Changes Over Time and Disparities in Kentucky's Colorectal, Female Breast, Cervical and Lung Cancer Burden

Kentucky Cancer Consortium Webinar
May 11, 2023

Presented by:

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Topics to be Covered

- The major types of cancer for which there are evidence-based interventions
- Trends and disparities in colorectal cancer incidence and mortality
- Discussion (How to address colorectal cancer disparities)
- Trends and disparities in breast cancer incidence and mortality
- Discussion (How to address breast cancer disparities)
- Trends and disparities in cervical cancer incidence and mortality
- Discussion (How to address cervical cancer disparities)
- Trends and disparities in lung cancer incidence and mortality
- Discussion (How to address lung cancer disparities)

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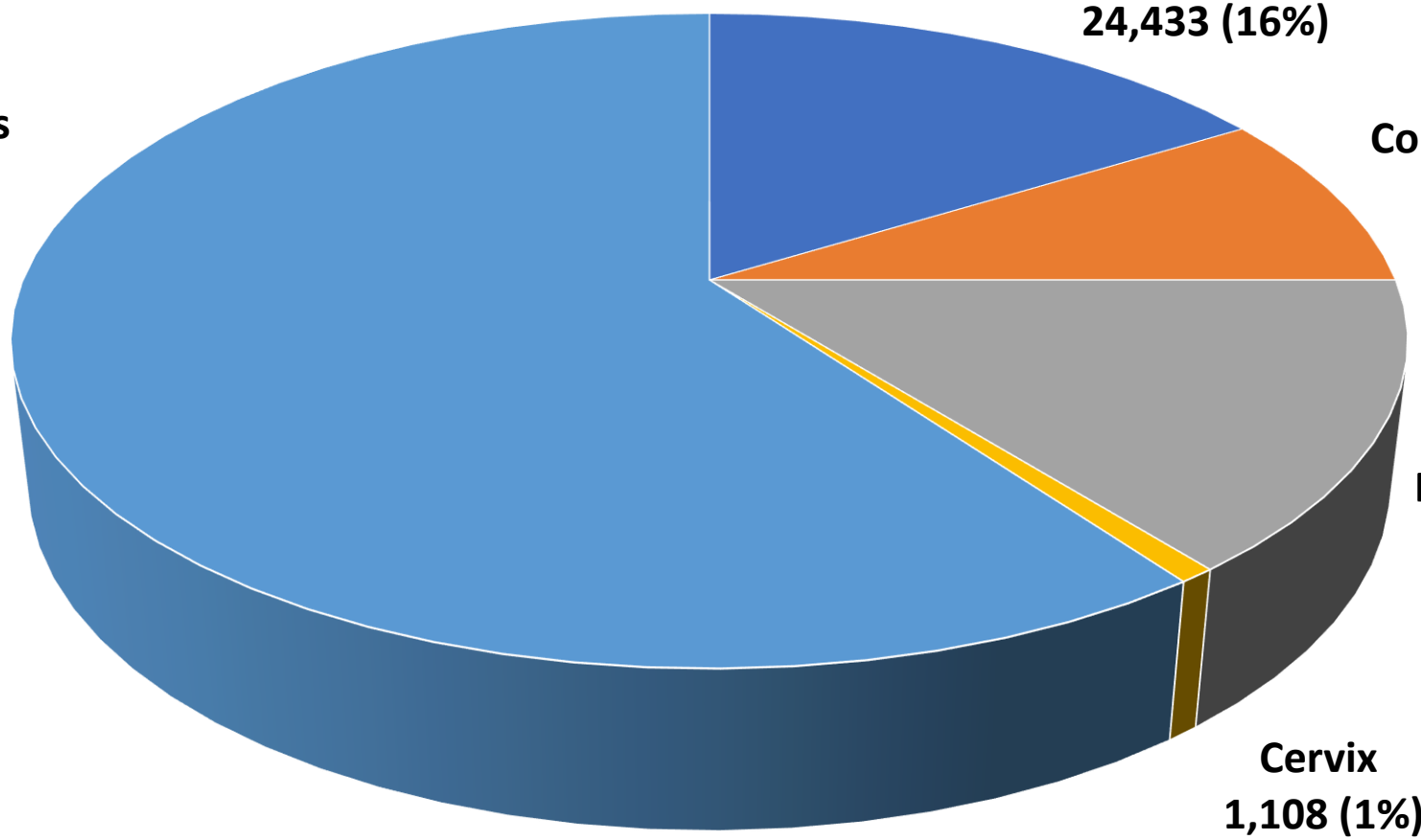
Lung, Colorectal, Breast & Cervical Cancers are 40% of all Cancer Cases Diagnosed in Kentucky Annually, 2016-2020



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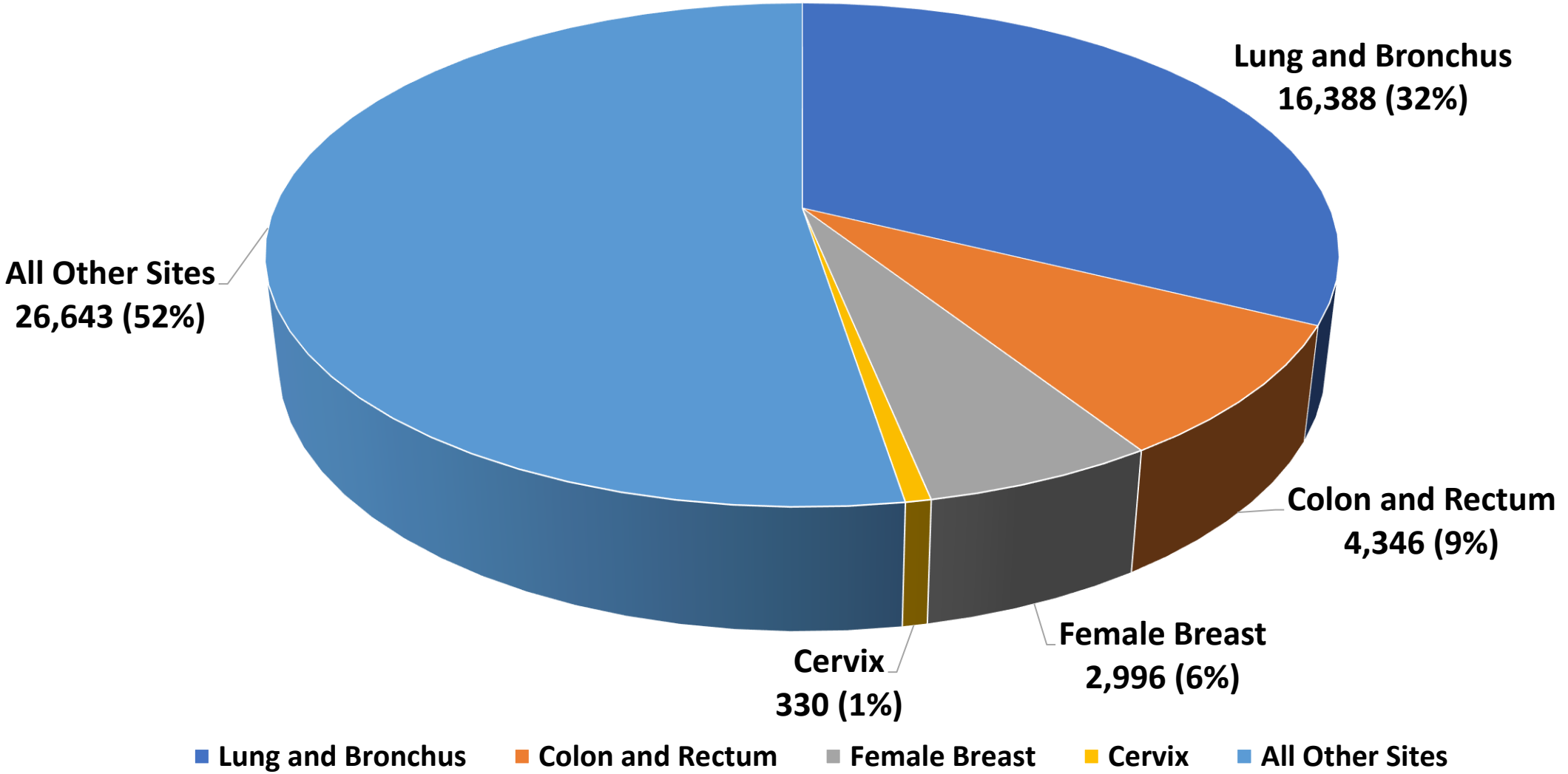
Lung, Colorectal, Breast & Cervical Cancers are 48% of all Cancer Deaths Occurring in Kentucky Annually, 2015-2019



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Colorectal Cancer Incidence

Thomas C. Tucker, PhD, MPH

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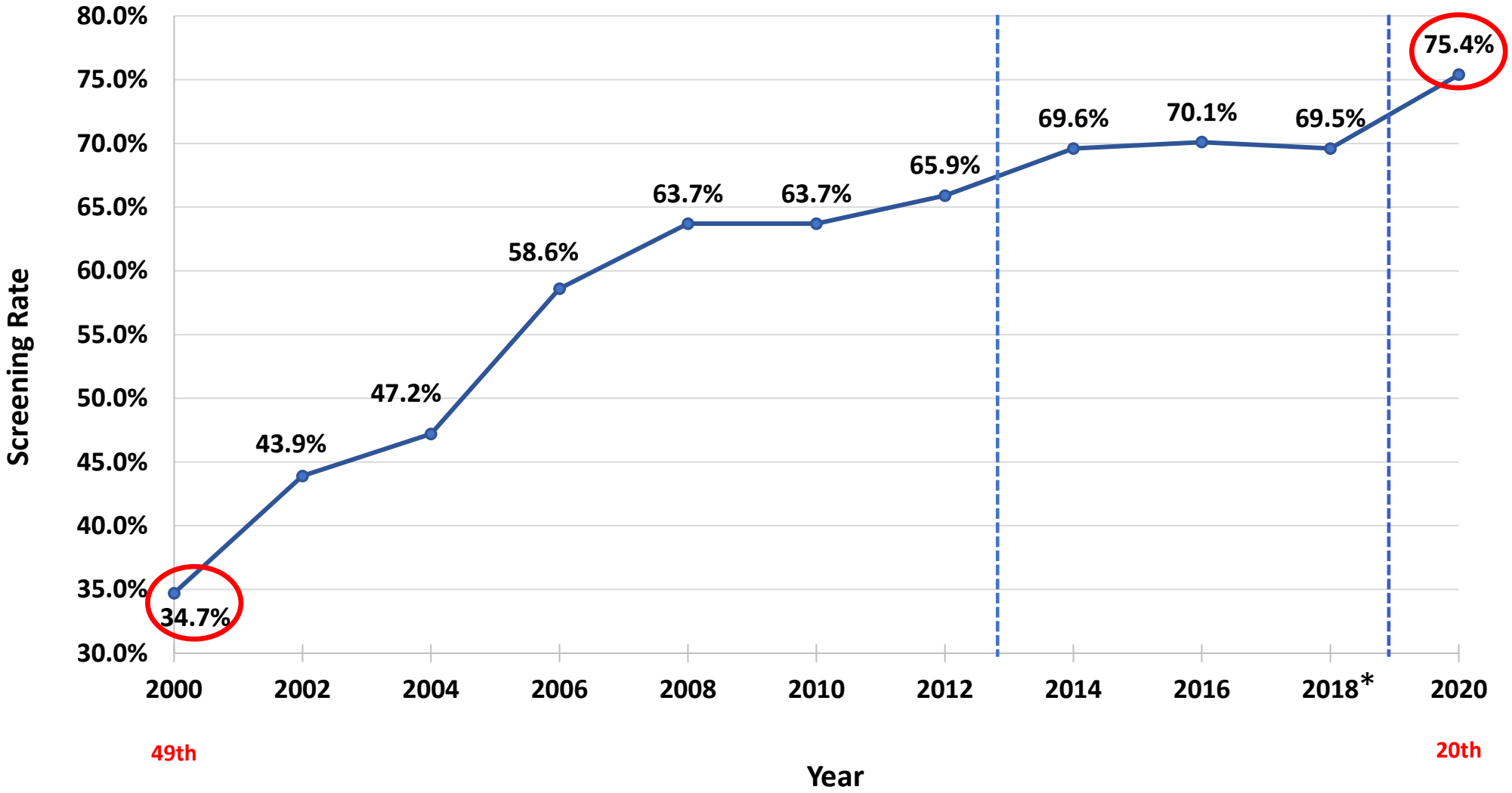
Colorectal Cancer Screening in Kentucky



Note: The BRFSS questions regarding colorectal cancer (CRC) screening changed in 2014. From 2014 2018 we are using the percent of the population age 50 to 75 who fully met the USPSTF guidelines for CRC screening. There was an additional small change in 2020, we will need to use this measure to continue to evaluate the impact of our efforts to increase CRC screening over time.

Source: http://cdc.gov/brfss, Accessed November 2022

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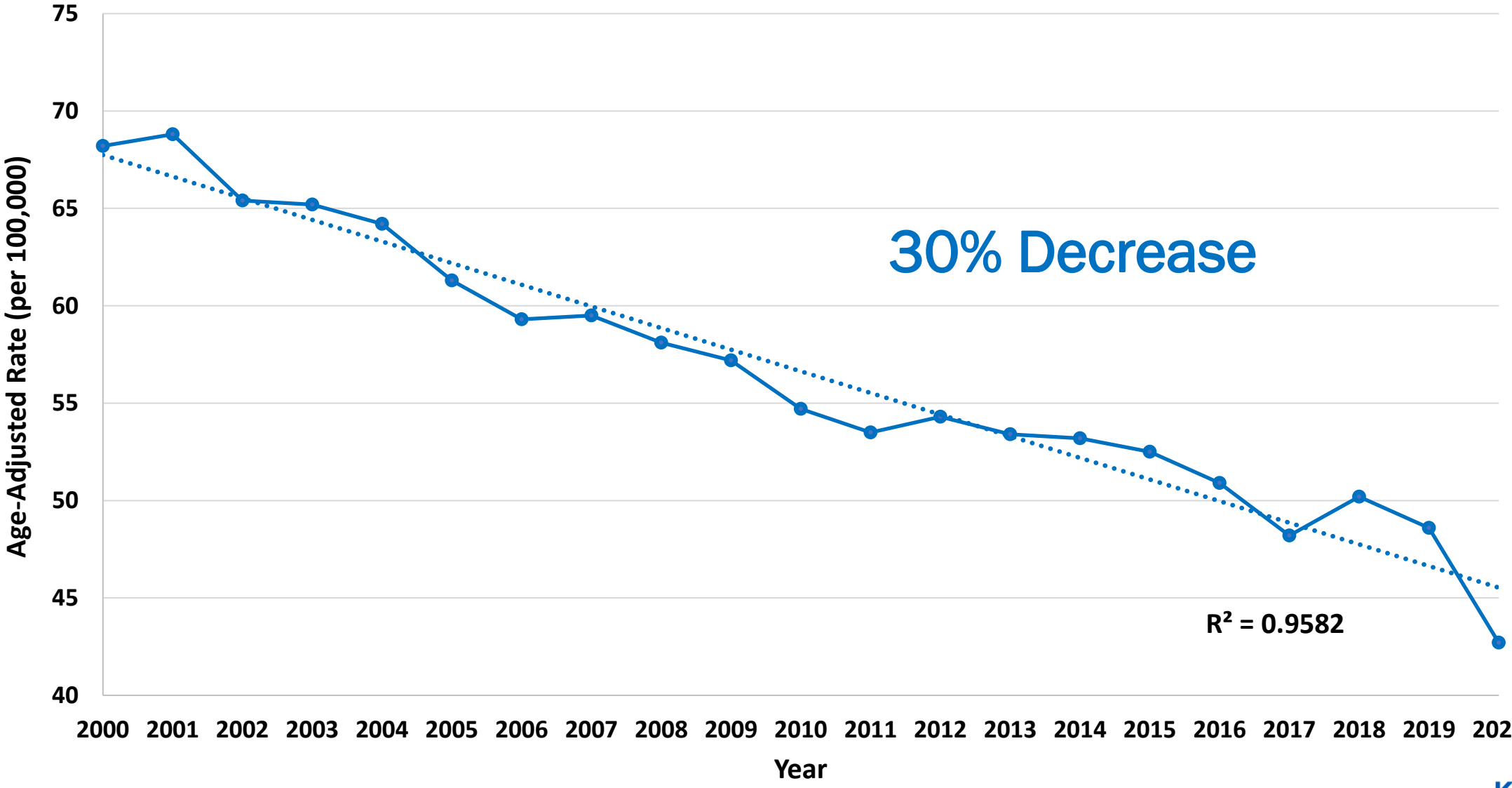
Colon and Rectum Incidence Rates, 2000-2020



