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PILOT STUDY TO TEST POPULATION DNA SCREENING FOR GENOMIC CONDITIONS

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A PILOT study beginning in July will test the viability of a preventive DNA screening program for adult-onset genomic conditions, such as hereditary breast and ovarian cancer (HBOC), Lynch syndrome and familial hypercholesterolaemia, according to the authors of a Perspective published today by the Medical Journal of Australia.

"DNA screening for these conditions could identify medically actionable genetic risk factors, prompting timely risk management and informed decision making from early adulthood to facilitate early detection or prevention," wrote the authors, led by Associate Professor Paul Lacaze, Head of Public Health Genomics at Monash University.

The DNA Screen pilot study will offer preventive DNA screening for HBOC, Lynch syndrome and familial hypercholesterolaemia to 10 000 Australians aged 18–40 years, with recruitment starting in July 2022.

"DNA Screen will use innovative online recruitment methods, driven by social media, to ensure socially relevant communication for individuals aged 18–40 years," Lacaze and colleagues wrote.

"This age group will benefit most from preventive DNA screening, being old enough to provide informed consent but below the average age of disease onset and the commencement of existing Australian population-based screening programs.

"The pilot population recruited will be representative of the Australian general population in this age group, by state and territory population size, sex, with diverse cultural and linguistic representation, and Aboriginal and Torres Strait Islander participants. To achieve this, registered individuals will be randomly selected within categories for enrolment until 10 000 participants are recruited.

"The study will provide clear, video-enhanced information about genetic testing, risk management, implications of a positive and negative result, and other issues via the study website."

Lacaze and colleagues believe the study will provide the first evidence-based assessment of population-level adult DNA screening in Australia.

"This could help position Australia to become the first nation to offer adult population DNA screening through a public health care system," they concluded.

"By purposefully limiting screening to only medically actionable conditions that meet certain evidence thresholds, the study takes a conservative approach. If additional conditions meet these thresholds in the future, then the approach could be expanded.

"Potential benefits must be balanced against the ethical, societal and implementation challenges."

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