

Increase in colorectal cancer death rates among young adults in the United States

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Background

- Colorectal cancer incidence and death rates in the United States have been declining for several decades. These declines have been attributed to changing patterns in risk factors, increased screening uptake among adults 50 years and older, and improvements in treatment.
- However, recent population-based studies indicate that colorectal cancer incidence rates among adults <50 years (hereafter referred to as "young adults") are increasing.
- Colorectal cancer death rates in this age group have not been analyzed.

Methods

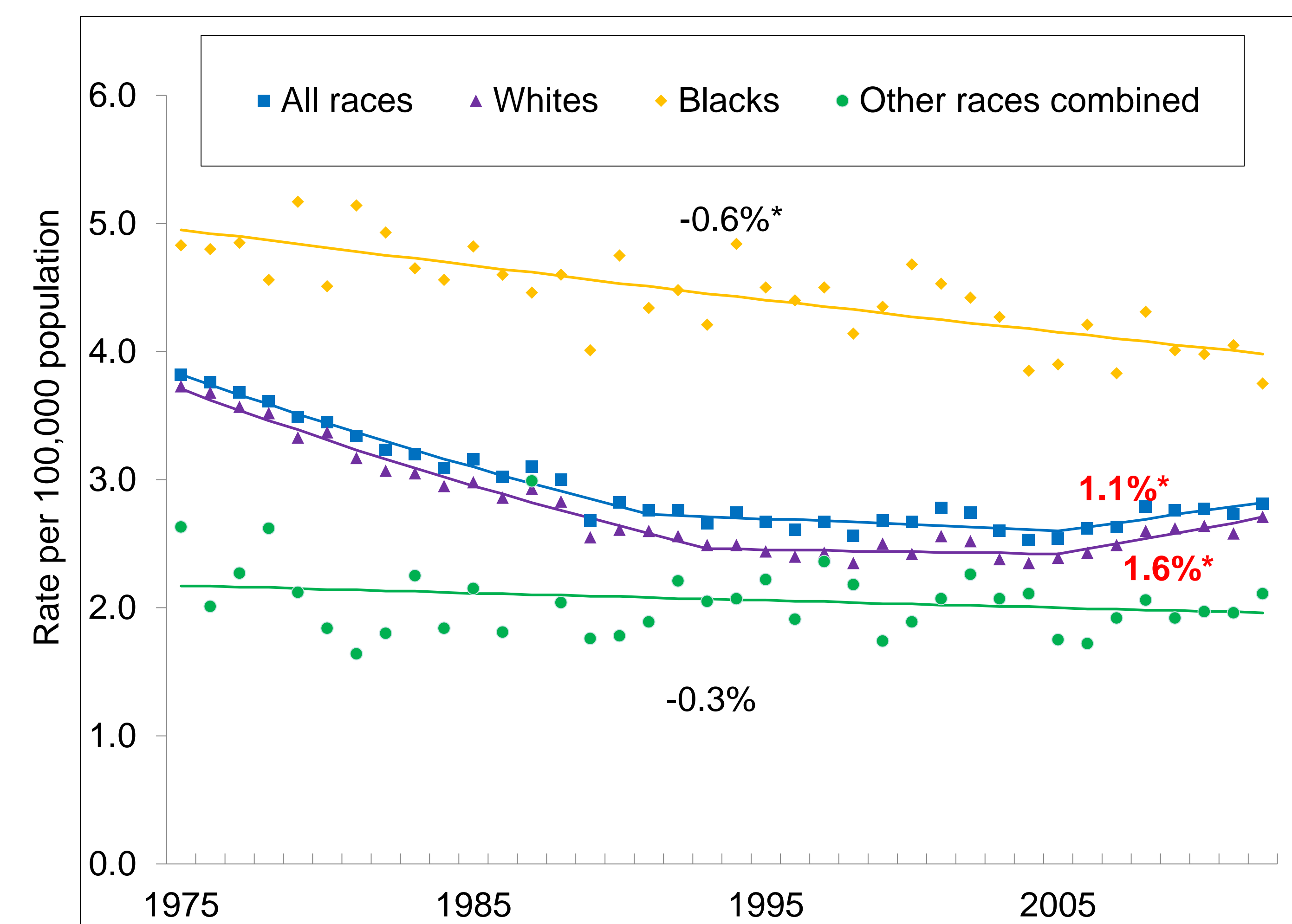
- Colorectal cancer mortality data for the years 1975-2012 were obtained from the National Center for Health Statistics. Mortality rates for adults 20-49 years were calculated using SEER*Stat software, age-adjusted to the 2000 US standard population and expressed per 100,000. Trends were analyzed by race and 10-year age group using Joinpoint regression, allowing for up to 5 joinpoints.
- In addition, delay-adjusted incidence trends in the National Cancer Institute's nine oldest Surveillance, Epidemiology, and End Results (SEER) Program registries were analyzed by race for comparison.

Results

Trends in colorectal cancer death rates, 1975-2012 (Figure 1)

- Death rates among all young adults combined declined from 1975 to 1991, were stable until 2005, but subsequently increased by 1.1% per year through 2012, driven by increase among whites (1.6% per year) over the same time period.
- In contrast, rates declined over the entire time period among blacks (-0.6% per year) and were stable for all other races combined.

