

ASX Market Announcement

GeneType published in PLOS ONE – development of polygenic risk scores for cardiovascular diseases and type 2 diabetes

Melbourne, Australia, 6 December 2022: Genetic Technologies Limited (ASX: GTG; NASDAQ: GENE, “Company”, “GTG”), a global leader in guideline-driven genomics-based tests in health, wellness and serious diseases, is delighted to announce the publication of a peer-reviewed paper describing the development and validation of the polygenic risk scores that underlie the risk predictions for cardiovascular diseases and type 2 diabetes in the geneType Multi-Risk Test.

The paper is coauthored by Professor John Hopper and Associate Professor Enes Makalic from the Centre for Epidemiology and Biostatistics, University of Melbourne, and GTG science team members, Dr Chi Kuen Wong, Dr Gillian Dite, Lawrence Whiting, Dr Nicholas Murphy and Dr Richard Allman.

The paper titled “Polygenic risk scores for cardiovascular diseases and type 2 diabetes” has been published in *PLOS ONE* <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0278764>.

Publication highlights:

- The study used advanced statistical techniques to develop polygenic risk scores for coronary artery disease, hypertension, atrial fibrillation, stroke and type 2 diabetes.
- The cutting-edge study design meant that the polygenic risk scores developed by GTG use just the genetic changes essential to predict risk without sacrificing predictive performance compared with polygenic risk scores that use up to 820 times the number of genetic changes.
- This study used data from over 50,000 participants in the UK Biobank.
- GTG quantified the true effects of the polygenic risk scores in predicting disease by accounting for age and sex in the study design.

The research team used a sophisticated sampling strategy that enabled the true performance of the polygenic risk score to be determined and not be influenced by the effects of age and sex.

Cardiovascular diseases and type 2 diabetes are leading and serious conditions in Australia. In 2018, more than 4 million Australians reported having a cardiovascular disease.¹ In 2021, an estimated 571,000 Australians aged 18 and over had coronary artery disease, which was the single leading cause of death resulting in 16,600 deaths.² Atrial fibrillation is thought to affect approximately 2% of the Australian population, equivalent to more than 500,000 people.³

Type 2 diabetes is the seventh most common cause of death in Australia and almost 1.9 million Australians have diabetes, including 500 000 who are not yet diagnosed.⁴

¹ <https://www.heartfoundation.org.au/bundles/for-professionals/key-stats-cardiovascular-disease>

² <https://www.aihw.gov.au/reports/heart-stroke-vascular-diseases/hsvd-facts/contents/heart-stroke-and-vascular-disease-and-subtypes/what-is-coronary-heart-disease#Common>

³ <https://www.aihw.gov.au/reports/heart-stroke-vascular-diseases/atrial-fibrillation-in-australia/contents/how-many-australians-have-atrial-fibrillation>

⁴ <https://www.diabetesaustralia.com.au/about-diabetes/diabetes-in-australia/>

Genetic Technologies' CEO, Simon Morriss, said "Implementation of risk assessment tests, such as our geneType Multi-Risk Test, that accurately predict the risk of a patient developing one of these serious diseases, will enable early intervention with great potential for improved patient outcomes".

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Authorised for release by the board of directors of Genetic Technologies Limited.

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About Genetic Technologies Limited

Genetic Technologies Limited (ASX: GTG; Nasdaq: GENE) is a diversified molecular diagnostics company. A global leader in genomics-based tests in health, wellness and serious disease through its geneType and EasyDNA brands. GTG offers cancer predictive testing and assessment tools to help physicians to improve health outcomes for people around the world. The company's Polygenic Risk Scores (PRS) platform is a proprietary risk stratification platform developed over the past decade integrating clinical and genetic risk delivering actionable outcomes from physicians and individuals. Leading the world in risk prediction in Oncology, Cardiovascular and Metabolic diseases. Genetic Technologies continues to develop a pipeline of risk assessment products. For more information, please visit www.genetype.com