

Australia launches world-first preventative DNA screening for cancer, heart disease risk

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Australians can now access a free DNA saliva test to learn whether they face increased risk of some cancers and heart disease

The nationally collaborative project, led by Monash University and supported by researchers and clinicians across Australia, will screen at least 10,000 people aged 18-40 for genes that increase risk of certain types of cancers and heart disease that often go undetected.

DNA Screen is the world's first preventive DNA screening study designed specifically to assess population DNA screening through a national healthcare system. The test is free and involves placing a saliva sample into a small tube received by mail, and sending it back in a postage paid envelope.

Those found to be at high risk after DNA testing – about one in 75 or 1.3 per cent – will have their situation explained by experts and be offered genetic counselling and prevention measures, such as regular scans and check-ups.

DNA Screen will identify people with DNA variants in the *BRCA1* and *BRCA2* genes that lead to an increased risk of hereditary breast and ovarian cancer in women. These genes are also linked to breast and prostate cancer in men, although not as strongly. It will also focus on Lynch Syndrome - another condition that increases risk for colorectal, endometrial, and other gastrointestinal cancers. Both cancer-related conditions have effective, proven interventions available to reduce risk if identified early.

The DNA test also encompasses heart disease risk, focusing on familial hypercholesterolemia (FH) or 'genetic high cholesterol', which results in high risk of heart disease from a young age. Despite effective medications such as statins being available to reduce risk, an estimated 95 per cent of FH carriers are currently undiagnosed.