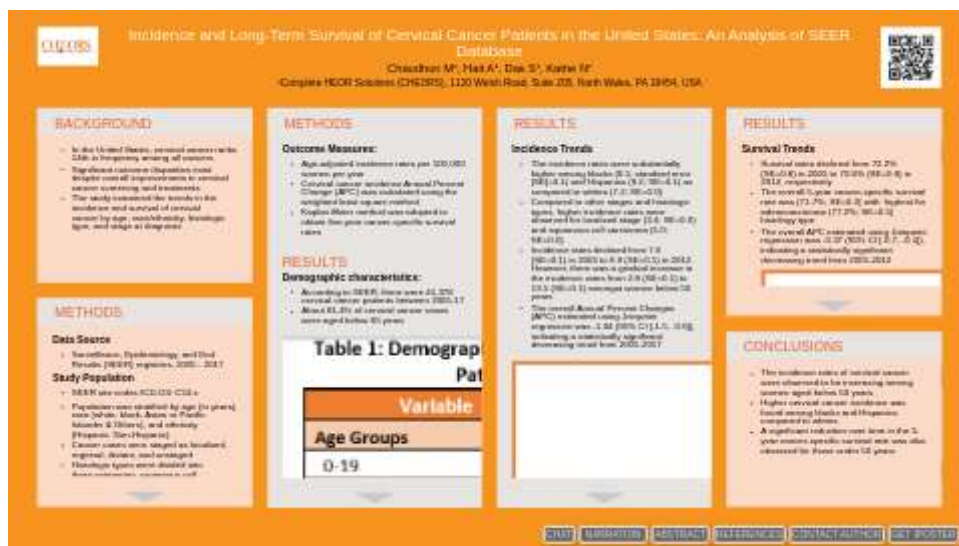


Incidence and Long-Term Survival of Cervical Cancer Patients in the United States: An Analysis of SEER Database



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PRESENTED AT:



BACKGROUND

- In the United States, cervical cancer ranks 14th in frequency among all cancers
- Significant outcome disparities exist despite overall improvements in cervical cancer screening and treatments
- The study examined the trends in the incidence and survival of cervical cancer by age, race/ethnicity, histologic type, and stage at diagnosis

METHODS

Data Source

- Surveillance, Epidemiology, and End Results (SEER) registries, 2005 - 2017

Study Population

- SEER site codes ICD-O3: C53.x
- Population was stratified by age (in years), race (white, black, Asian or Pacific Islander & Others), and ethnicity (Hispanic, Non-Hispanic)
- Cancer cases were staged as localized, regional, distant, and unstaged
- Histologic types were divided into three categories: squamous cell carcinoma (ICD-O codes 8050–8130), adenocarcinoma (ICD-O codes 8140–8147, 8160–8162, 8180–8221, 8250–8506, 8520–8550, 8570–8573, and 8940–8941) and adenosquamous carcinoma (ICD-O 8560–8562 and 8015)

METHODS

Outcome Measures:

- Age-adjusted incidence rates per 100,000 women per year
- Cervical cancer incidence Annual Percent Change (APC) was calculated using the weighted least square method
- Kaplan Meier method was adopted to obtain five-year cancer-specific survival rates

RESULTS

Demographic characteristics:

- According to SEER, there were 41,378 cervical cancer patients between 2005-17
- About 81.4% of cervical cancer cases were aged below 65 years

Table 1: Demographic Characteristics of Cervical Cancer Patients, US 2005-2017

Variable	N	%
Age Groups		
0-19	29	0.07
20-29	2178	5.26
30-39	8670	20.95
40-49	10658	25.76
50-64	12150	29.36
65+	7693	18.59
Race/Ethnicity		
White	30977	74.86
Black	5659	13.68
Asian/Pacific Islander	3882	9.38
Hispanic	9389	22.69
Non-Hispanic	31989	77.31
Histologic Subtypes		
Squamous cell carcinoma	29065	70.24
Adenocarcinoma	10742	25.96
Adenosquamous carcinoma	1571	3.80
Stages		
Localized	19278	46.59
Regional	15205	36.75
Distant	5546	13.40
Unknown	1349	3.26

