

A new model can predict a woman's risk of breast, ovarian and womb cancer

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The probability (absolute risk) of a woman developing breast, ovarian, and endometrial (womb) cancer can all be predicted using easily obtainable information on known risk factors for these cancers, according to a study by US researchers published in this week's *PLOS Medicine*.

Ruth Pfeiffer from the National Cancer Institute in Bethesda, USA and colleagues from institutions throughout the US, developed statistical models based on risk factors of these three common cancers that could help with clinical decision making.

The authors developed these models by using information from two large US studies that included white, non-Hispanic women aged over 50 years and by including commonly known risk factors, such as parity (the number of children a women delivered), [body mass index](#) (an indicator of the amount of body fat), use of [oral contraceptives](#), and menopausal status and use of menopausal hormone therapy. The resulting models were able to predict individual women's risk of each cancer: for example, individual women's risk for endometrial cancer calculated using this model ranged from 0.5% to 29.5% over the next 20 years depending on their exposure to various risk factors.

The authors say: "These models predict absolute risks for breast, endometrial, and [ovarian cancers](#) from easily obtainable risk factors and may assist in clinical decision-making."

They add: "Limitations are the modest discriminatory ability of the breast and ovarian models and that these models may not generalize to women of other races."

In an accompanying Perspective, Lars Holmberg from Uppsala University Hospital in Sweden and Andrew Vickers from the Memorial Sloan-Kettering Cancer Center in New York (uninvolved in the study) support the focus of the model on helping with clinical-decision making and say: "Ruth Pfeiffer and colleagues present models for absolute risks and thereby avoid the common mistake of proclaiming a substantial relative risk as clinically relevant without considering the background risk."

More information: Pfeiffer RM, Park Y, Kreimer AR, Lacey JV Jr, Pee D, et al. (2013) Risk Prediction for Breast, Endometrial, and Ovarian Cancer in White Women Aged 50 y or Older: Derivation and Validation from Population-Based Cohort Studies. *PLoS Med* 10(7): e1001492. [doi:10.1371/journal.pmed.10014](https://doi.org/10.1371/journal.pmed.10014)

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