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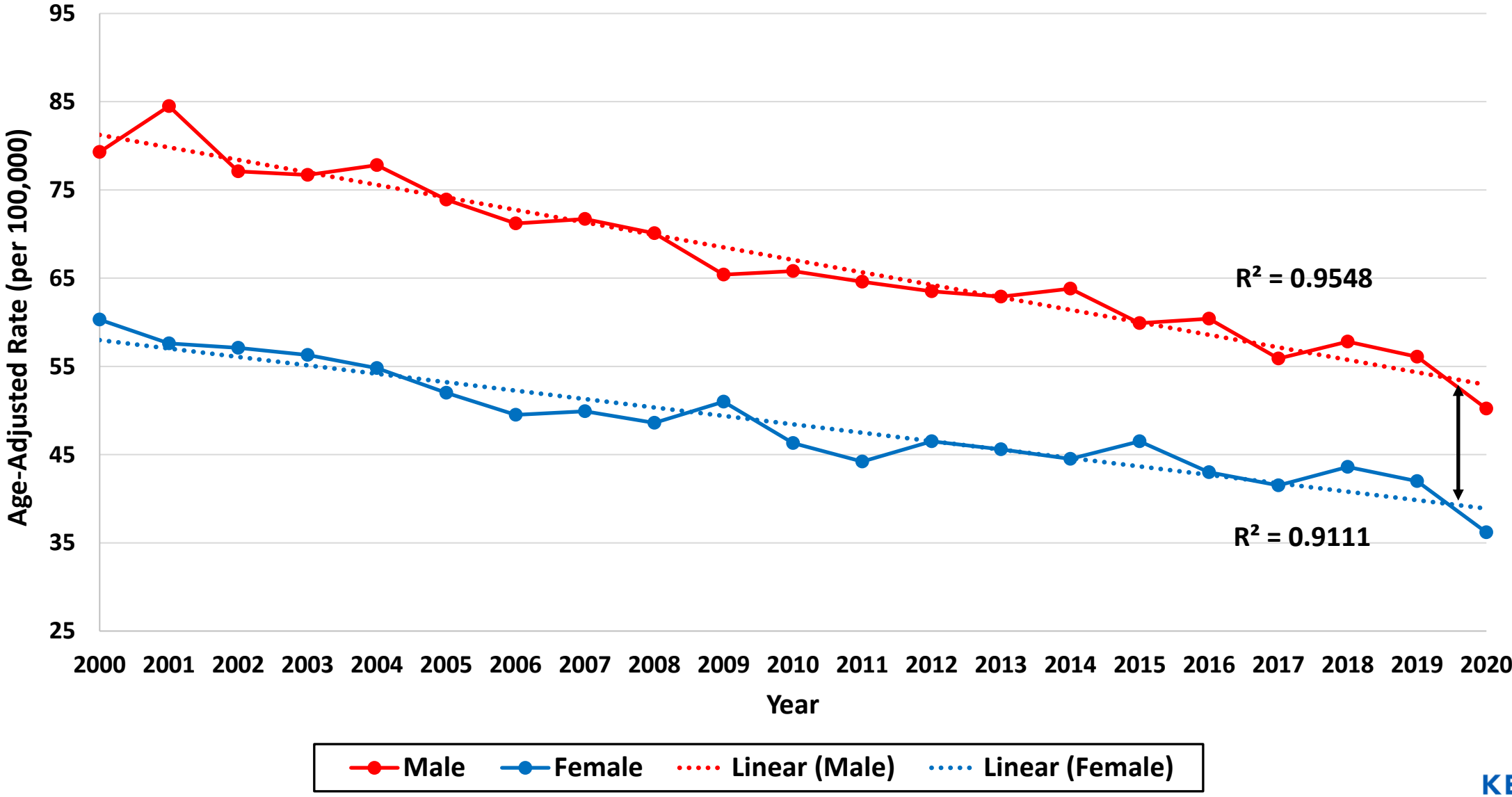
Male vs. Female Colon and Rectum Incidence Rates, 2000-2020



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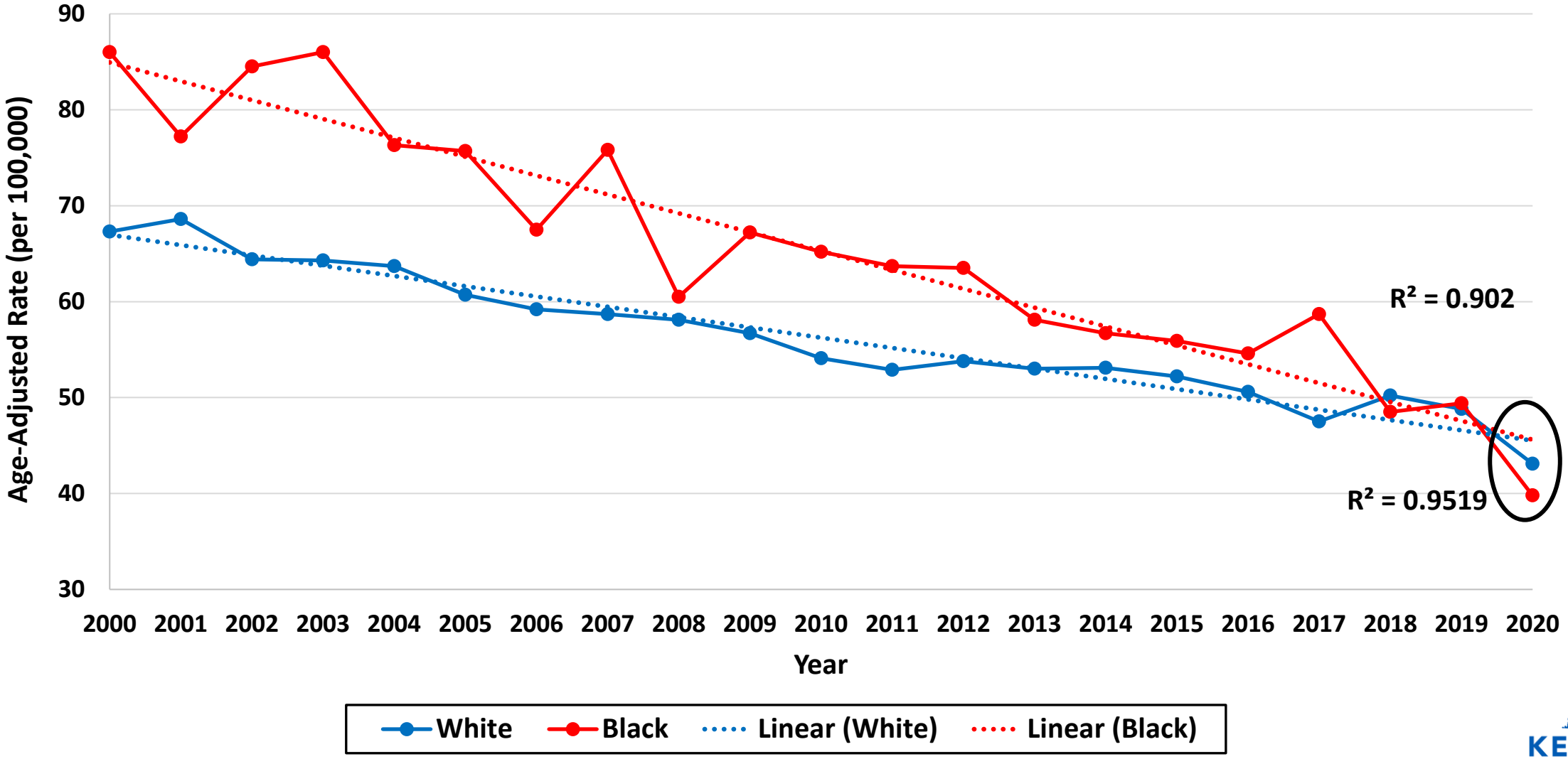
White vs. Black Colon and Rectum Incidence Rates, 2000-2020



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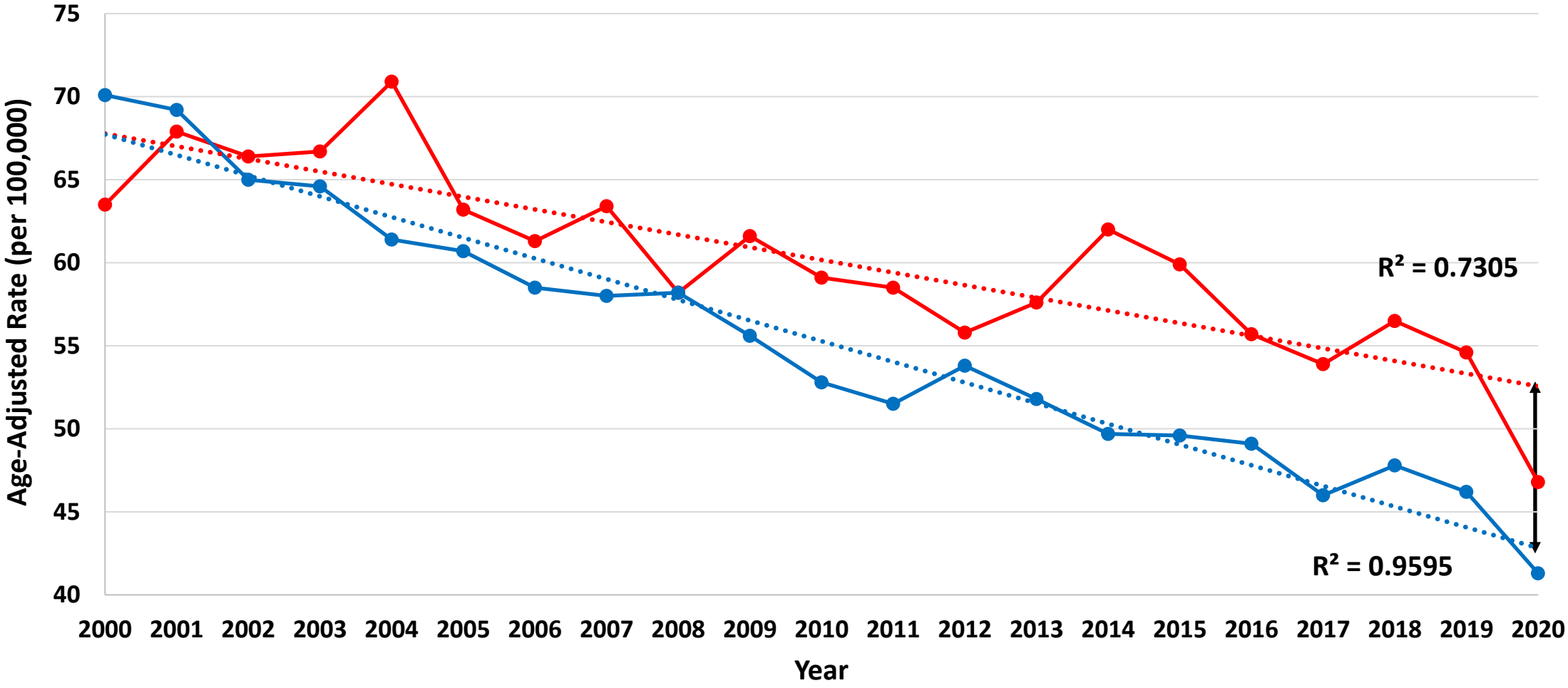
Appalachia vs. Non-Appalachia Colon and Rectum Incidence Rates, 2000-2020



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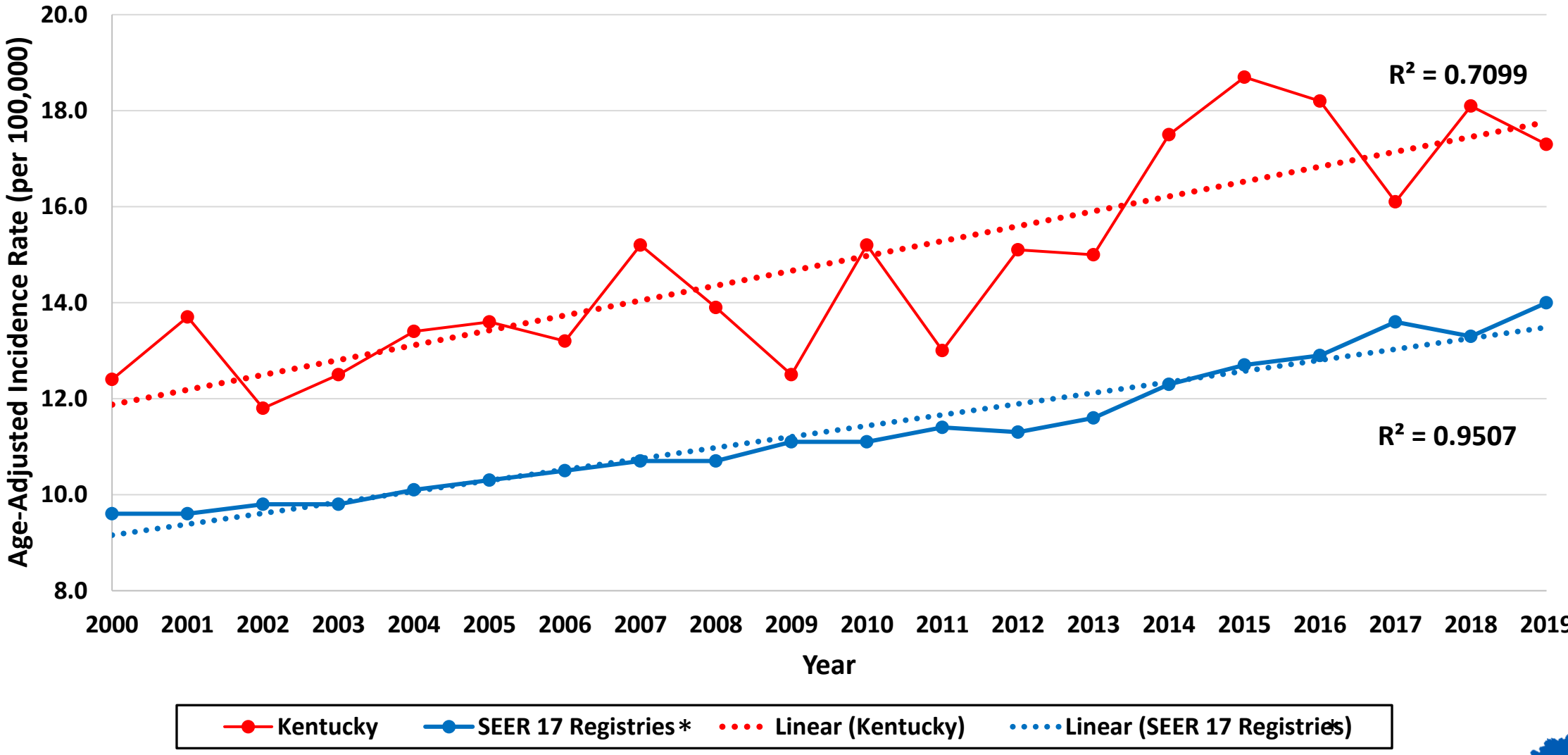
Age-Adjusted Incidence Rate of Colorectal Cancer in Persons Ages 20-49
Kentucky vs. SEER 17 Registries*, 2000-2019



*Excluding Kentucky

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Colorectal Cancer Mortality

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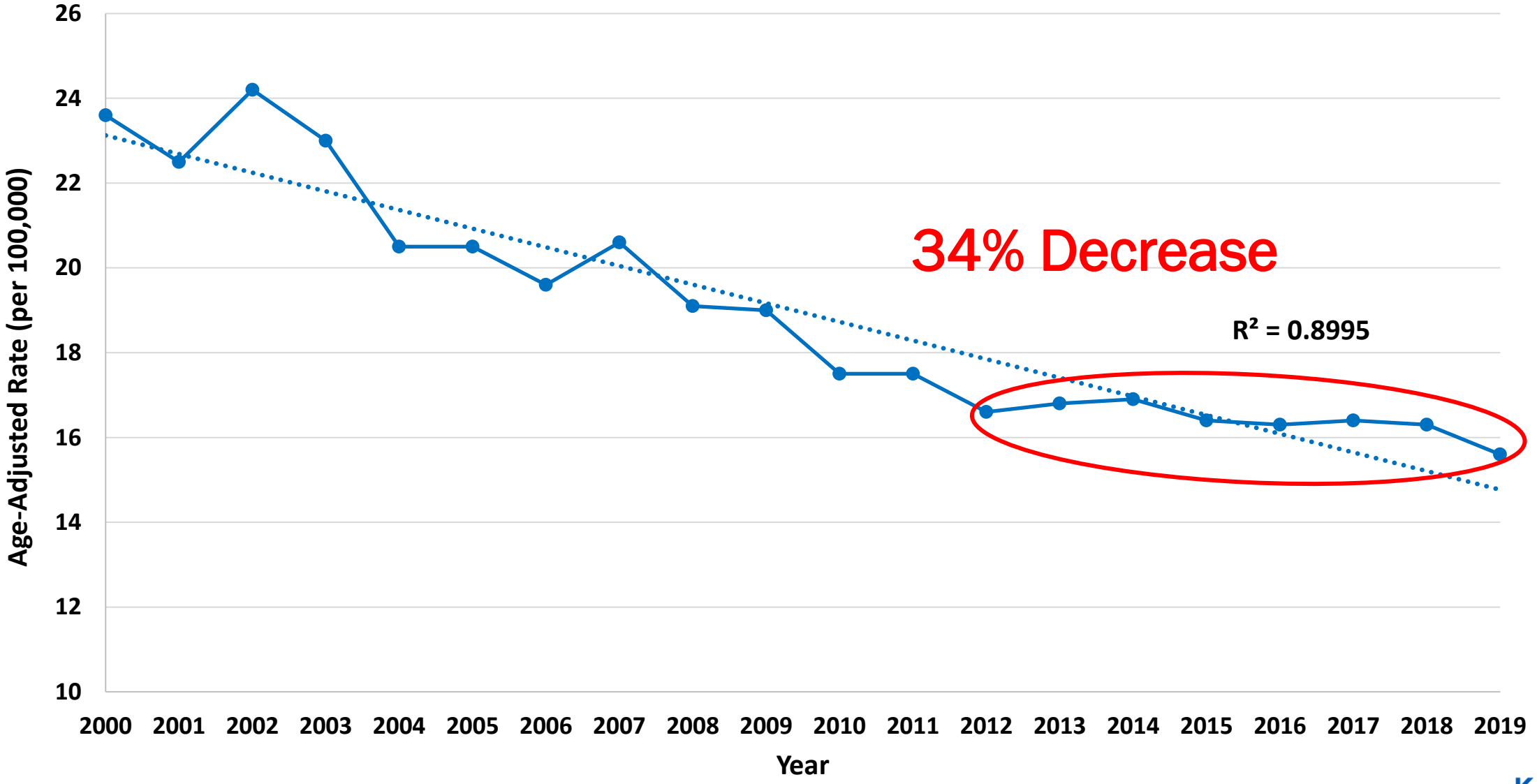
Colon and Rectum Cancer Mortality Rates, 2000-2019



