Abstract EPV039/#175 Table 1 Individual insurance status, Hospital payer mix and associated mortality among cervical cancer patients

	Models adjusted for individual insurance status				Models adjusted for hospital payer mix				Models adjusted for individual insurance status and hospital payer mix			
	Overall Cohort aHR (95%CI)	Stage 1A2-IIA aHR (95%CI)	Stage 2B-4A aHR (95%CI)	Stage 4B aHR (95%CI)	Overall Cohort aHR (95%CI)	Stage 1A2-IIA aHR (95%CI)	Stage 2B-4A aHR (95%CI)	Stage 4B aHR (95%CI)	Overall Cohort aHR (95%CI)	Stage 1A2-IIA aHR (95%CI)	Stage 2B-4A aHR (95%CI)	Stage 4B aHR (95%CI)
Individual Health Insurance												
Private Insurance	Referent	Referent	Referent	Referent					Referent	Referent	Referent	Referent
Medicaid	1.40 (1.35, 1.44)**	1.50 (1.39, 1.61)**	1.31 (1.25, 1.36)**	1.18 (1.11, 1.25)**					1.38 (1.34, 1.43)**	1.49 (1.38, 1.60)**	1.29 (1.24, 1.35)**	1.16 (1.09, 1.24)**
Not Insured	1.32 (1.26, 1.38)**	1.26 (1.14, 1.39)**	1.22 (1.15, 1.30)**	1.20 (1.11, 1.30)**					1.30 (1.24, 1.37)**	1.25 (1.13, 1.38)**	1.21 (1.14, 1.29)**	1.19 (1.09, 1.29)**
Pay Mix Hospital Quartile (percentage uninsured/Medicaid insured)												
Q1 (0-17.6%)					Referent	Referent	Referent	Referent	Referent	Referent	Referent	Referent
Q2 (17.7-26.8%)					1.06 (1.00, 1.12)*	1.04 (0.95, 1.13)	1.08 (1.02, 1.16)*	1.03 (0.95, 1.11)	1.04 (0.98, 1.09)	1.02 (0.93, 1.11)	1.07 (1.00, 1.14)*	1.01 (0.94, 1.09)
Q3 (26.9-36.0%)					1.10 (1.04, 1.16)*	1.08 (0.99, 1.18)	1.10 (1.02, 1.17)*	1.09 (1.00, 1.18)*	1.05 (0.99, 1.11)	1.03 (0.94, 1.13)	1.06 (0.99, 1.13)	1.06 (0.98, 1.15)
Q4 (SNH) (36.1-95.3%)					1.14 (1.08, 1.20)**	1.12 (1.03, 1.22)*	1.14 (1.07, 1.21)**	1.10 (1.01, 1.19)*	1.06 (1.01, 1.12)*	1.04 (0.95, 1.13)	1.08 (1.01, 1.15)*	1.05 (0.97, 1.14)

*P<0.05, **P<0.001.

Marginal cox proportional hazards models adjusted for hospital clustering, patient's age, race, year of diagnosis, zip code median house income quartile, charlson comorbidity score, cancer substage, histology, grade and tumor size. Values reported as hazard ratios with 95% confidence interval.

Change of AIC (Akaike information criterion) in multivariable model omitting individual insurance =731; change of AIC in multivariable model omitting individual insurance = 10.

Methods We used the National Cancer Database to identify cervical cancer patients diagnosed 2004–2017. Patients were classified by insurance status (Medicaid/uninsured vs. private) and hospitals were grouped into quartiles based on the proportion of uninsured/Medicaid patients (payer mix) (top quartile defined as SNHs). Quality-of-care was assessed by adherence to evidence-based metrics and survival by proportional hazards models. Individual contributions of insurance status and hospital payer mix on quality-of-care and survival were assessed.