RESULTS

Incidence Trends

- The incidence rates were substantially higher among blacks (8.1; standard error [SE]=0.1) and Hispanics (9.2; SE=0.1) as compared to whites (7.2; SE=0.0)
- Compared to other stages and histologic types, higher incidence rates were observed for localized stage (3.4; SE=0.0) and squamous cell carcinoma (5.0; SE=0.0)
- Incidence rates declined from 7.6 (SE=0.1) in 2005 to 6.9 (SE=0.1) in 2012. However, there was a gradual increase in the incidence rates from 2.8 (SE=0.1) to 13.5 (SE=0.1) amongst women below 50 years
- The overall Annual Percent Changes (APC) estimated using Joinpoint regression was -1.04 (95% CI [-1.5, -0.6]), indicating a statistically significant decreasing trend from 2005-2017

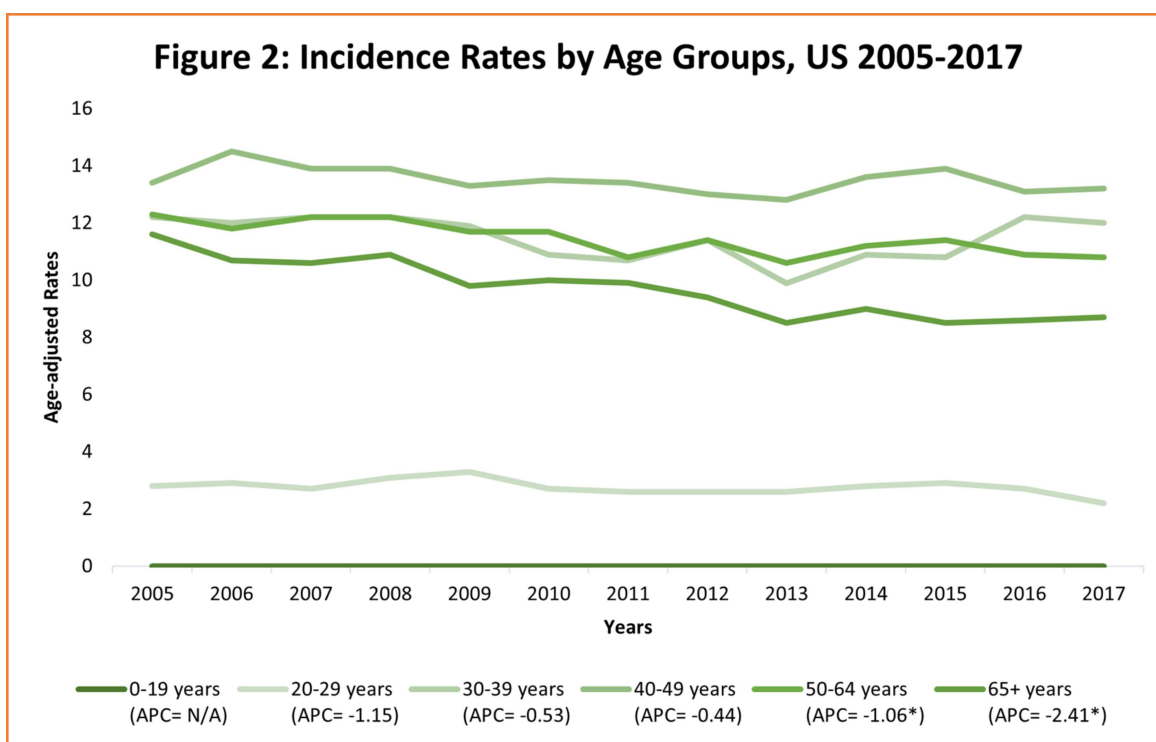
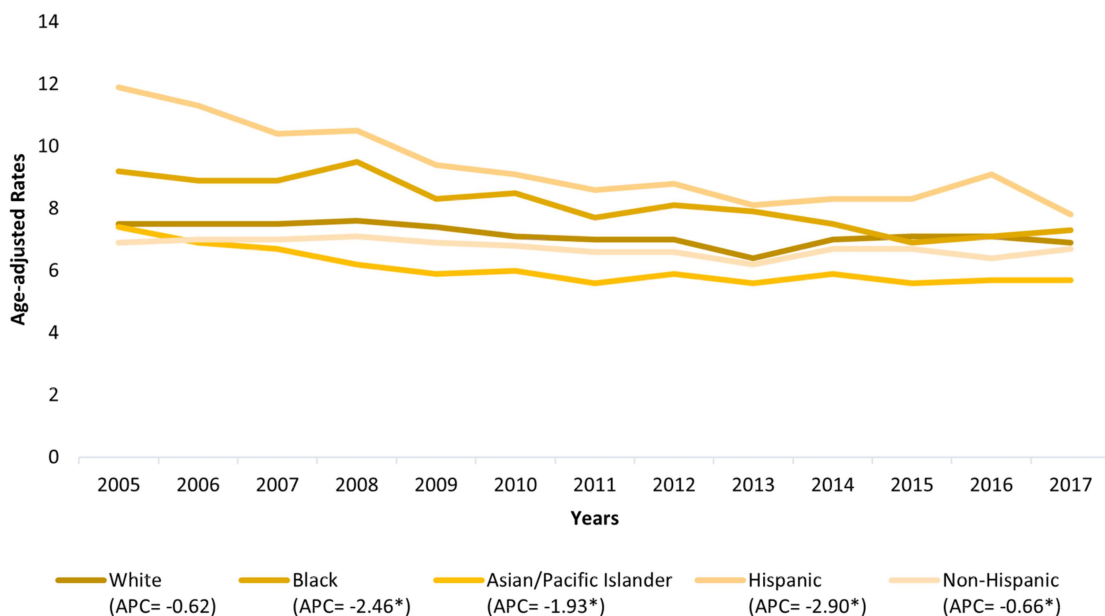
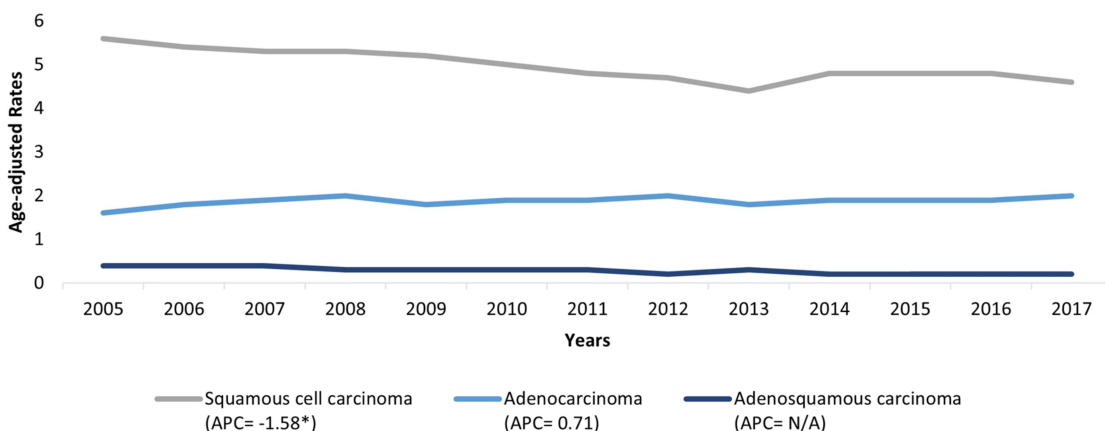
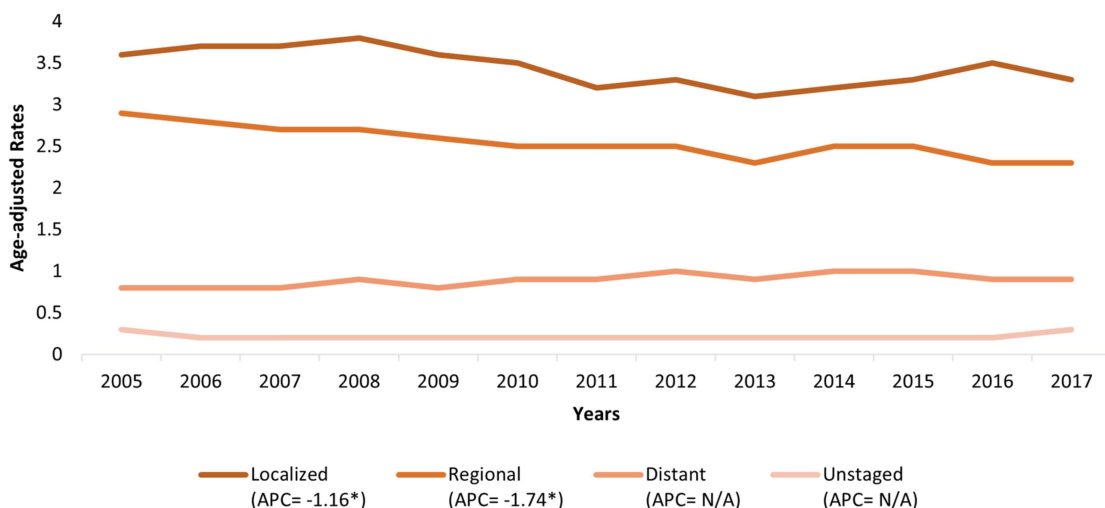