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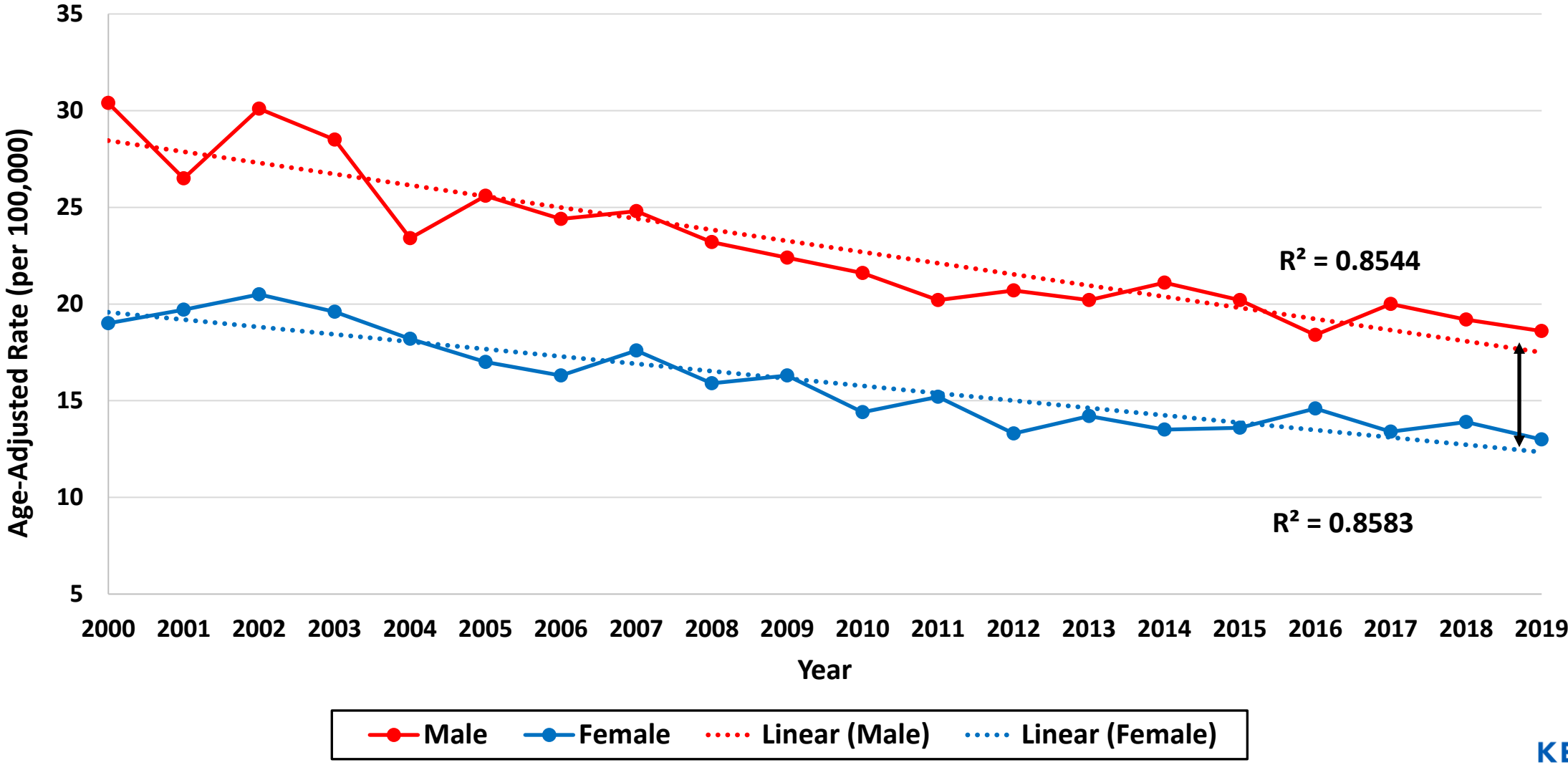
Male vs. Female Colon and Rectum Cancer Mortality Rates, 2000-2019



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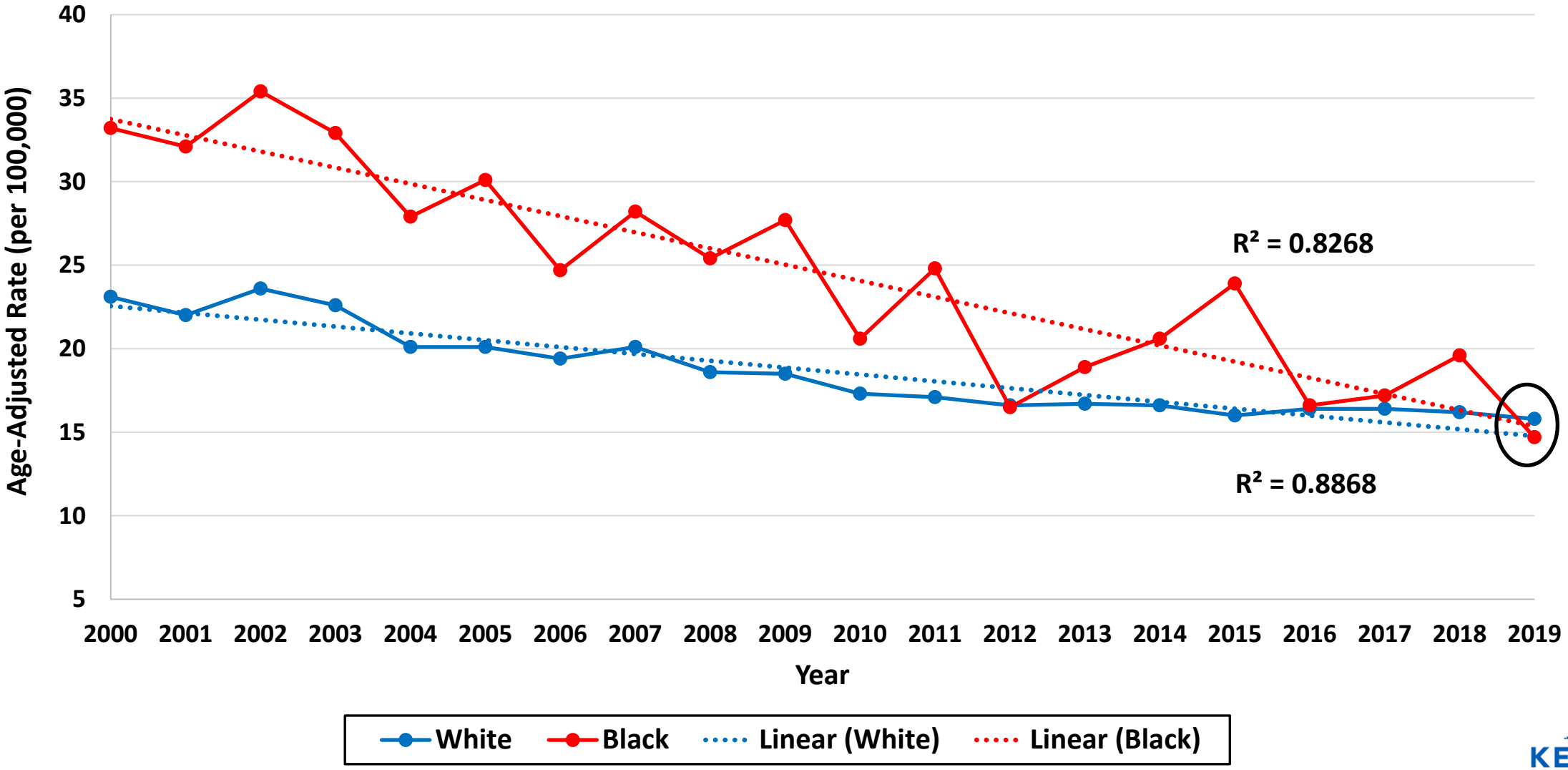
White vs. Black Colon and Rectum Cancer Mortality Rates, 2000-2019



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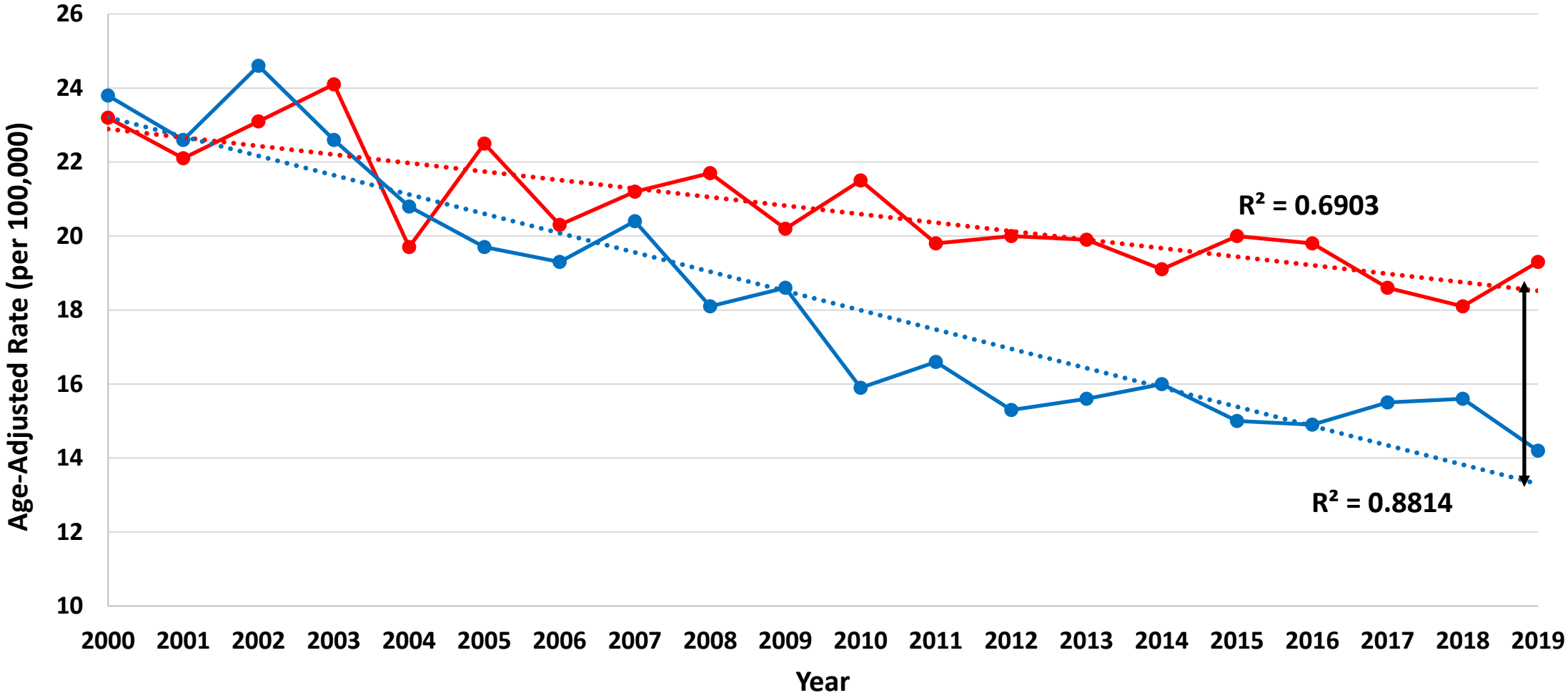
Appalachia vs. Non-Appalachia Colon and Rectum Cancer Mortality Rates, 2000-2019



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Colorectal Cancer Discussion Questions

- How can we address issues of health equity and the clear disparities in colorectal cancer among people living in Appalachian Kentucky?
- What activities have contributed to reducing the disparity in both CRC incidence and mortality between Blacks and Whites?
- Why has the colorectal cancer mortality rate in Kentucky remained relatively flat in recent years?

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Female Breast Cancer Incidence

Jaclyn K. McDowell, DrPH

Epidemiologist Senior, Kentucky Cancer Registry

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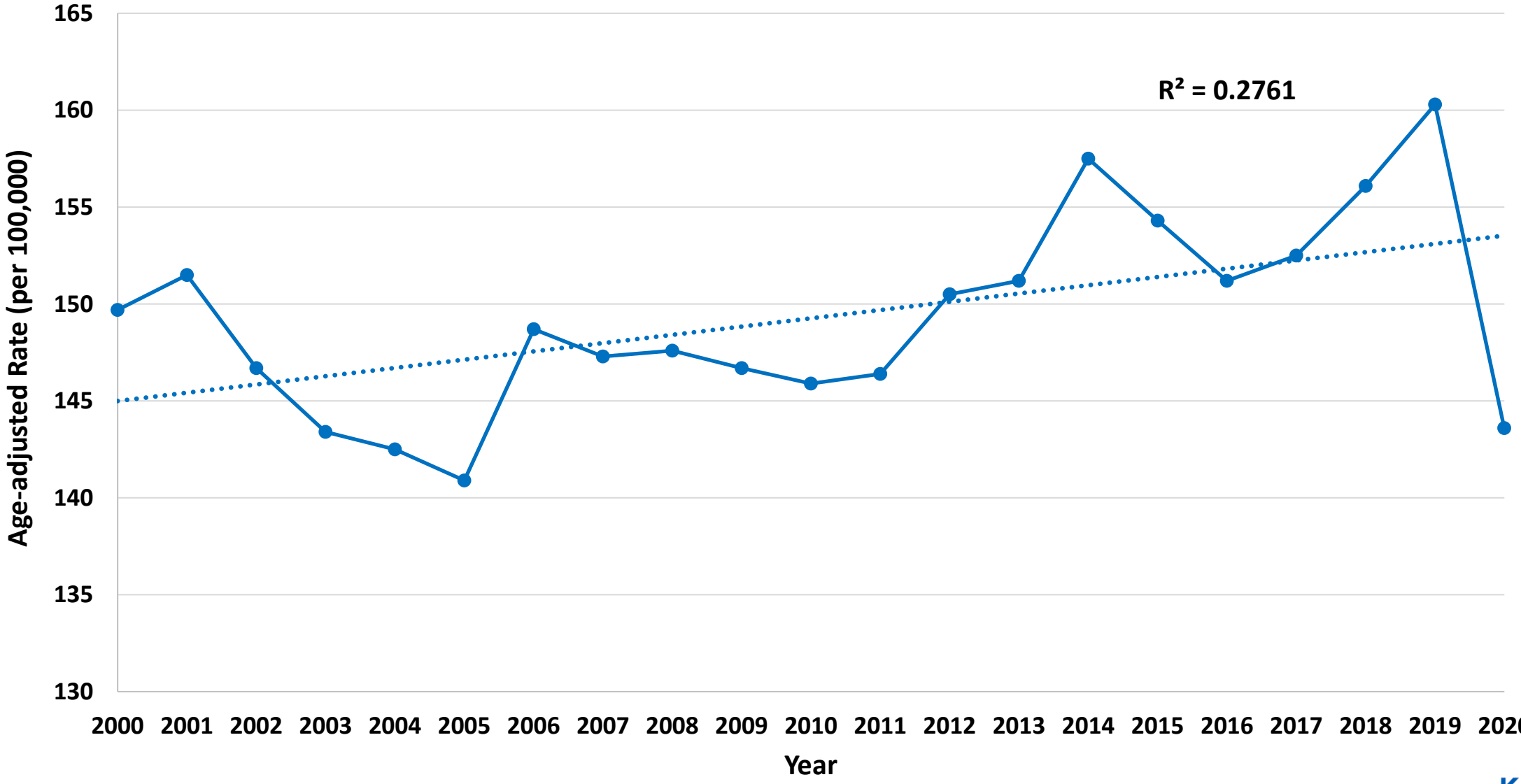
Overall Female Breast Cancer Incidence Rates, 2000-2020