Results A total of 124,339 patients including 11,338 uninsured (9.1%) and 27,281 Medicaid (21.9%) recipients treated at 1156 hospitals were identified. Quality-of-care was not significantly different across hospital quartiles. Adjusting for clinical/demographic characteristics and hospital payer mix, treatment at a SNH was associated with a 14% higher mortality (HR=1.14; 95%CL, 1.08–1.20) than Q1 hospitals. Adjusting for individual insurance, uninsured women had 32% increased mortality (HR=1.32; 95%CI, 1.26–1.38) and Medicaid recipients 40% increased (HR=1.40; 95%CI, 1.35–1.44) compared to privately insured subjects. Adjusting for both payer mix and insurance status, only individual insurance retained a significant impact on mortality (table 1).

Conclusions Individual insurance status (having Medicaid or no insurance) may be a more important predictor of survival than site of care and hospital payer mix for women with cervical cancer.

EPV040/#185 THE PROGNOSTIC VALUE OF THE NUMBER OF POSITIVE LYMPH NODES AND THE LYMPH NODE RATIO IN EARLY STAGE CERVICAL CANCER

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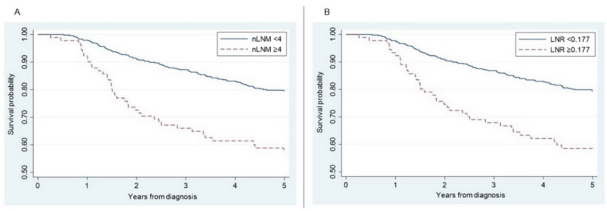
Objectives Lymph node metastases are now incorporated into the 2018 International Federation of Gynecology and Obstetrics (FIGO) staging system for cervical cancer. However, the number of positive lymph nodes (nLNM) or the lymph node ratio (LNR) might provide a better prediction of survival. The aim of this study is to establish the impact of nLNM and LNR on survival in early-stage cervical cancer patients after surgery.



Abstract EPV040/#185 Figure 1 Kaplan-Meier curves, 5-year overall survival categorizes by (A) nLNM risk-groups and (B) LNR risk-groups.

Methods In this population-based study, we selected all women diagnosed between 1995–2020 with FIGO 2009 stage IA2-IIA1 cervical cancer and nodal metastases after radical hysterectomy and pelvic lymphadenectomy from the Netherlands Cancer Registry. Optimal cut-offs for prognostic stratification by nLNM and LNR were calculated to categorize patients in low- or high-risk groups. Kaplan-Meier overall survival analysis and flexible parametric relative survival analysis were used to determine the impact of nLNM and LNR on survival. Missing data were imputed.

Results Of 593 patients, 500 and 501 (84%) were categorized in the low-risk and 93 and 92 (16%) in the high-risk groups for nLNM (≥4) and LNR (≥0.177), respectively. Both high-risk groups had a worse 5-year overall survival (p<0.001) and were, together with non-squamous histology, independent risk factors for relative survival, with excess hazard ratios of 2.4 (95% CI 1.6–3.5) for nLNM and 2.5 (95% CI 1.7–3.8) for LNR.

Conclusions Presenting a patient's nodal status postoperatively by the number of positive nodes, or by its ratio, can support further risk stratification regarding survival in case of node-positive early-stage cervical cancer.

EPV041/#196 HYSTERECTOMY AFTER CHEMORADIOTHERAPY FOR LOCALLY ADVANCED CERVICAL CANCER – EVALUATION OF PROGNOSTIC FACTORS AND SURVIVAL

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Objectives Evaluate survival and prognostic factors of surgery after chemoradiotherapy (CRT) for locally advanced cervical cancer (LACC).

Methods A retrospective study was performed comparing patients who had undergone surgery following primary CRT for LACC to a control group treated only with CRT.

Results 176 patients fulfilled the inclusion criteria. Residual disease (RD) was found in 48 (55,2%) patients submitted to surgery, 32 (66,7%) had adenocarcinoma (p=0,054). The main prognostic factor related to RD in a multivariate analysis was adenocarcinoma histologic type (p = 0,005, HR = 5,54 (1,69–18,12)). Patients with RD presented higher recurrence

rates n = 25 (73,5%) than those with complete pathologic response n = 9 (26,5%) (p = 0,006). Surgery performed until 6 months after CRT reduced recurrences in the first 5 years of follow up (p=0,01). Among patients submitted to surgery with RD, 89,5% (n = 17/19) presented distant metastasis during follow up (p=0,03). Multivariated analysis showed RD as a predictive factor for recurrence (p=0,02, HR = 1,85 CI (1,07–3,19)). DFS and OS was not significantly different between surgery and control group (log rank test, p = 0,25 and p = 0,13, respectively). In multivariate analysis, overall survival was found to be associated with RD (p=0,001) and recurrence (p<0,001).