Figure 1. Trends in colorectal cancer death rates among young adults 20-49 years, 1975-2012



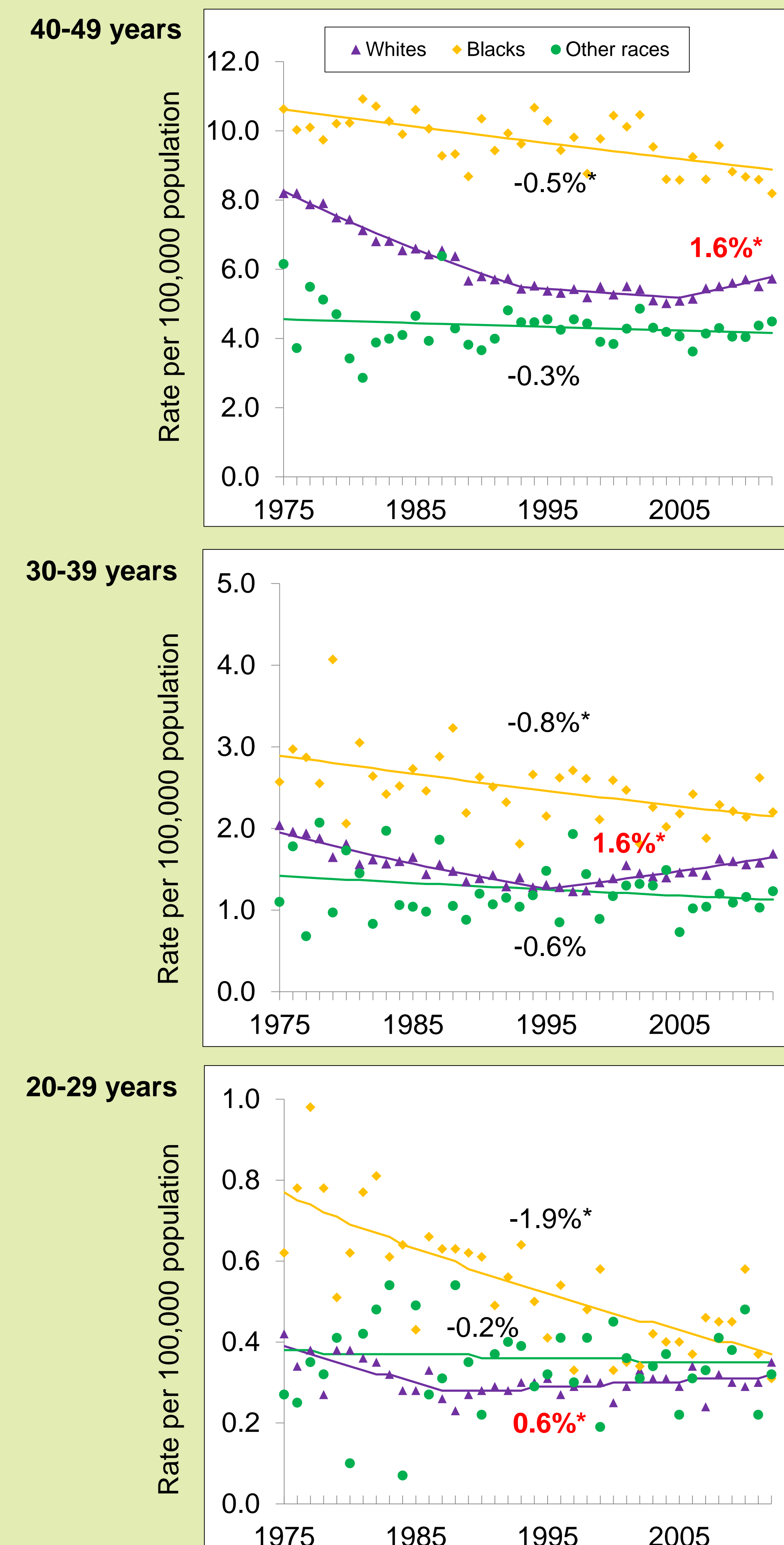
*The annual percent change is significantly different from zero (P<0.05).

Results (continued)

Trends in colorectal cancer death rates by 10-year age group, 1975-2012 (Figure 2)

- Among whites, death rates began increasing in 20-29 year-olds in 1988 (0.6% per year), in 30-39 year-olds in 1994 (1.6% per year), and in 40-49 year-olds in 2005 (1.6% per year).
- Death rates among blacks declined in all 10-year age groups, with the largest decline among those 20-29 years (-1.9% per year). Rates were stable among all other races combined in each age group.