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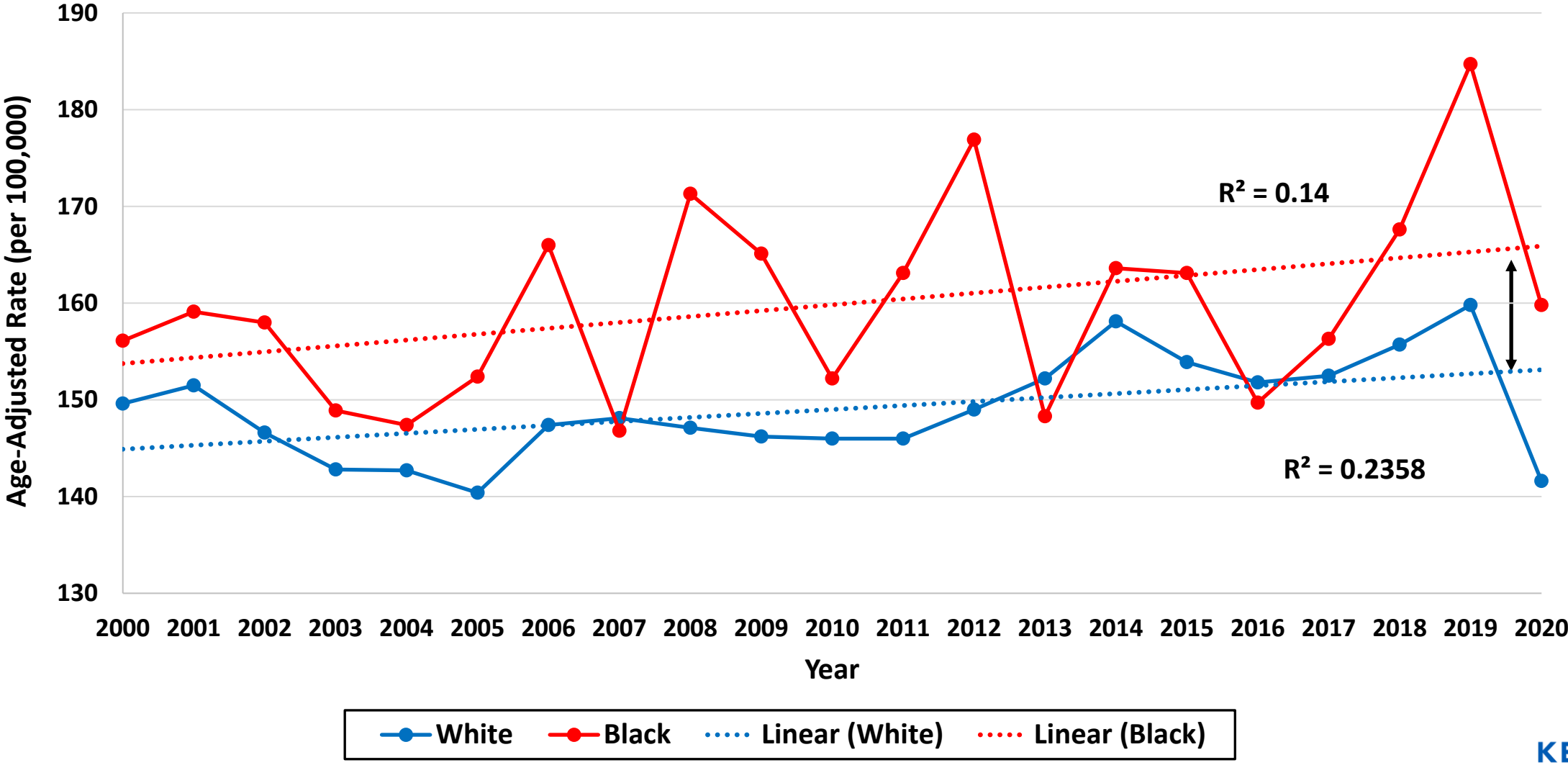
White vs. Black Overall Female Breast Cancer Incidence Rates, 2000-2020



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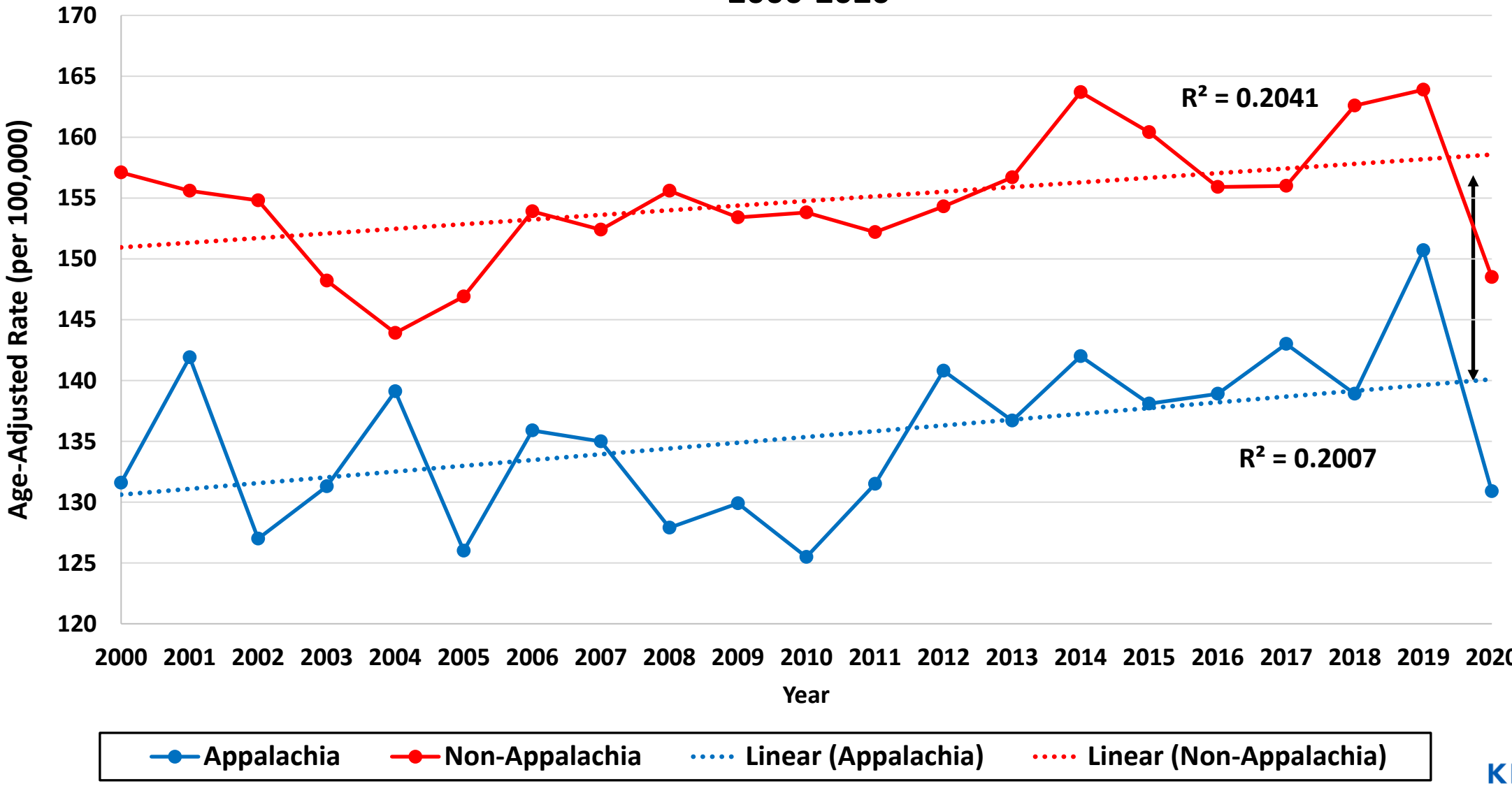
Appalachia vs. Non-Appalachia Overall Female Breast Cancer Incidence Rates, 2000-2020



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Female Breast Cancer Mortality

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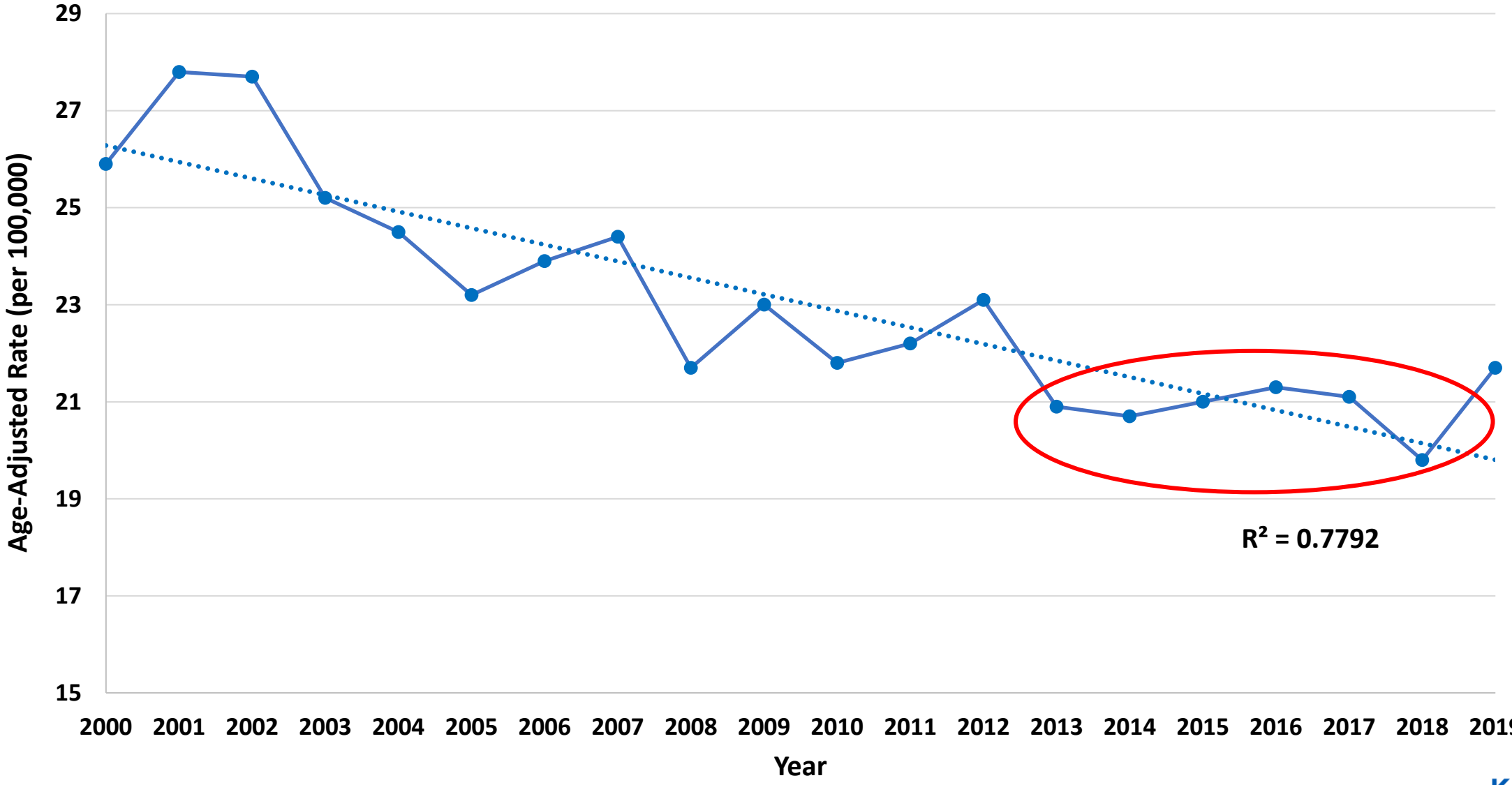
Overall Female Breast Cancer Mortality Rates, 2000-2019



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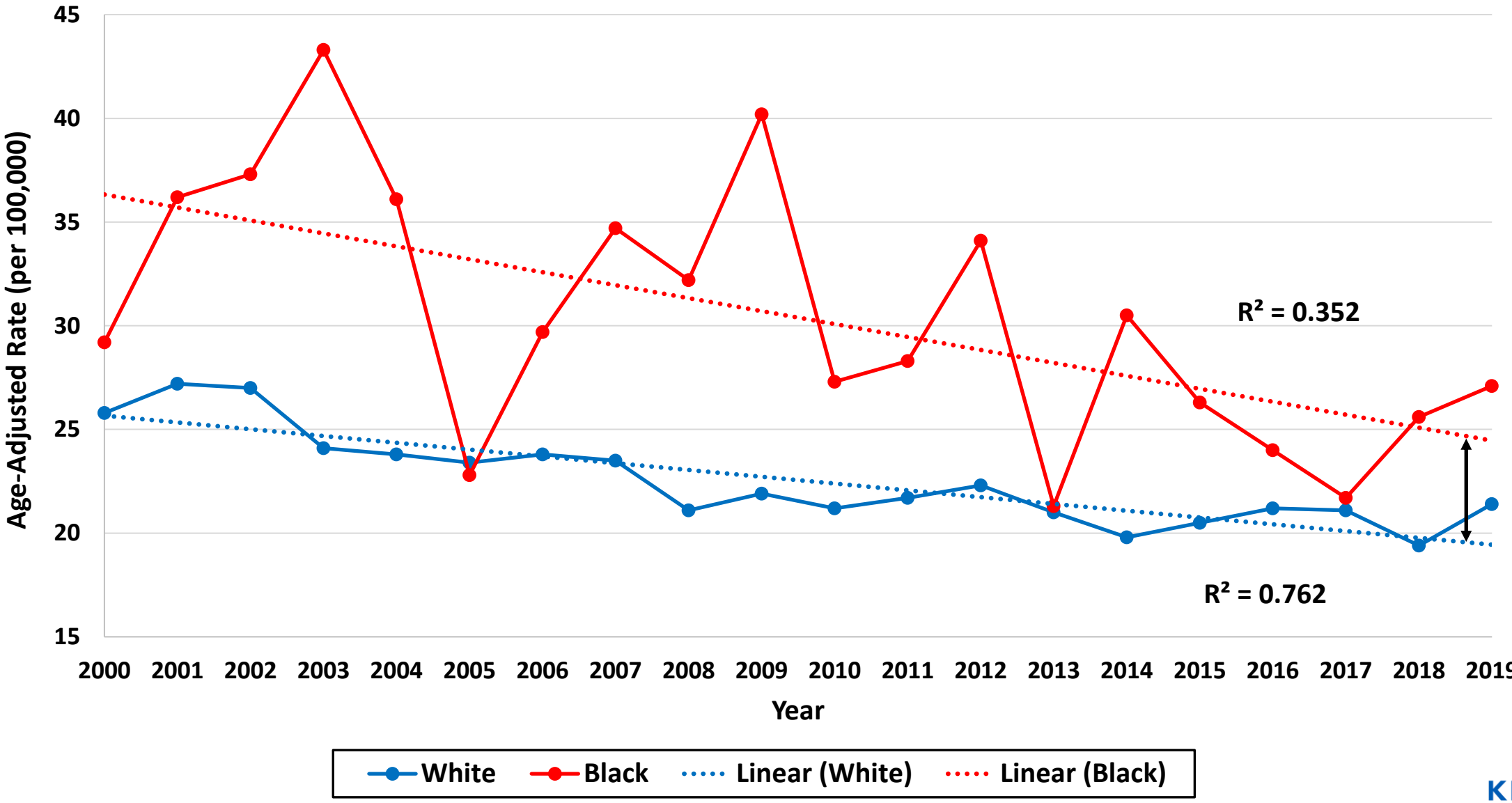
White vs. Black Female Breast Cancer Mortality Rates, 2000-2019



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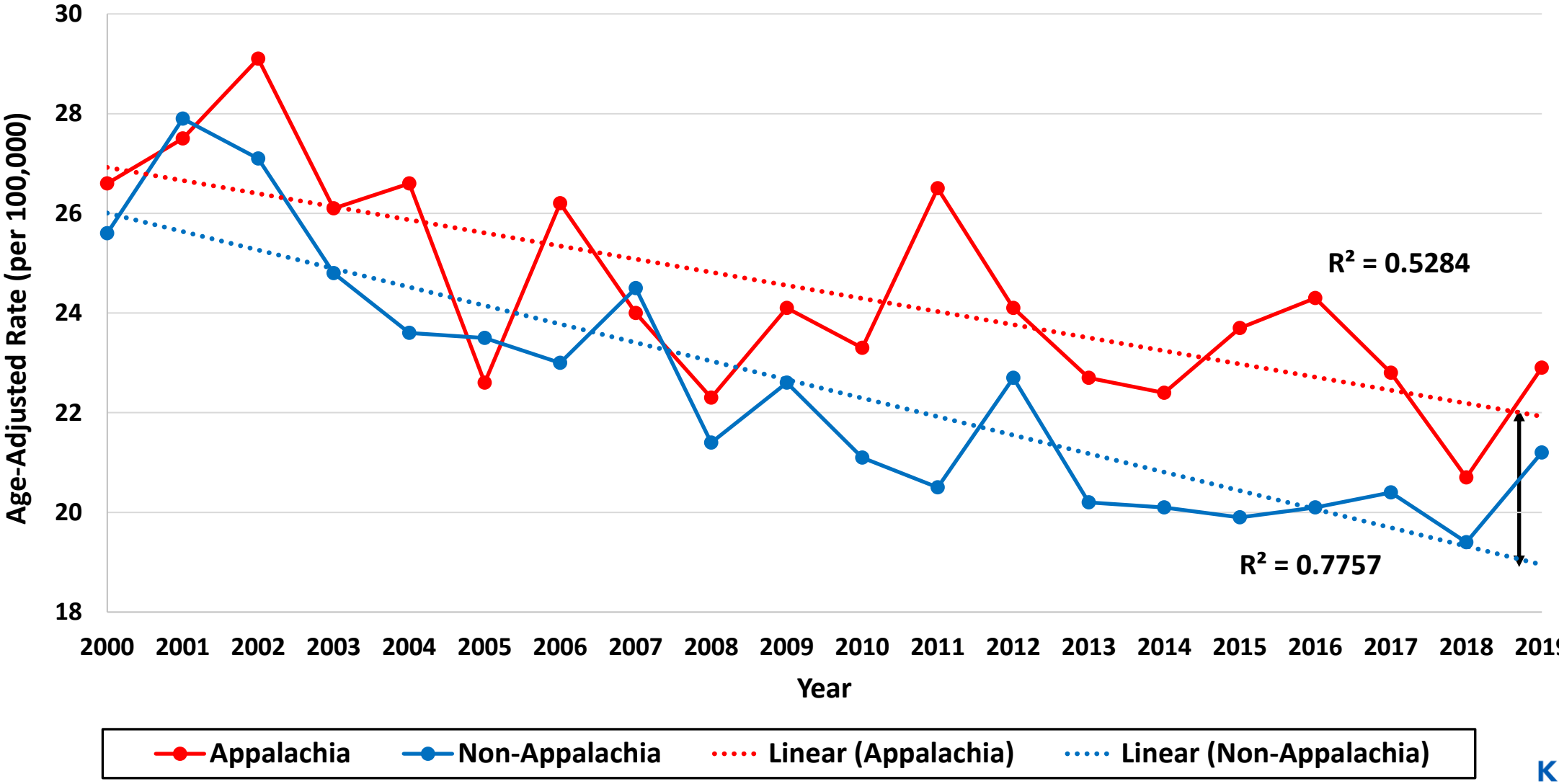
Appalachia vs. Non-Appalachia Female Breast Cancer Mortality Rates, 2000-2019



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Female Breast Cancer Discussion Questions

- How can we address issues of health equity and reduce breast cancer mortality rates among women in Appalachian Kentucky through increased screening?
- Why has the Kentucky breast cancer mortality rate remained flat in recent years?

