

Relative Incidence of Cancer within the Colon in a Population  
with a Historically High Incidence Rate

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Previous studies have reported substantial variation in the magnitude of the effect of behavioral and genetic risk factors and the efficacy of selected treatment for cancer of specific anatomical sites within the colon. In addition, the utilization of colon cancer imaging has varied by demographic group and geographic location. The purpose of this study was to estimate the incidence of colon cancer and to determine if relative rates were similar for demographic groups and residences in a large geographic area with a historically elevated incidence. This population-based study took place in Pennsylvania which had the 3<sup>rd</sup> highest age-adjusted rate of invasive colorectal cancer incidence among the 37 states and the District of Columbia that reported incidence for 1999. After excluding in-situ cases, directly adjusted rates, rate ratios, and geospatial statistics (e.g., local Moran's I) were calculated for the ascending colon (AC), descending colon (DC) and total colon. From 1994-98, 32,446 cancers (age-adjusted rate of 45.4 [95% confidence interval: 44.9-45.9] per 100,000) were reported. The AC/DC rate ratio for females was 1.51 (95% CI: 1.47-1.56), while for males the ratio was 1.16 (95% CI: 1.13-1.20). The rate ratio for whites did not differ from that for blacks. Low density of physicians was positively associated with the incidence rate of cancer of the AC ( $P < 0.05$ ), but not the DC. Clustering by geographic location was observed ( $p < 0.05$ ). The study finds support for the hypothesis that behavioral and geographic factors differentially affect the incidence rate for cancer of specific sites within the colon.

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