Figure 3: Incidence Rates by Race/Ethnicity, US 2005-2017**Figure 4: Incidence Rates by Histologic Subtypes, US 2005-2017****Figure 5: Incidence Rates by Stages, US 2005-2017**

** indicates statistically significant trends; APC: Annual Percent Change*

RESULTS

Survival Trends

- Survival rates declined from 72.2% (SE=0.8) in 2005 to 70.6% (SE=0.9) in 2012, respectively
- The overall 5-year cancer-specific survival rate was (71.7%; SE=0.3) with highest for adenocarcinoma (77.2%; SE=0.5) histology type
- The overall APC estimated using Joinpoint regression was -0.37 (95% CI [-0.7, -0.1]), indicating a statistically significant decreasing trend from 2005-2012

Figure 6: 5-year Cancer Specific Survival Rates by Age Groups, US 2005-2012

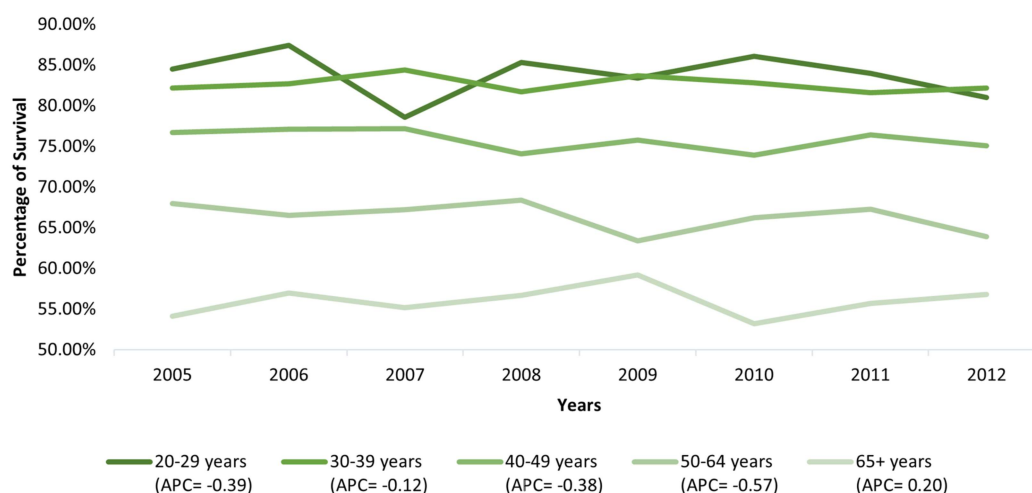
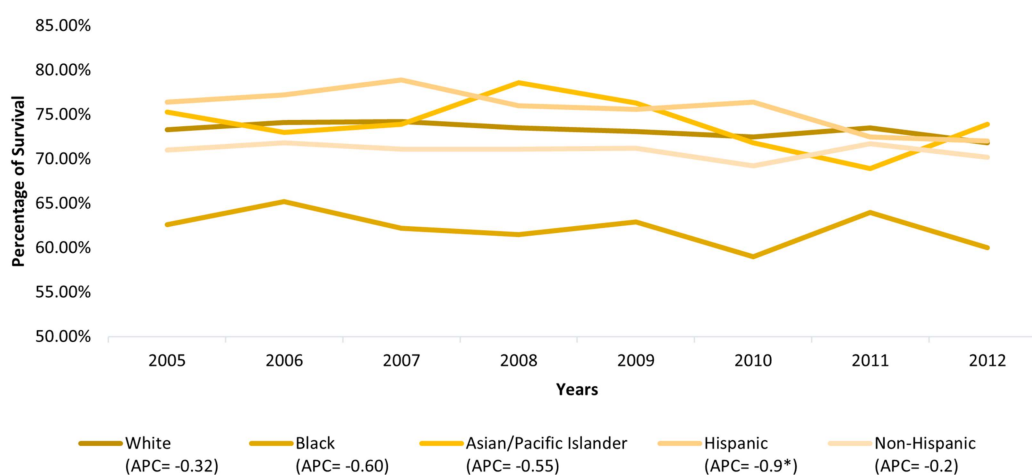
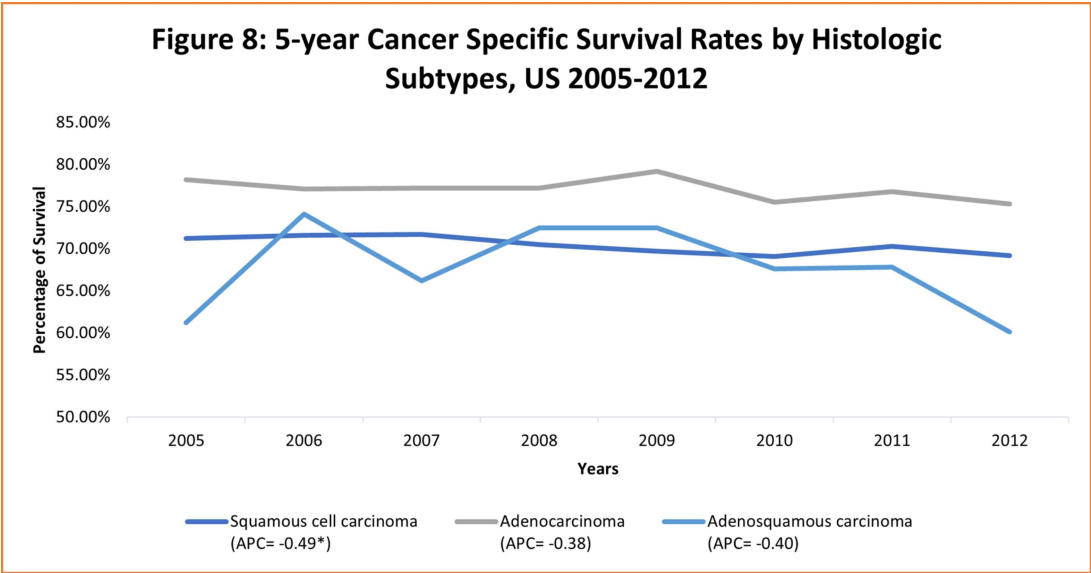