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Cervical Cancer Incidence

Thomas C. Tucker, PhD, MPH

Senior Director for Cancer Surveillance, Markey Cancer Center
Professor, Department of Epidemiology and Environmental Health

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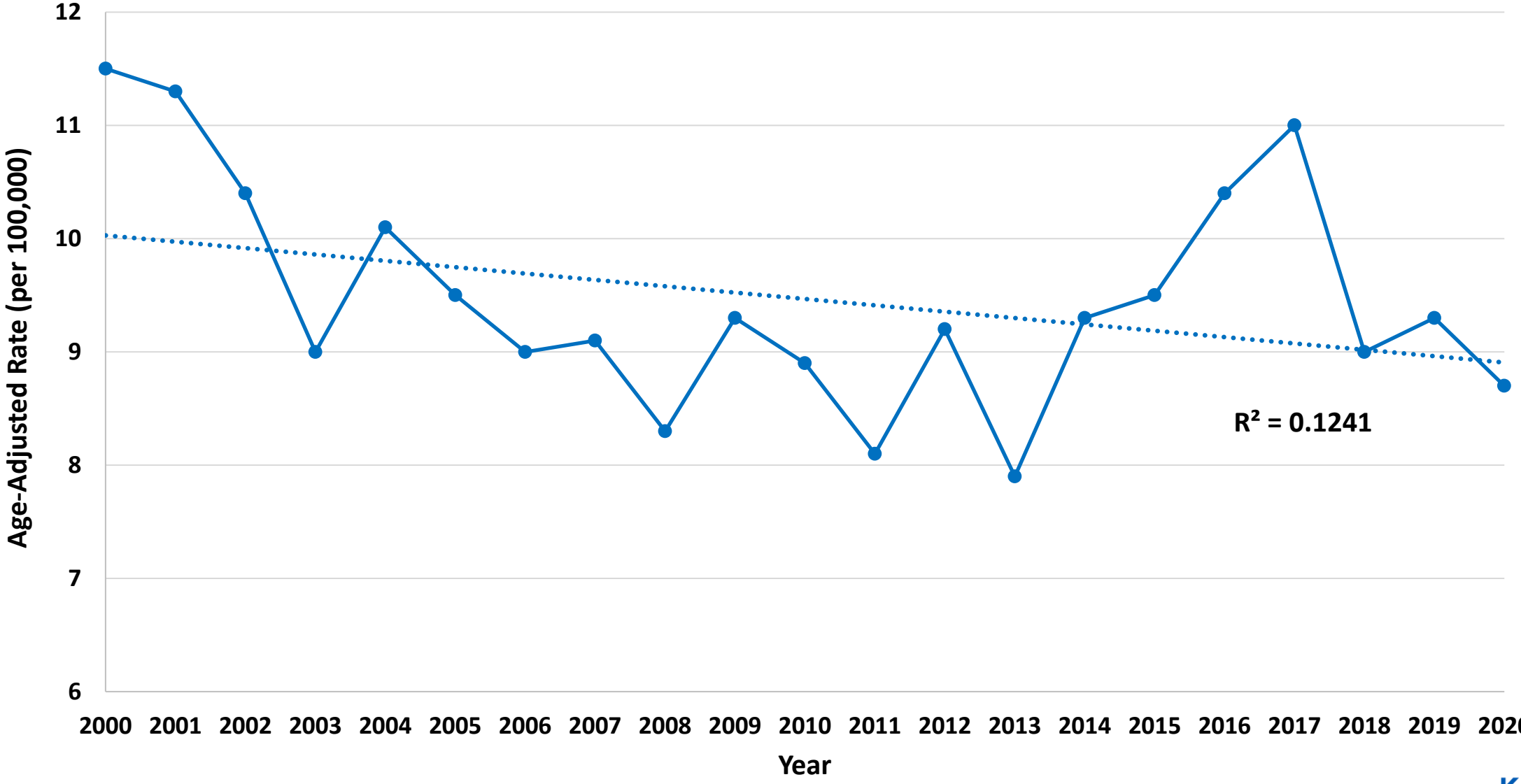
Overall Cervical Cancer Incidence Rates, 2000-2020



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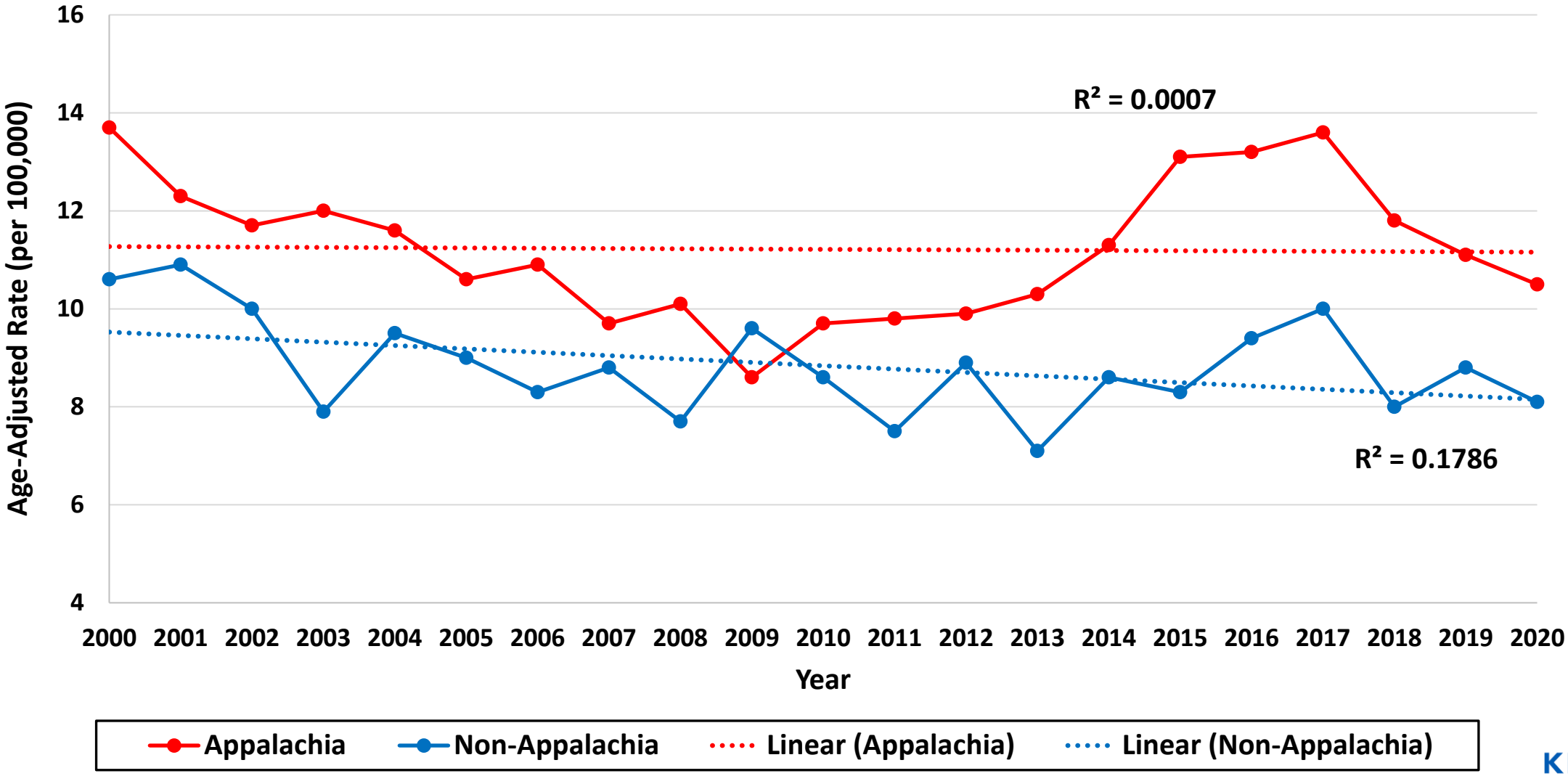
Appalachia vs. Non-Appalachia Cervical Cancer Incidence Rates, 2000-2020



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Cervical Cancer Mortality

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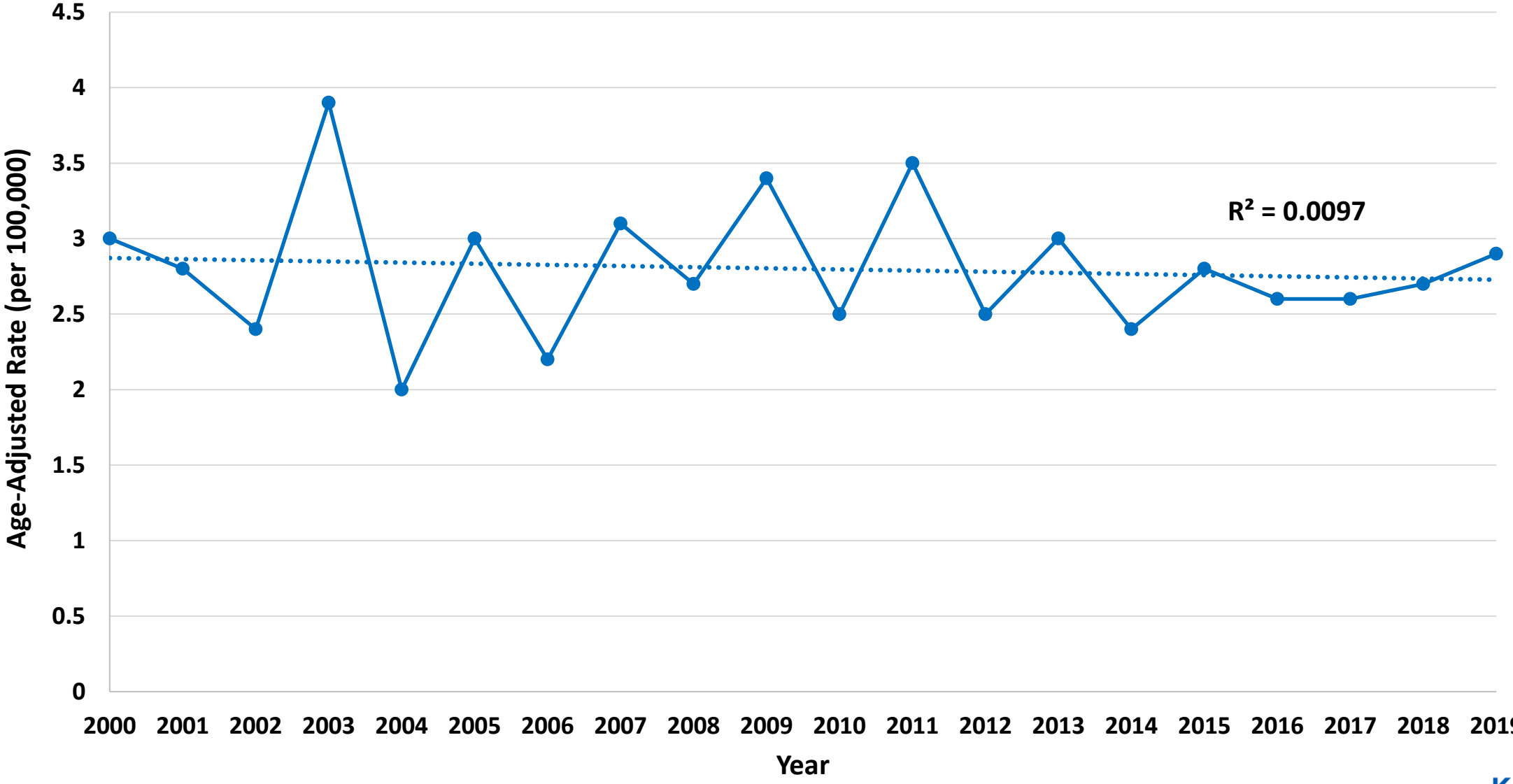
Overall Cervical Cancer Mortality Rates, 2000-2019



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CIN 3 Incidence

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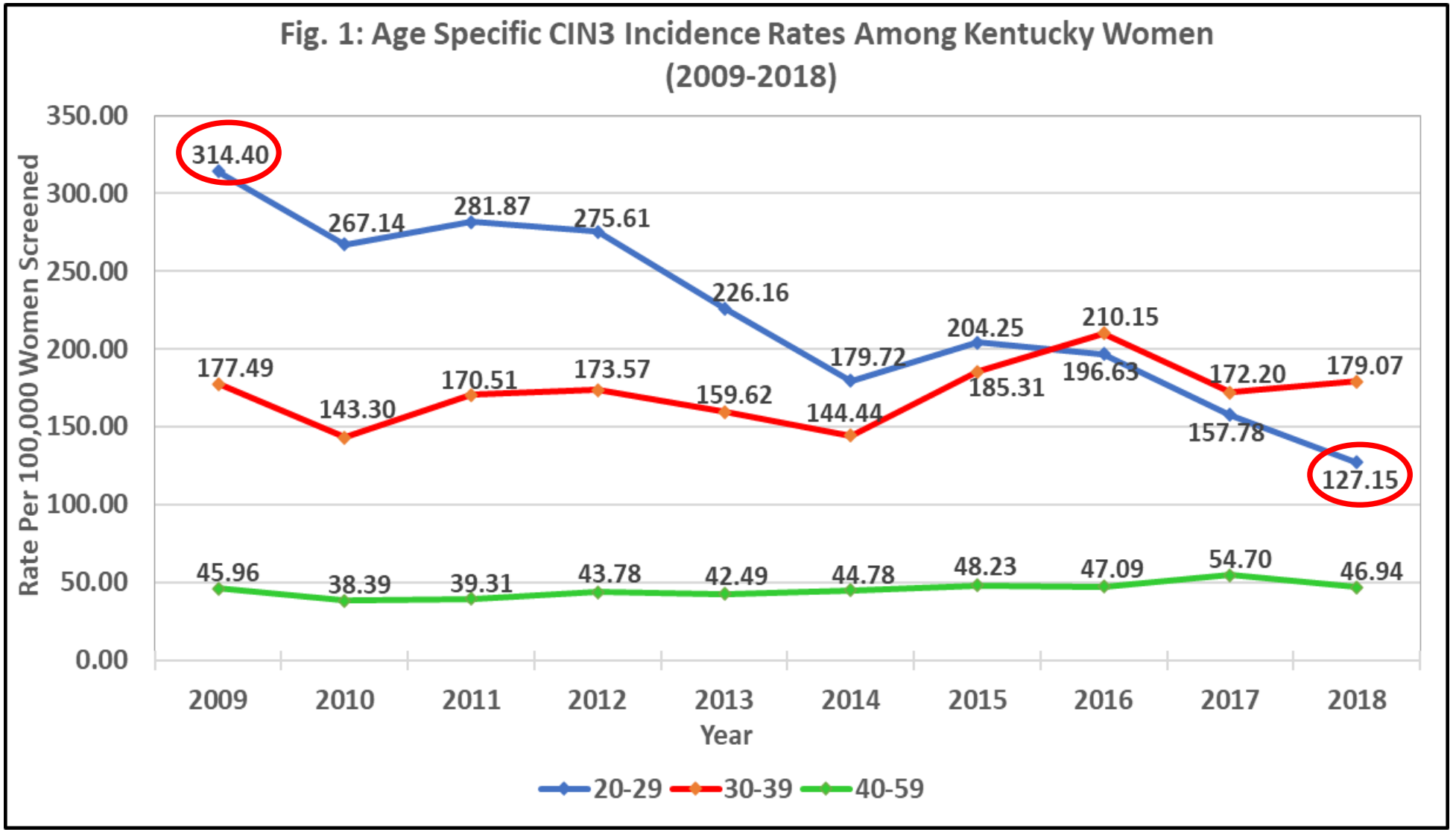
Changes in the CIN 3 Incidence Rates



