

Genetics dominant risk factor in common cancers

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A study of individuals who have been adopted has identified genetics as the dominant risk factor in 'familial' breast, prostate and colorectal cancers.

Researchers at the Centre for Primary Health Care Research at Lund University and Region Skåne in Sweden have presented the new research findings based on studies of population registers.

"The results of our study do not mean that an individual's lifestyle is not important for the individual's risk of developing cancer, but it suggests that the risk for the three most common types of cancer is dependent to a greater extent on genetics", said Bengt Zöller, a reader at Lund University who led the study.

The researchers studied adoptees born in Sweden in relation to both their biological parents and their [adoptive parents](#). The Swedish multi-generation register and the cancer register were used to monitor 70 965 adopted men and women. They were all born between 1932 and 1969 and developed breast cancer, [prostate cancer](#) or colorectal cancer between the years 1958 and 2010. Using register studies, the researchers also looked at their adoptive and biological parents over the same period.

The risk of cancer in adoptees with at least one biological parent who had had the same cancer was 80–100 per cent higher for breast cancer, prostate cancer and colorectal cancer than for a control group without a biological parent with the same cancer. There was, however, no higher

risk for individuals with adoptive parents affected by breast cancer, prostate cancer or colorectal cancer than for a control group. Individuals with a biological parent with cancer also developed the disease at a younger age than those without a biological parent with the same cancer. The age at which an individual developed cancer was not, however, affected by whether an adoptive parent had had the same cancer.

The results are an important indicator of the significance of hereditary factors for breast, prostate and colorectal cancer, according to Bengt Zöller.

"The occurrence of [breast cancer](#), prostate cancer and colorectal cancer in [biological parents](#) is an important risk factor that should be included in patients' medical history and examinations. It is therefore important that doctors ask about family history so that they can decide whether further tests are needed", said Bengt Zöller.

More information: 'Familial transmission of prostate, breast, and colorectal cancer in adoptees is related to cancer in biological but not in adoptive parents: a nationwide family study.' Zöller B, Li X, Sundquist J, Sundquist K. *European Journal of Cancer*. DOI: [dx.doi.org/10.1016/j.ejca.2014.05.018](https://doi.org/10.1016/j.ejca.2014.05.018)

Provided by Lund University

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