Figure 7: 5-year Cancer Specific Survival Rates by Race/Ethnicity, US 2005-2012





** indicates statistically significant trends; APC: Annual Percent Change*

CONCLUSIONS

- The incidence rates of cervical cancer were observed to be increasing among women aged below 50 years
- Higher cervical cancer incidence was found among blacks and Hispanics compared to whites
- A significant reduction over time in the 5-year cancer-specific survival rate was also observed for those under 50 years

ABSTRACT

Title

INCIDENCE AND LONG-TERM SURVIVAL OF CERVICAL CANCER PATIENTS IN THE UNITED STATES, AN ANALYSIS OF SEER DATABASE

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Abstract

OBJECTIVES: Cervical cancer in the United States has decreased substantially since the implementation of widespread screening and prevention measures. This study examined the patterns in incidence and survival rates for cervical cancer in recent years.

METHODS: Using Surveillance, Epidemiology, and End Results (SEER) population-based data, we identified patients with cervical carcinoma (ICD-03: C53.x) diagnosis between January 01, 2005, and December 31, 2017. We calculated annual, age-adjusted incidence rates of cervical carcinoma per 100,000 individuals by age, race/ethnicity, stage at diagnosis, and histologic type. Kaplan Meier method was used to obtain five-year cancer-specific survival rates.

RESULTS: According to SEER, there were 41,378 cervical carcinoma patients between 2005-17. About 81.4% of cervical cancer cases were aged below 65 years. The incidence rates were substantially higher among blacks (8.1; standard error [SE]=0.1) and Hispanics (9.2; SE=0.1) as compared to whites (7.2; SE=0.0). Compared to other stages and histologic types, higher incidence rates were observed for localized stage (3.4; SE=0.0) and squamous cell carcinoma (5.0; SE=0.0). The overall 5-year cancer-specific survival rate was (71.7%; SE=0.3), while it was highest for adenocarcinoma (77.2%; SE=0.5) histology type. Incidence rates and survival rates declined from 7.6 (SE=0.1) in 2005 to 7.0 (SE=0.1) in 2012 and 72.2% (SE=0.8) in 2005 to 70.6% (SE=0.9) in 2012, respectively. However, there was a gradual increase in the incidence rates from 2.8 (SE=0.1) to 13.5 (SE=0.1) amongst women below 50 years.

CONCLUSIONS: Even though the overall incidence rate is on the decline, there was a noticeable increase in incidence amongst patients under 50 years. A significant decrease in the 5-year survival rate was also observed. These patterns warrant concerted efforts to increase the early prevention and screening of cervical cancer.

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