APC change by Age Groups		
Age	APC	P-value
20-29	-19.02	<0.001
30-39	2.09	0.2427
40-59	1.08	0.0254

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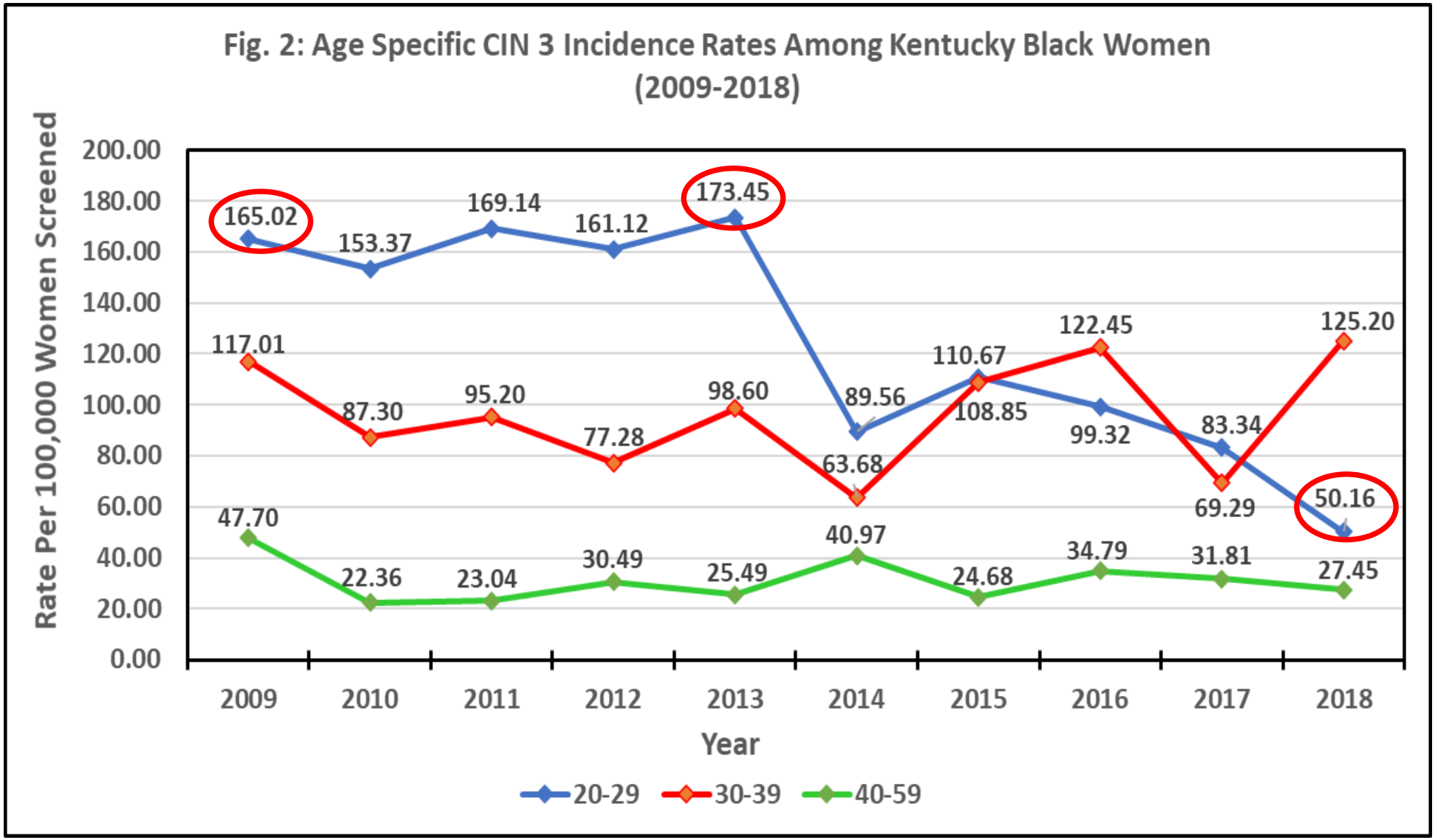
Changes in the CIN 3 Incidence Rates Among Black Women



APC change by Age Group		
Age	APC	P-value
20-29	-12.78	<0.001
30-39	0.87	0.741
40-59	-0.36	0.717

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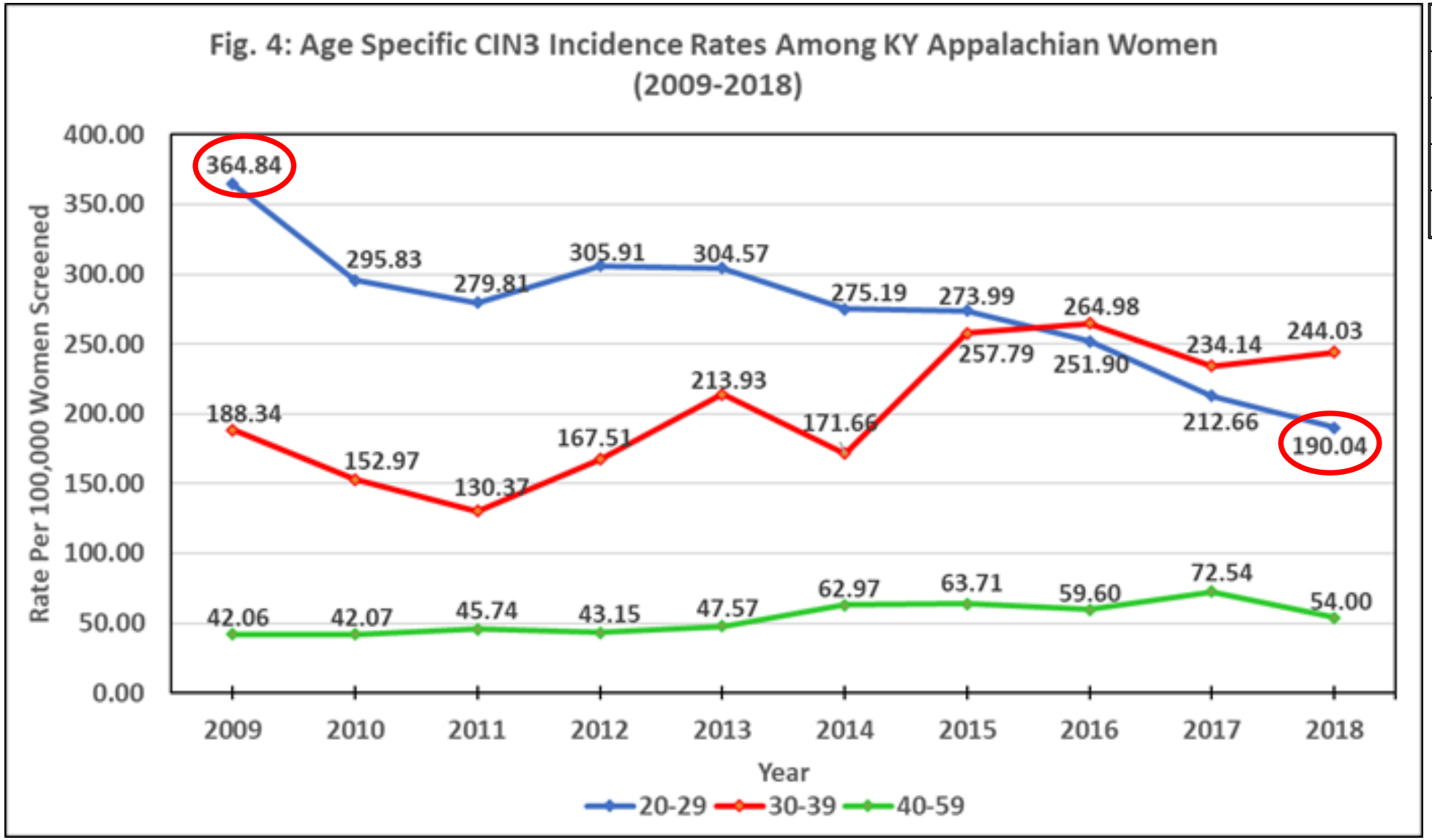
Changes in the CIN 3 Incidence Rates Among Appalachian Women



APC change by Age Groups		
Age	APC	P-value
20-29	-14.67	<0.001
30-39	11.95	0.009
40-59	2.83	0.006

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Cervical Cancer Discussion Questions

- What can be done to increase vaccination of age eligible girls and boys against HPV and thereby reduce the incidence rate of invasive cervical cancer in Kentucky?

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Lung Cancer in Kentucky

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Director, Kentucky Cancer Registry

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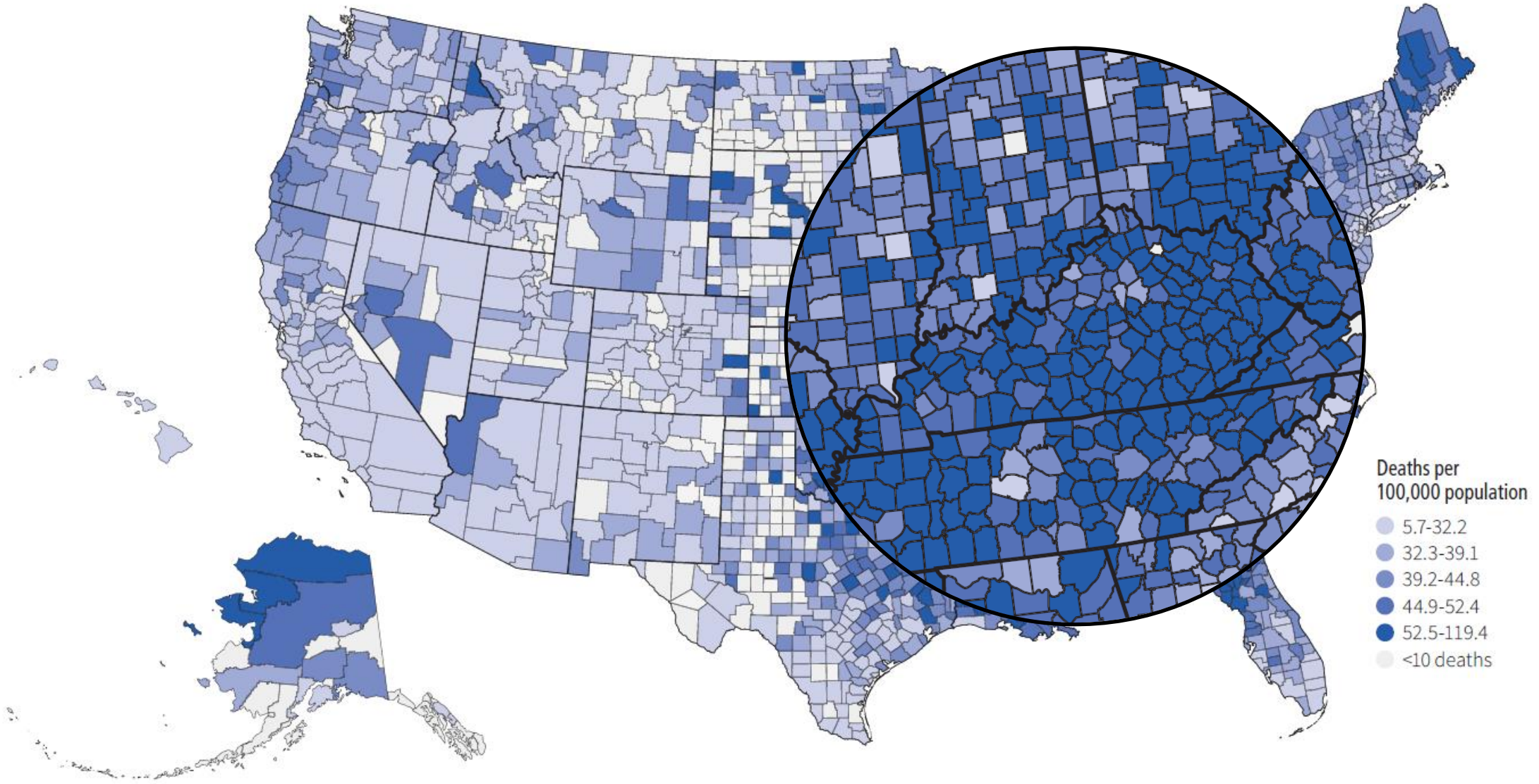
Figure S5. Lung Cancer Mortality Rates* by County, 2016-2020



*Age adjusted to the 2000 US standard population.

Source: National Center for Health Statistics, 2022.

Burden of Lung Cancer in U.S. and Kentucky [1,2]

- Lung cancer is a major public health problem in the United States and other parts of the world
- ~ 238,340 new lung cancer diagnoses expected in 2023
- ~ 127,070 people will die from lung cancer 2023
- Kentucky projected to have highest lung cancer incidence of all states
  - 5,170 new invasive cases expected in 2023 (17.1% of all cancer diagnoses in KY)
- Kentucky projected to have the highest mortality of all states
  - 2,710 deaths from lung cancer expected in 2023 (26.9% of all cancer deaths in KY)
- ~ 7 Kentuckians die from lung cancer every single day

[1]American Cancer Society. Cancer Facts and Figures 2023. Atlanta: American Cancer Society; 2023.
[2]Kentucky Cancer Registry. Web-based Report http://cancer-rates.info/ky. Lexington: Kentucky Cancer Registry, 2023.

Lung Cancer Incidence

Dictionary

can • cer in • ci • dence

noun

1. number of new lung cancers occurring in the population per year, expressed as the number of new cancers per 100,000 population

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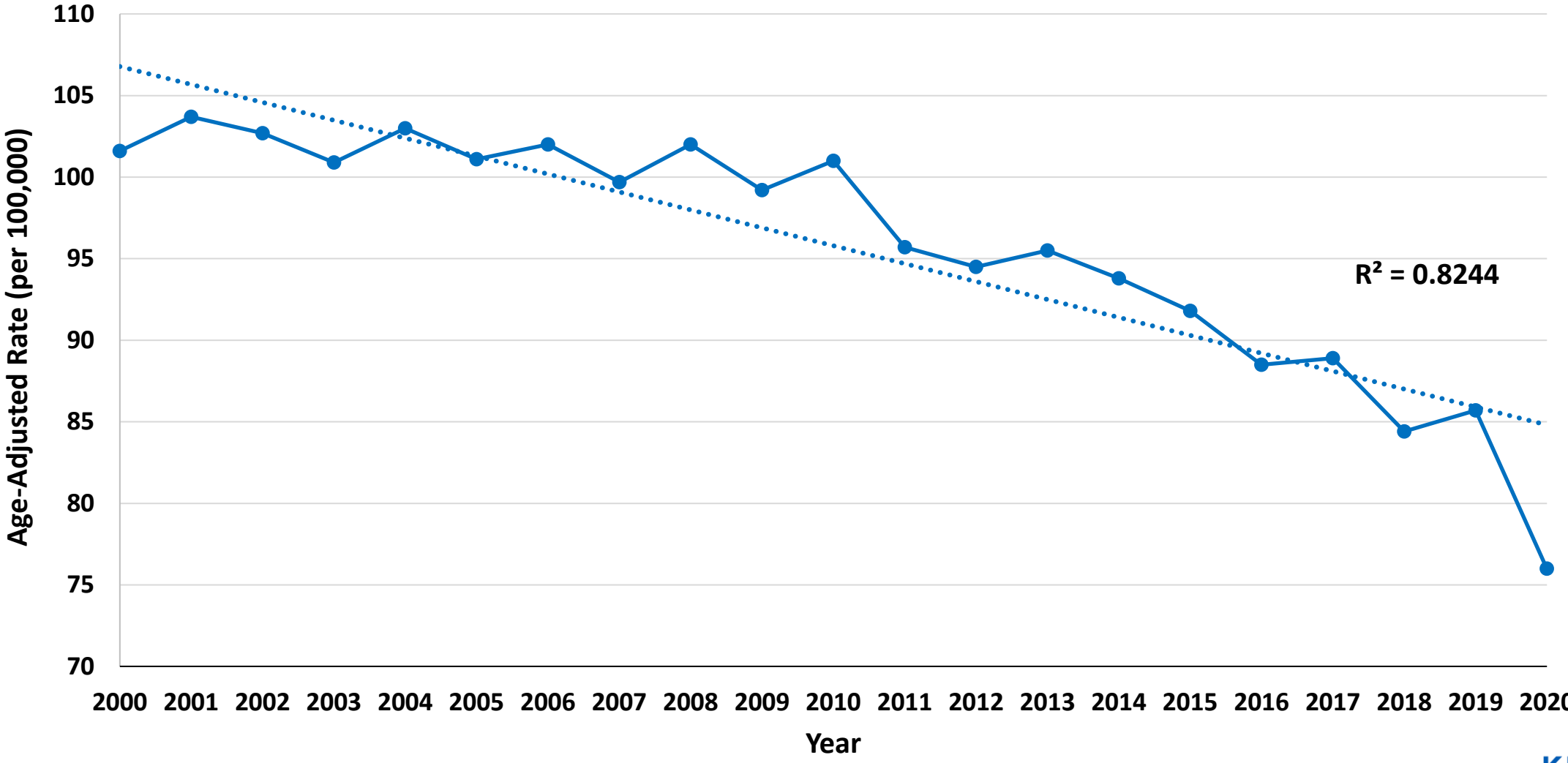
Overall Lung and Bronchus Incidence Rates 2000-2020



