

## **Validation of the Harvard Cancer Risk Index: A Prediction Tool for Individual Cancer Risk**

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The Harvard Cancer Risk Index is a risk appraisal tool estimating the risks of individuals aged 40 and above for developing the leading causes of cancers in US men and women relative to the general population. We assessed the Risk Index's predictive validity for cancers of the ovary, colon, and pancreas. For each cancer, we calculated age-standardized incidence ratios for the Risk Index's relative risk categories and overall concordance statistics using 10 years' follow-up data from the Nurses' Health Study and Health Professionals' Follow-up Study. With respect to calibration with observed relative risks across categories, the Risk Index performed well for ovarian and colon cancer in women and for pancreatic cancer in men, while it performed moderately for colon cancer in men. Discriminatory accuracy was modest for ovarian cancer (age-adjusted concordance statistic=0.59) and relatively good for pancreatic cancer (concordance statistic of 0.72) and colon cancer in men and women (concordance statistics of 0.71, 0.67 respectively). These results support the validity of the Risk Index in predicting individuals' risks of cancers.

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