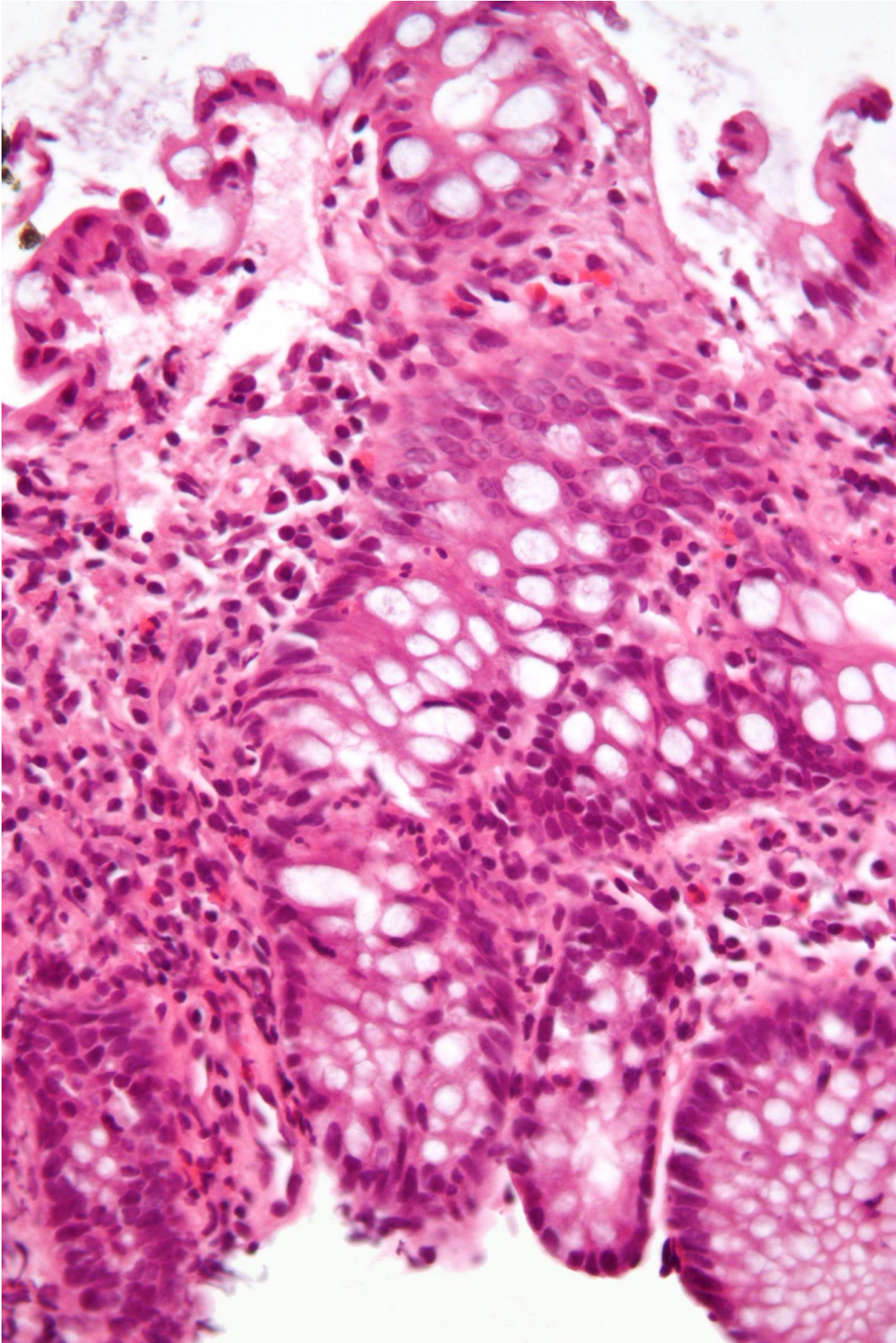


The high cost challenge of personalised screening for bowel cancer

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Micrograph showing inflammation of the large bowel in a case of inflammatory bowel disease. Colonic biopsy. Credit: Wikipedia/CC BY-SA 3.0

Personalised screening could improve the diagnosis of bowel cancer and re-shape the future of Australia's National Bowel Cancer Screening Program (NBCSP), according to new research at The University of Western Australia.

The study, published today in *Cancer Epidemiology, Biomarkers and Prevention*, a journal of the American Association for Cancer Research, hopes to improve [health outcomes](#) by targeting screening at those with a higher risk of developing the condition, while reducing the burden for those at a [lower risk](#).

Ms Dayna Cenin from UWA's School of Population Health said the research focused on the benefits of personalizing screening in the future, however, this method was not feasible right now due to the [high costs](#) associated with determining an individual's risk.

"As technology becomes more affordable and accessible it will allow us to move towards precision medicine," Ms Cenin said. "Analysing [personal information](#) such as genes and family history will allow us to estimate individual risk levels to provide a more personalized screening experience.

"Once we reach this point, it will be cost-effective to start screening those with the highest risk of developing [bowel cancer](#) more intensively. Those at lowest risk won't need to start screening until later."

The NBCSP invites eligible Australians to screen for bowel cancer every two years, using a postal home screening kit.

"The findings continue to support the NBCSP program, highlighting that until personalized screening becomes viable, improving participation in the existing screening program is warranted."

"Sadly, only four out of every 10 Australians invited to screen currently complete the test, suggesting a need to focus on increasing participation," Ms Cenin said.

The research, funded by Cancer Council WA, was a collaboration between researchers at Erasmus University Medical Centre in Rotterdam, Curtin University, University of Melbourne, Sir Charles Gairdner Hospital and UWA.

Melissa Ledger, Cancer Prevention and Research Director at the Cancer Council WA said the organisation was proud to fund local research and researchers working with international collaborators that could help to inform the future of bowel cancer screening in Australia.

"Since the NBCSP began, about 5.5 million screening tests have been completed, with about 280,000 participants advised to follow up a positive screening result.

"Screening kits have saved the lives of almost 10,000 Australians so far, however we need to focus efforts on getting eligible Australians to complete the kit they get in the mail, it could save their life, while building the evidence to improve the program in the future," Ms Ledger said.

More information: Dayna R Cenin et al. Cost-effectiveness of personalised screening for colorectal cancer based on polygenic risk and

family history, *Cancer Epidemiology Biomarkers & Prevention* (2019).
[DOI: 10.1158/1055-9965.EPI-18-1123](https://doi.org/10.1158/1055-9965.EPI-18-1123)

Provided by University of Western Australia

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