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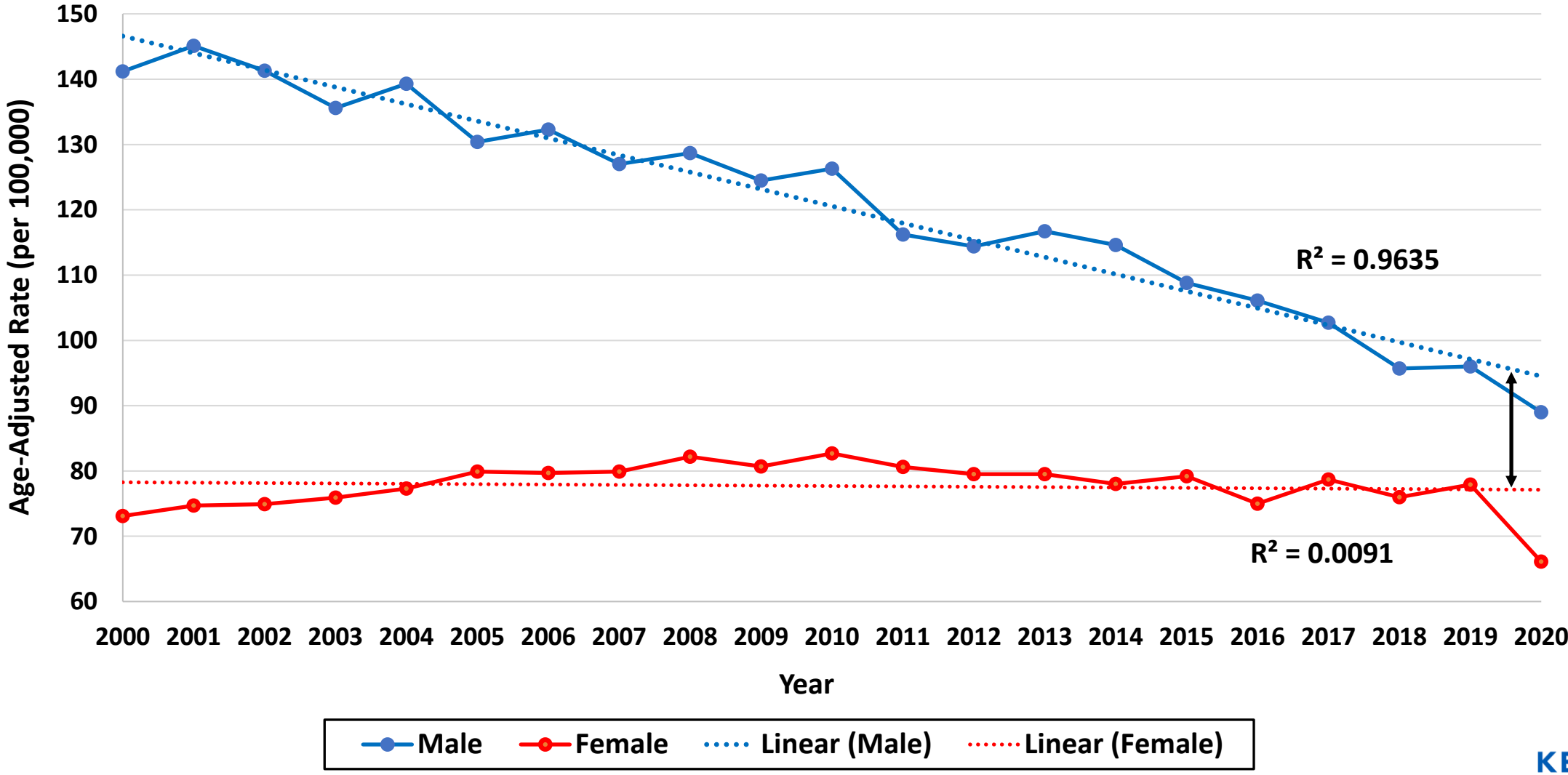
Male vs. Female Lung and Bronchus Incidence Rates 2000-2020



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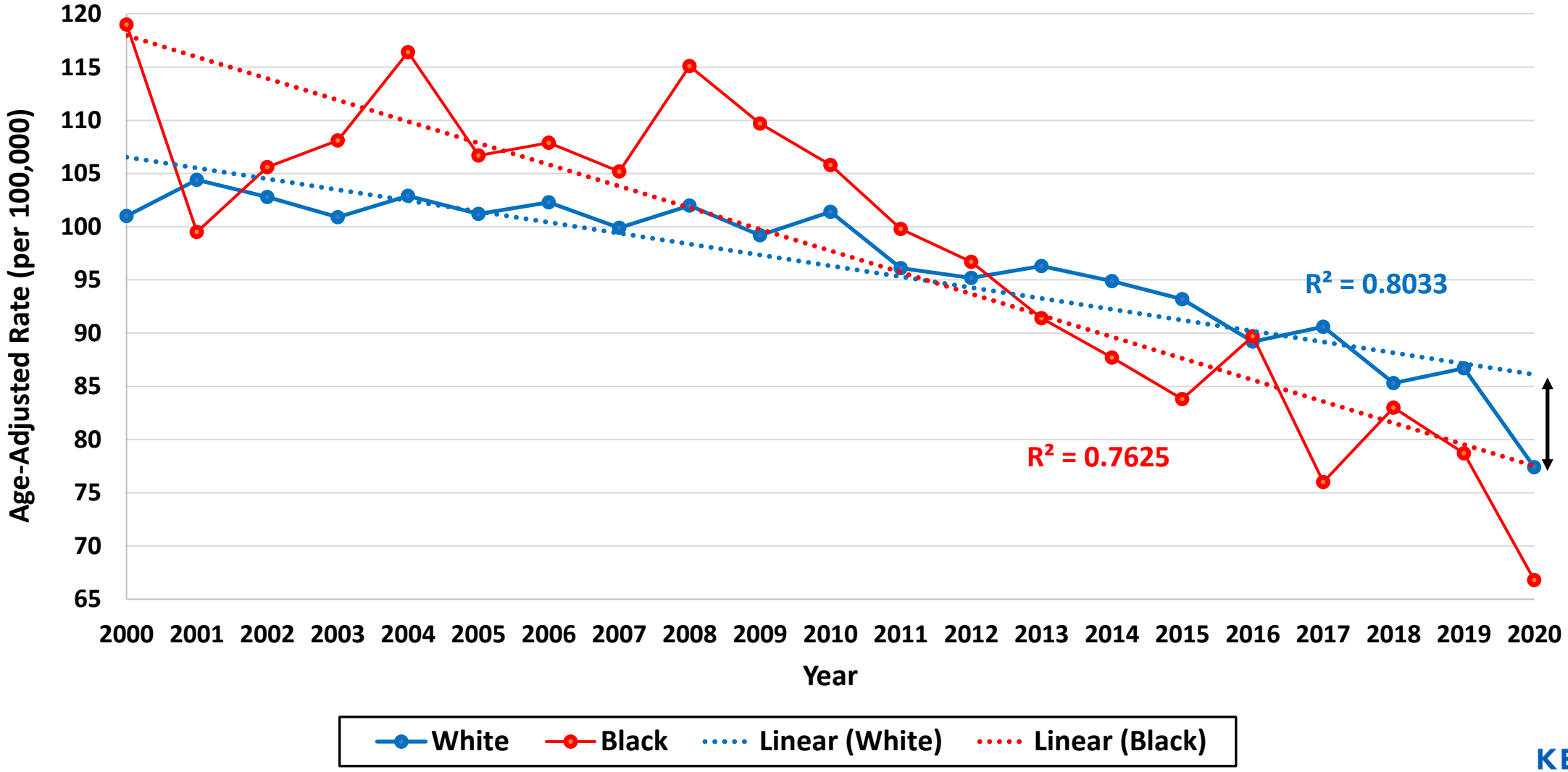
White vs. Black Lung and Bronchus Incidence Rates 2000-2020



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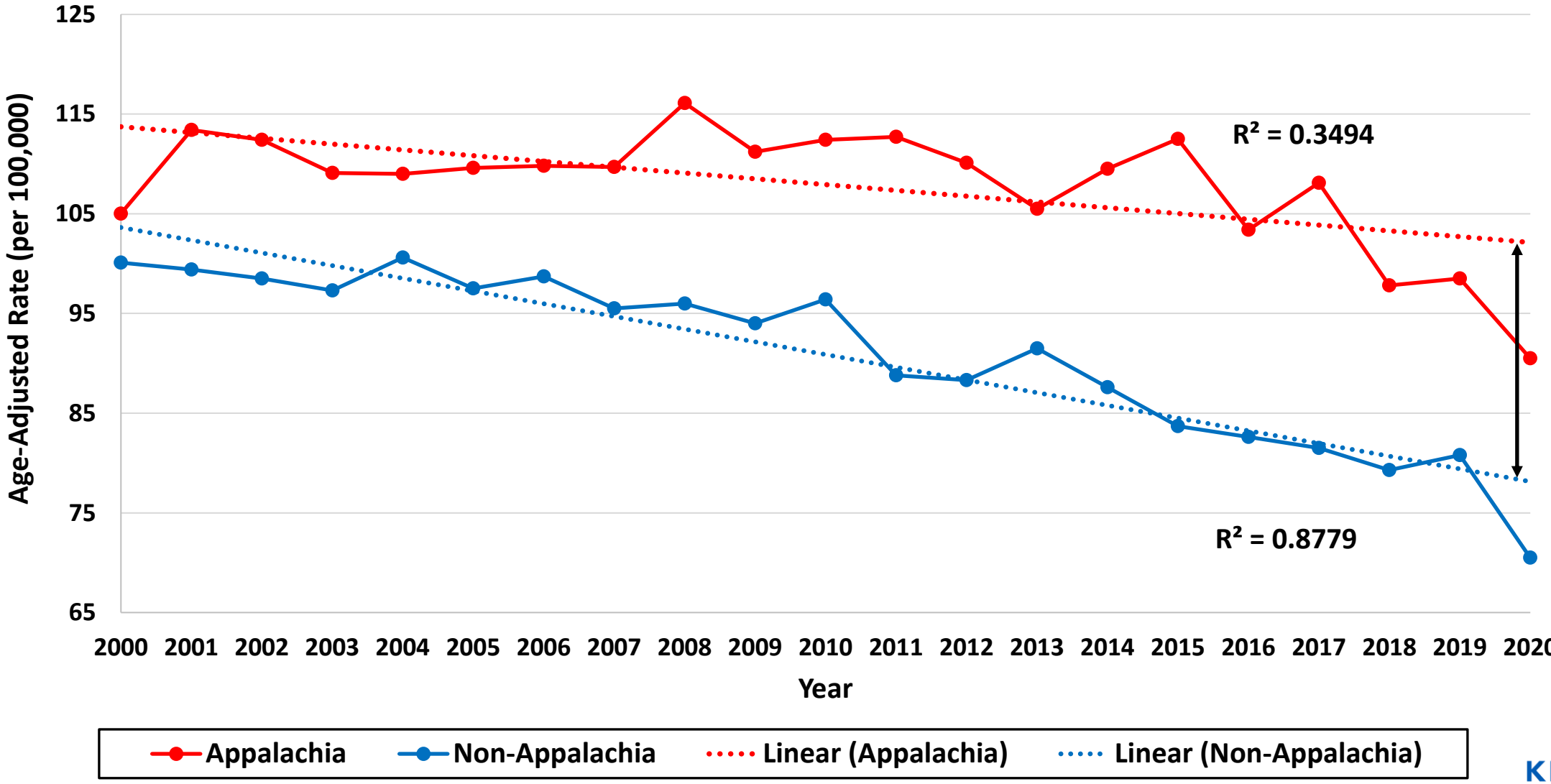
Appalachia vs. Non-Appalachia Lung and Bronchus Incidence Rates 2000-2020



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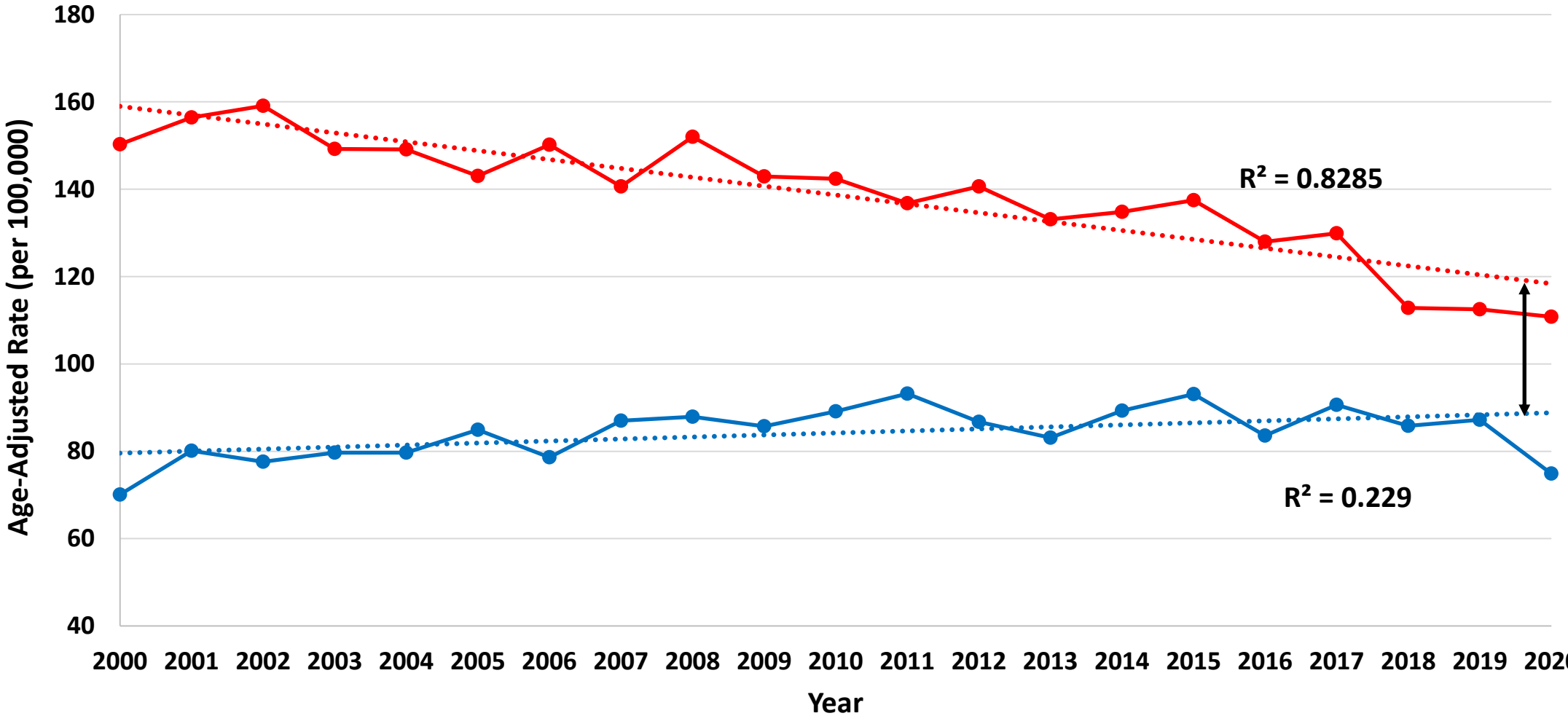
Appalachian Male vs. Appalachian Female Lung and Bronchus Incidence Rates 2000-2020



