

# Using Cancer Registry Data to Develop Indiana's First Cervical Cancer Strategic Plan

Caylie Simon, BA; Keylee Wright, MA; Megan Agnew, MPH

Indiana State Department of Health

## Background

Cervical cancer is almost 100 percent preventable through regular screening, avoidance of controllable risk factors, and vaccination against the human papillomavirus (HPV). Nationally in 2018, there were an estimated 13,240 cases of cervical cancer diagnosed and 4,170 deaths due to cervical cancer. In Indiana, approximately 264 new cases of cervical cancer and 88 cervical cancer-related deaths occur annually (Table 1).

**Table 1. Cervical Cancer Incidence and Mortality — Indiana, 2012-2016**

	Average number of cases per year	Rate per 100,000 women*
<b>Incidence</b>	264	8.0
<b>Deaths</b>	88	2.5

\*Age-adjusted to the US 2000 Standard Population.  
Source: Indiana State Cancer Registry

## Purpose

To address the state's cervical cancer burden and to develop a strategic plan to identify and significantly reduce morbidity and mortality from cervical cancer in Indiana, the Indiana State Department of Health (ISDH) Cancer Epidemiologist analyzed Indiana State Cancer Registry (ISCR) data to determine the extent of the cervical cancer burden in the state for the strategic plan.

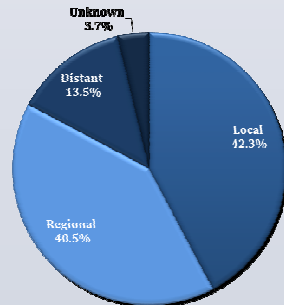
## Methods

Cases for 2012-2016 were pulled from the ISCR from a recent evaluation and for 2002-2016 to determine the burden over a longer time period. Items assessed were incidence, mortality, affected ages, stage at diagnosis, race/ethnicity and rural/urban counties.

## Results

During 2012-2016, the average yearly cervical cancer incidence and mortality rates were 8.0\* and 2.5\* per 100,000 women, respectively (Table 1). Most cervical cancers were diagnosed during the regional or distant stages (54%) (Figure 1).

**Figure 1. Stage Distribution of Invasive Cervical Cancer Cases—Indiana, 2012-2016\***

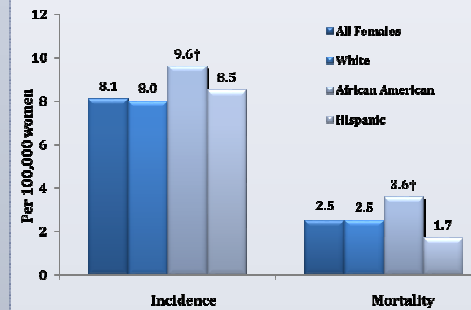


\*Only includes invasive cases; in situ cases are not reportable.  
Source: Indiana State Cancer Registry

Approximately 43% of cervical cancers were diagnosed among women ages 45 to 64 years.

During 2002-2016, black women had significantly higher incidence and mortality rates (9.6\* and 3.6\* per 100,000 women, respectively) compared to white women (8.0\* and 2.5\* per 100,000 women, respectively) (Figure 2).

**Figure 2. Cervical Cancer Incidence and Mortality by Race/Ethnicity—Indiana, 2002-2016\***



\*Age-adjusted to the US 2000 Standard Population.

†Rate among African American females is significantly higher ( $P < .05$ ) than the rate among white females

Source: Indiana State Cancer Registry

Additionally, rural counties had significantly higher incidence rates compared to urban counties (8.6\* vs. 8.0\* per 100,000 women, respectively) (Table 2).

**Table 2. Cervical Cancer Incidence and Mortality by Rural/Urban Status—Indiana, 2002-2016\***

	Indiana	Urban Counties	Rural Counties
<b>Incidence</b>	8.1	8.0	8.6†
<b>Deaths</b>	2.5	2.5	2.7

\*Number of cases per 100,000 women; age-adjusted to the 2000 US Standard Population.

†Rate among rural counties is significantly higher ( $P < .05$ ) than the rate among urban counties.

Source: Indiana State Cancer Registry

## Conclusion

The ISDH used ISCR data to develop the first of its kind state cervical cancer strategic plan. The plan includes four focus areas across the cancer control continuum. One of the 10 objectives is to reduce late-stage (regional and distant) cervical cancer diagnoses in Indiana from 54% to 40% by 2028 as measured by the ISCR.

Indiana Cervical Cancer Strategic Plan  
2019-2028



## Sources

Indiana State Cancer Registry, <https://www.in.gov/isdh/24968.htm>  
Indiana Cervical Cancer Strategic Plan, 2019-2028, <https://www.in.gov/isdh/22689.htm>

## Contact Information

Caylie Simon, cancer epidemiologist  
csimon@isdh.IN.gov  
Keylee Wright, cancer control section director  
kwright@isdh.IN.gov  
Megan Agnew, cancer policy and communications director  
magnew1@isdh.IN.gov