroup included patients with distant-stage cervical cancer diagnosed from 2010 to 2023. Bone, brain, liver, and lung metastasis variables were available from 2010 onward. Distant lymph node and other metastasis variables were available from 2016 onward and were analyzed in the 2016-2023 subset. OS was defined as death from any cause; CSS was defined as death attributable to cervical cancer, with deaths from other causes censored. Survival probabilities are Kaplan-Meier estimates at 12 and 36 months. Confidence intervals were calculated using Greenwood standard errors with log-log transformation. P values were calculated using the log-rank test.
CI: Confidence interval, CSS: Cancer-specific survival, LN: lymph node, OS: Overall survival, SEER: Surveillance, Epidemiology, and End Results