# New High for BMI-Related Cancers

A new study by the World Health Organization's International Agency for Research on Cancer shows that nearly half a million new cancer cases a year can now be attributed to high body mass index (BMI).

The study, published online ahead of print in *The Lancet Oncology* (***doi:10.1016/S1470-2045[14]71123-4***), adds more specific data showing that overweight and obesity have become a major risk factor, responsible for an estimated 3.6 percent (481,000) of all new cancer cases in 2012, the most recent year for which data are available.

International Agency for Research on Cancer
World Health Organization

The researchers note that global analysis shows that cancer due to overweight and obesity is currently far more common in more developed countries (393,000 cases, 5.2% of all new cancer cases in these countries) than in less developed countries (88,000 cases, 1.5% of all new cancer cases in these countries).

North America remains the most affected, with an estimated 111,000 obesity-related cancers in 2012, accounting for 23 percent of the total global cancer burden linked to high BMI.

In Europe, the proportion of cancers due to overweight and obesity is also large, particularly in eastern Europe (65,000 cases, 6.5% of all new cancer cases in the region).

Overall, the countries with the highest cancer burden attributable to overweight and obesity in men are the Czech Republic (5.5% of the country's new cancer cases), Jordan (4.5%), the United Kingdom (4.4%), and Malta (4.4%).

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Among women, Barbados (12.7%), the Czech Republic (12.0%), and Puerto Rico (11.6%) are most affected. In the United States, one of the largest contributors of global cancers associated with high BMI, 3.5 percent and 9.5 percent of new cancer cases are linked to excess body weight in men and women, respectively.

Although in most Asian countries the proportion of cancers associated with overweight and obesity is not large, it still translates into a considerable absolute number of cases, due to the large population size. For example, in China, about 50,000 cancer cases in women and men are associated with overweight and obesity, accounting for 1.6 percent of the country's new cancer cases. In contrast, the contribution of overweight and obesity to cancer burden remains low in Africa (7,300 cases, 1.5% of all new cancer cases in the continent).

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"Overall, we see that while the number of cancer cases associated with overweight and obesity remains highest in richer countries, similar effects are already visible in parts of the developing world," the principal investigator, Isabelle Soerjomataram, PhD, of the IARC's Cancer Surveillance Section, said in a news release.

WHO defines overweight as a BMI of at least 25 kg/m$^2$, and obesity as a BMI of at least 30 kg/m$^2$. High BMI is a known risk factor for cancers of the esophagus, colon, rectum, kidney, pancreas, gallbladder, postmenopausal breast, ovary, and endometrium, noted first author Melina Arnold, PhD, also of the Cancer Surveillance Section.

The study shows, she said, that the proportion of cancers related to obesity is higher in women than in men, with population-attributable fractions of 5.3 and 1.9 percent, respectively. "Women are disproportionately affected by obesity-related cancers. For example, for postmenopausal breast cancer, the most common cancer in women worldwide, the study suggests that 10 percent of these cancers could have been prevented by having a healthy body weight."

Cancers of the endometrium, colon, and breast account for almost three quarters (73%) of all cancers linked to high BMI in women, the study showed, and in men, kidney and colon cancers together account for two thirds (66%) of all cancers associated with high BMI.

The study also shows that one quarter of all cancers attributable to overweight and obesity worldwide (118,000 cases) could have been prevented if populations had simply maintained their average BMI of 30 years ago, the researchers reported.

"The number of cancers linked to obesity and overweight is expected to rise globally along with economic development," said IARC Director Christopher Wild. "This study stresses the importance of putting in place efficient weight-control measures, to curb the high number of cancers associated with excess body weight and to avoid the problems faced by rich countries being repeated in those now undergoing rapid development."