Figure 2. Temporal trends in colorectal cancer death rates among young adults 20-49 years by 10-year age group, 1975-2012

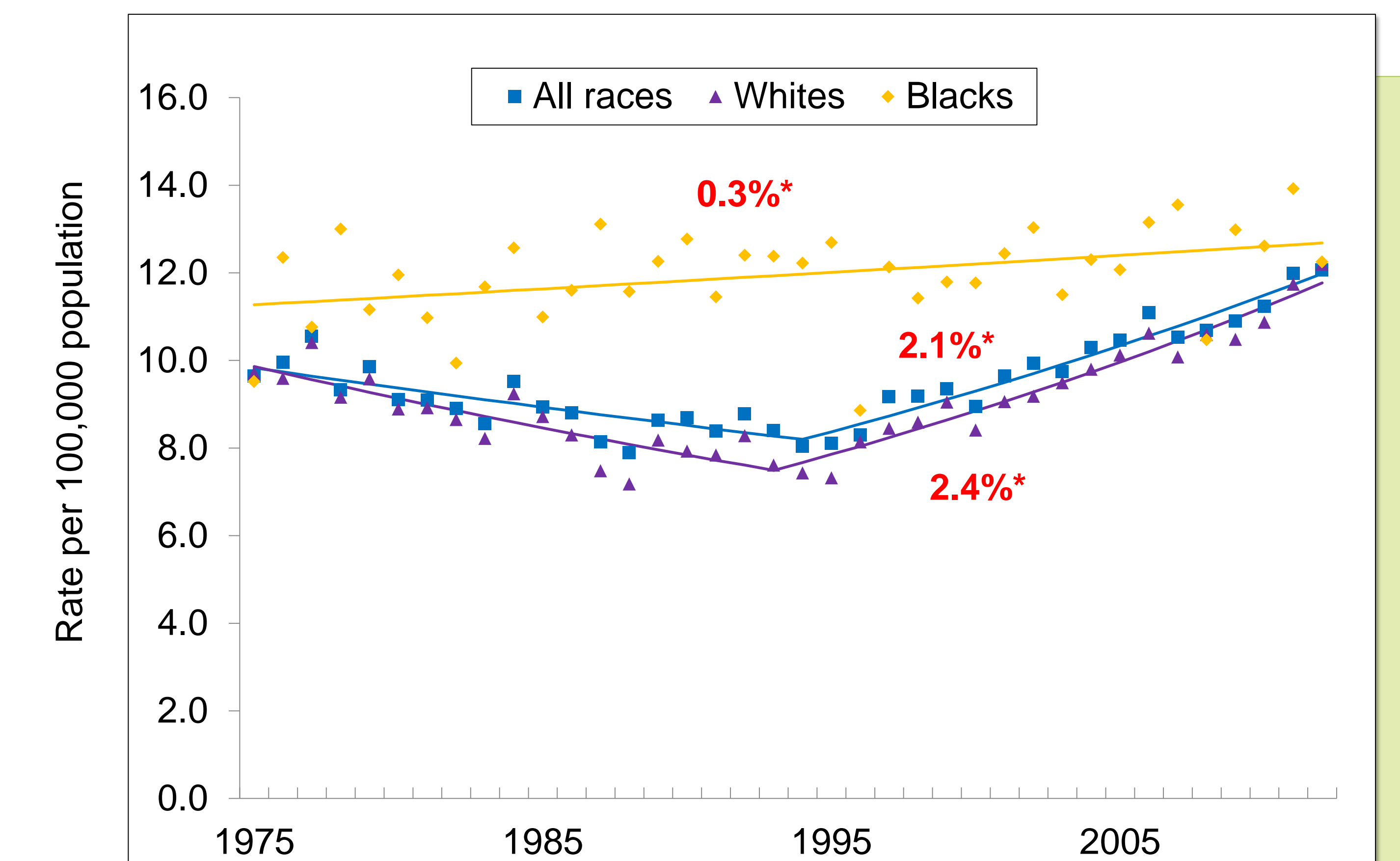


*The annual percent change is significantly different from zero (P<0.05).

Trends in colorectal cancer incidence rates, SEER 9 areas, 1975-2012 (Figure 3)

- Among all young adults combined, incidence rates increased in the SEER 9 areas by 2.1% per year from 1994 to 2012, driven by the increase in whites (2.4% per year from 1993 to 2012).
- Black young adult blacks experienced a modest, steady increase of 0.3% per year from 1975 to 2012.

Figure 3. Temporal trends in delay-adjusted colorectal cancer incidence rates among young adults 20-49 years, 1975-2012



*The annual percent change is significantly different from zero (P<0.05).

Conclusions

- Colorectal cancer death rates have risen by 1.6% per year since 2005 among whites, whereas they are slightly declining among blacks and are stable in other races combined. Death rates in blacks remain higher than those in whites, particularly among 40-49 year-olds.
- Colorectal cancer incidence rates in young adults have continued to rise through 2012.
- Reasons for the increase in colorectal cancer incidence and death rates among young adults are not well understood, but may be linked to lifestyle risk factors such as obesity and diabetes.
- These trends highlight a need for further analytical epidemiologic studies to enhance current understanding about the mechanisms underlying the patterns of occurrence in this age group.
- Mortality results should be interpreted with caution for other races combined, as this includes racial groups with substantially different patterns in colorectal cancer risk factors, and for groups with particularly sparse data (e.g., 20-29 year olds).