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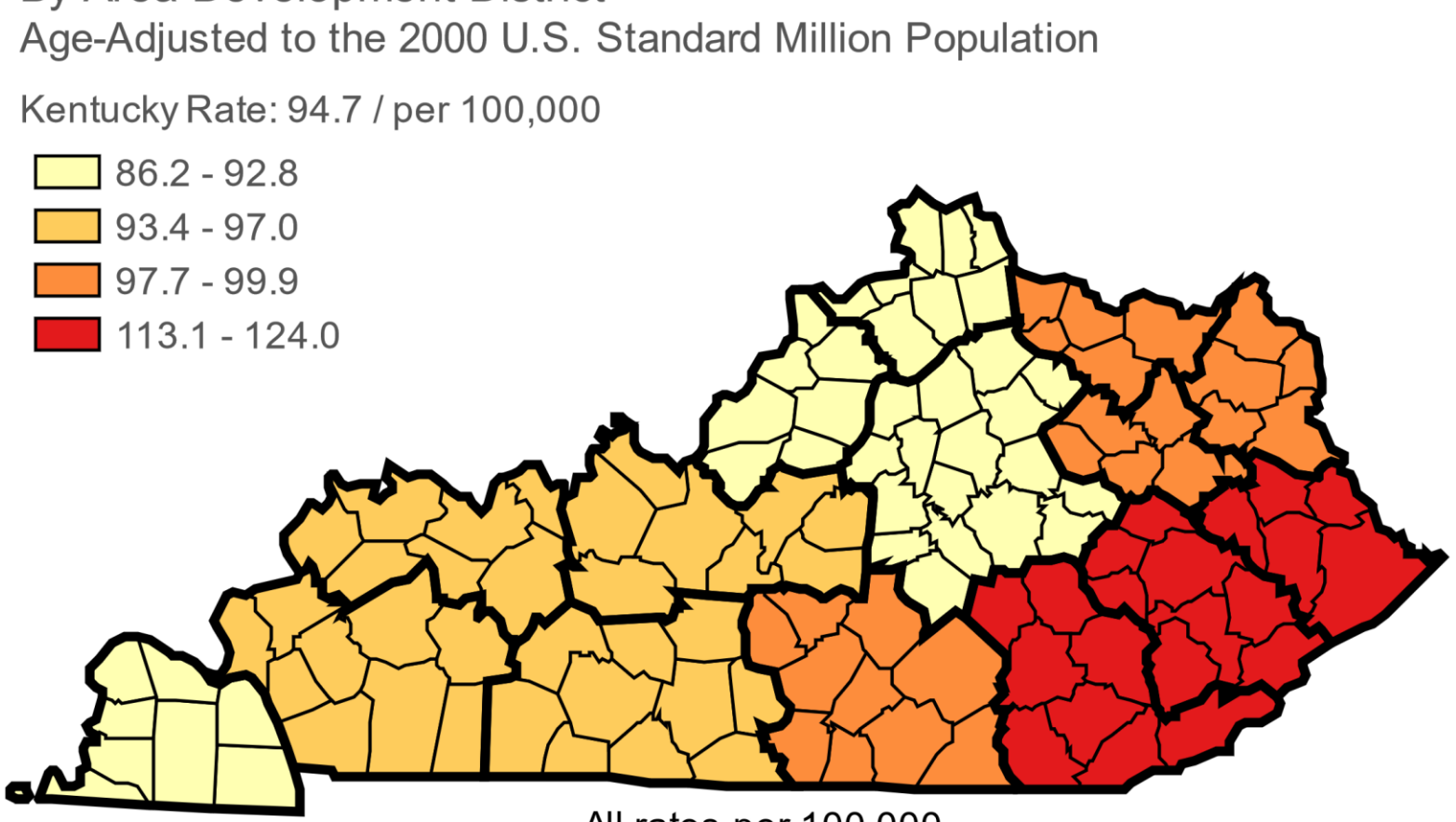
Age-Adjusted Invasive Cancer Incidence Rates in Kentucky

Lung and Bronchus, 2000 - 2020

By Area Development District

Age-Adjusted to the 2000 U.S. Standard Million Population

Kentucky Rate: 94.7 / per 100,000



All rates per 100,000.

Data accessed May 10, 2023. Based on data released Nov 2022.

Lung Cancer Mortality

Dictionary

mor • tal • i • ty

noun

1. number of deaths due to lung cancer occurring in the population per year, expressed as the number of deaths per 100,000 population.

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Lung Cancer Stage at Diagnosis

Dictionary

stage • at • diag • no • sis

noun

1. measures how far a cancer has spread from its origin. Early stage is defined as localized disease that has not spread. Advanced stage is defined as disease that has spread to regional or distant (metastatic) sites.

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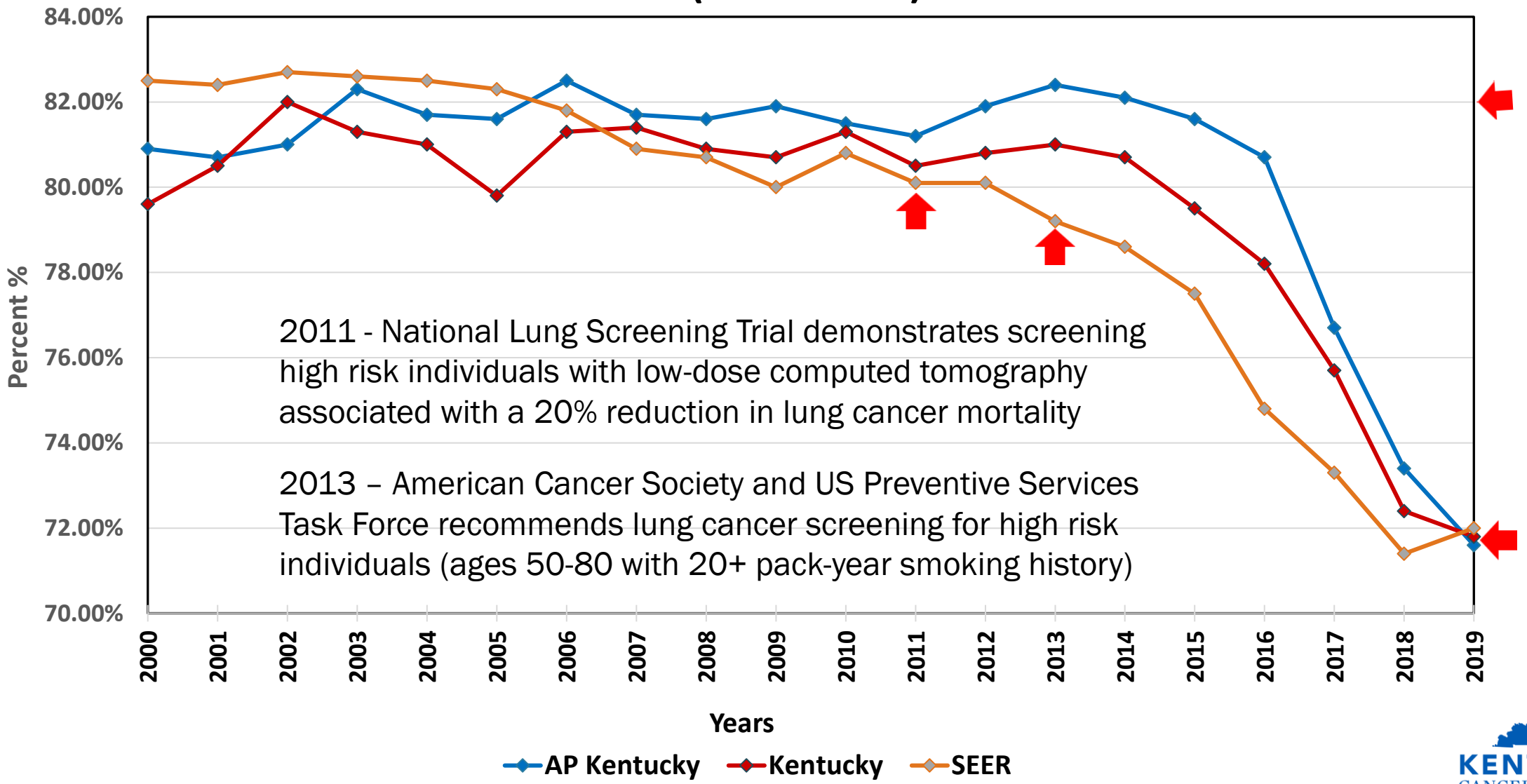
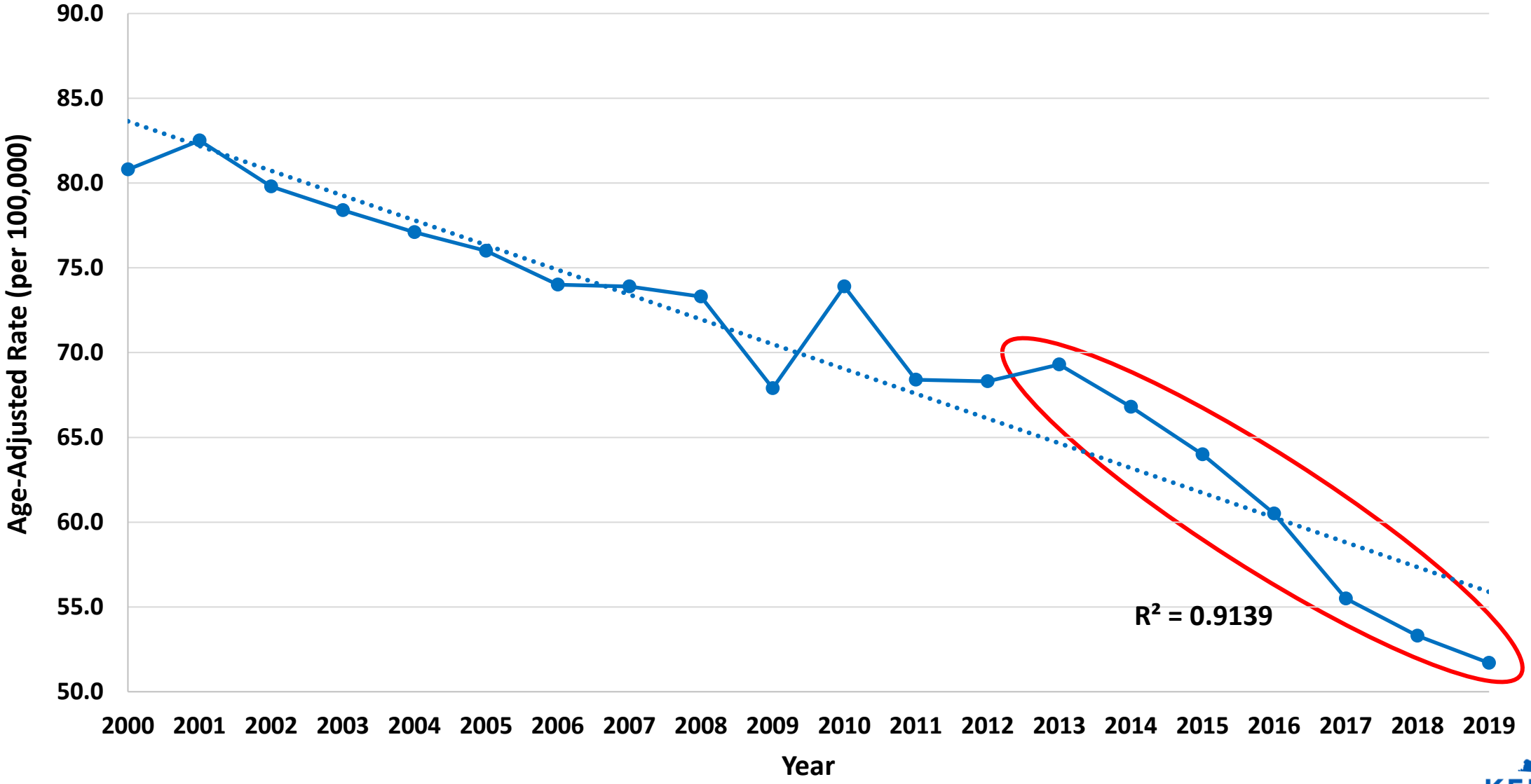
% of Kentucky Lung Cancer Cases Diagnosed with Advanced Disease (2000- 2019)



KENTUCKY CANCER REGISTRY

Overall Lung and Bronchus Cancer Mortality Rates, 2000-2019



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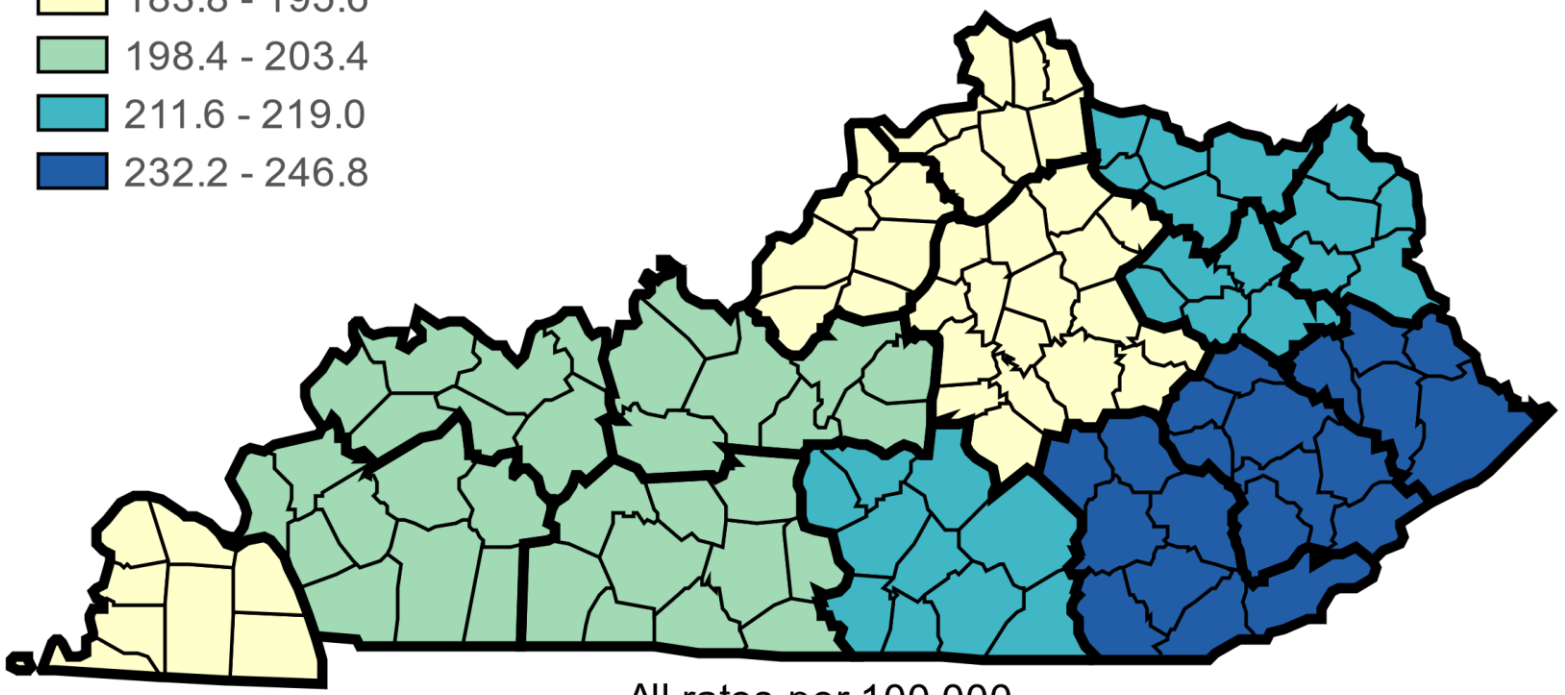
Age-Adjusted Cancer Mortality Rates in Kentucky

All Sites, 2000 - 2019

By Area Development District

Age-Adjusted to the 2000 U.S. Standard Million Population

Kentucky Rate: 202.7 / per 100,000



All rates per 100,000.

Data accessed May 10, 2023. Based on data released July 2021. Data for 2009-2018 is preliminary.

Lung Cancer Discussion Questions

- Why has the lung cancer incidence rate among Blacks declined so rapidly?
- How can we address the increasing lung cancer incidence rate among women in Appalachia?
- How can we further increase low-dose computed tomography screening for at risk lung cancer patients to continue to reduce the lung cancer mortality rate in Kentucky?

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Thank you for all your efforts to reduce the burden of cancer in Kentucky

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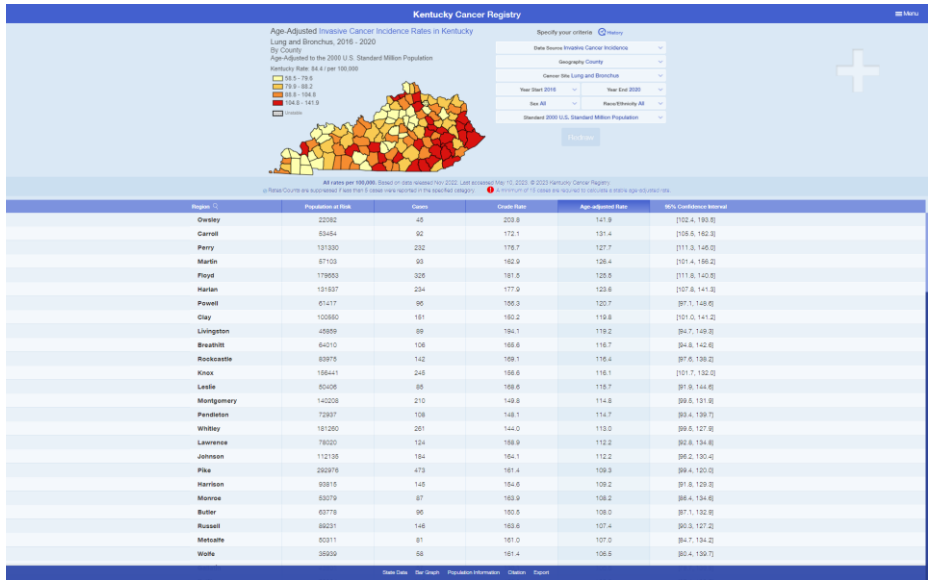

Web: http://www.kcr.uky.edu

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NCI/SEER: HHSN261201000131, P30CA177558

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