Conclusions Completion surgery after CRT highlights the pathologic response as a prognostic factor. It cannot be accessed with accuracy by physical exam, imaging or biopsy and is associated with recurrence and death bringing information that can be used to tailor further treatment.

EPV042/#199 RACIAL AND REGIONAL DISPARITIES IN THE DIAGNOSIS OF ADVANCED STAGE CERVICAL CANCERS IN THE US: WHO IS MOST AT RISK?

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Objectives Prior studies have found an increase in advanced stage cervical cancers in the US. We propose to determine the high risk group based on demographic and clinical characteristics.

Methods Microscopic confirmed cervical cancer was obtained from United States Cancer Statistics (USCS) from 2001 to 2017. Age-adjusted incidence (AAI, per 100,000 women, corrected by US 2000 standard population), age-specific incidence (ASI, per 100,000 women), and trends were calculated by SEER*Stat 8.3.8 and Joinpoint Regression Program 4.8.0.1.

Results Of 27,102 patients with advanced stage cervical cancer from 2001–2017, 17,097 (63%) were White, 4,939 (5%) were Black, 3,636 were Hispanic (2%), and 1,117 were Asian (0.5%). Squamous and adenocarcinoma consists of 17,867 and 4,992 patients, respectively. The age group with the highest incidence of advanced cancer was 50–54 years, 2.29/100,000. Based on race, Black and Hispanic patients have higher incidence at 1.35/100,000 and 1.18/100,000 compared to White patients, 0.86/100,000. With respect to region, the South has the greatest incidence at 1.04/100,000. The intersectionality of age, race and region finds that Black women, aged 65–69, residing in the South have the highest incidence at 4.19/100,000, an incidence nearly three times higher than White women of the same age in the South at only 1.63/100,000.

Conclusions Advanced stage cervical cancer continues to disproportionately affect minorities in Southern regions in the US. Resources toward screening and vaccination are needed in these at risk groups.

EPV043/#200 THE INCREASING INCIDENCE OF METASTATIC CERVICAL CANCER IN THE UNITED STATES – WHAT FACTORS ARE RESPONSIBLE?

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Objectives To determine the incidence and trends of advanced stage cervical cancer in the United States.

Methods Data were obtained from the U.S. Cancer Statistics program from 2001–2017. SEER*Stat 8.3.8 and Joinpoint regression program 4.8.0.1 were used to calculate incidence trends.

Results of 27,102 patients with advanced stage cervical cancer from 2001–2017, 17,097 (63%) were White, 4,939 (5%) were Black, 3,636 were Hispanic (2%), and 1,117 were Asian (0.5%). Over time, there has been an annual increase in advanced stage cervical cancer at a rate of nearly 2% per year (p<0.001); however, those with early stage cancers have a decrease of 1.54% annually (p<0.001). Women aged 30 to 65 years showed an overall increase in incidence, however those 30–34 years olds have a particularly high increase at 3.39% annually (p<0.001). Although the overall incidence of advanced cancers is higher in Hispanic and Black populations, there is an increasing number of new cases in White women at 2.39% annually (p<0.001). Compared to other groups, the intersection of White women aged 40–44 in the South have the highest average annual increase at 5.07% (p<0.001).

Conclusions Although the overall incidence of advanced cervical cancers is highest in Hispanic and Black women, there is an increase in incidence in White women particularly in the Southern region of the U.S. More research is needed to understand this trend particularly in relation to screening and treatment of precancerous disease.

EPV044/#201 UNDERSTANDING THE NEVER-SCREENED POPULATION FOR CERVICAL CANCER IN THE UNITED STATES – A DESCRIPTIVE AND TREND ANALYSIS

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