

Genetic testing is good for health. But what about insurance?

To encourage people to undergo testing, there must first be trust.

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Lina is a 30-year-old teacher whose mother developed breast cancer in her 40s. When her doctor recommends a genetic test to check whether she has a higher predisposition to breast cancer related to having the BRCA1 or BRCA2 genes, Lina is left with multiple questions about whether to proceed. A key one concerns insurance. Although her basic MediShield Life coverage won't be affected by the test results, she is unsure if any inherited risk shown in the results could affect her future applications for private health, life or critical illness insurance. What if she declines the test? Could the insurer still infer any inherited risk from her family history or a subsequent diagnosis of breast cancer?

Singapore is encouraging genetic testing because it can help people understand health risks earlier and take action before serious illness develops. It will subsidise genetic testing for hereditary breast and ovarian cancer from December, while allowing MediShield Life and MediSave to offset the costs of risk-reducing operations. This follows the launch in 2025 of a national testing programme for familial hypercholesterolaemia (FH), a condition that causes high levels of "bad" cholesterol from an early age.

The moves reflect a broader shift in healthcare towards preventive, predictive and personalised care. But as genetic testing expands, the questions that Lina faces are likely to confront many other Singaporeans as well.

Therein lies a key challenge for policymakers: For the benefits of genetic testing and precision medicine to gain traction, ways must be found to encourage people to undergo testing.

A public perception survey we conducted in 2025 showed that 36% of 1,000 respondents – comprising Singaporeans and permanent residents – were unsure about or unwilling to undergo a clinically indicated genetic test, even if it was fully covered by MediSave.

One concern may be fear that insurance applications could be rejected based on their genetic information. If people are worried about insurers rejecting their applications, then they may avoid testing, even if they believe testing could be beneficial.

Expressions of uncertainty towards genetic testing also arise because, while some risks may never develop into disease, others can be significantly reduced through treatment or preventive measures.

CURRENT INSURANCE GUIDELINES

People who bought insurance before having a genetic test may have less to worry about because the Life Insurance Association Singapore has clarified that for existing policies, a new medical diagnosis does not generally affect coverage or premiums, and further underwriting is not generally conducted after the policy is issued, provided premiums continue to be paid.

The challenge arises when people apply for new insurance or increase their coverage.

Under the present system, predictive genetic test results, which estimate a person's future disease risk before symptoms occur, are generally protected, and cannot be used for insurance underwriting. (A limited exception exists for certain types of insurance, where the total cover exceeds a specified monetary limit and the result is from an approved test for Huntington's disease or the BRCA1 or BRCA2 genes.)

Genetic test results obtained from biomedical research and test results under the national



A research officer processing blood samples for genetic sequencing. Managing genetic and health-related information fairly should protect people from unreasonable disadvantages, encourage clinically appropriate genetic testing, and maintain access to insurance. PHOTO: KHOO TECK PUAT HOSPITAL

FH genetic testing programme are also specifically protected.

An insurer may not ask or pressure someone to take a genetic test to get insurance.

But an insurer may request an existing diagnostic genetic test result that confirms or rules out a medical diagnosis, subject to the specific protections above.

Existing industry practice also allows insurers to ask for and use medical diagnoses and family history. So, while someone's genetic test results may be protected, the related diagnosis and family history may be used in underwriting decisions.

WHAT THE GOVERNMENT PROPOSES

On Aug 7, the Ministry of Health made a proposal to replace the Moratorium on Genetic Testing and Insurance, which was introduced in 2021. The ministry published a public consultation paper proposing legislation to govern the use of genetic information in insurance and employment. Among its proposals:

- It would protect a person's genetic information, including genetic test results, genetic predispositions and genetic information about biological relatives, from requests or use in insurance underwriting and employment decisions.
- It would continue the existing industry practice of allowing insurers to request and consider current medical conditions, including diagnoses, and family history when assessing applications.
- For policies with a sum assured or payout above a financial threshold (the amount of which is yet to be determined), insurers would be permitted to request and use genetic information.

The draft legislative text and details of enforcement and remedies have not been published yet.

GREY AREAS

As we consider the proposals, one likely area of uncertainty – and concern – for people like Lina is the boundary between the genetic test result, which is generally protected, and the medical diagnosis or family history, both of which are available to the insurer.

It should also be noted that not all genetic findings carry the same weight. Some are strongly predictive of future disease, but others are not. It is entirely possible that many people with a particular genetic variant may never develop the condition at all. It would be unfair if a family history or diagnosis suggesting inherited risk were to be treated as if illness was almost certain, especially where the risk can be significantly reduced through safe, affordable and effective treatment or prevention.

The key issue here is the interpretation of the diagnosis, family history and other health information. A diagnostic label may not indicate how effectively the condition is being treated, and family history in itself may offer an incomplete and incorrect picture of a person's actual risk.

FH illustrates this well. Someone with FH who takes statins, goes for regular follow-up appointments and incorporates healthy lifestyle changes may significantly reduce their risk of early cardiovascular disease, compared with another person whose condition is not yet effectively managed or remains poorly controlled despite treatment.

A fair system should be able to differentiate between an unmanaged risk and one that is effectively managed, without insurers intrusively surveilling people.

This must be considered alongside insurers' legitimate concerns about adverse selection.

Private insurance is based on pooling risk, with premiums paid into a common pool and claims paid to members who suffer illness, disability or death from that pool. If an applicant privately knows of a high future risk and purchases a large insurance policy without disclosure, eventually, claims and premiums may rise for everyone. This is called adverse selection, and preventing this protects policyholders and insurers.

The consultation paper proposes a financial limit exception, without specifying the amount yet, to address this risk.

Insurers need to manage adverse selection and maintain sustainable risk pools, so insurance remains fair and accessible.

The proposed legislation seeks to protect an individual's genetic predispositions and genetic test results, while allowing diagnoses and family history to remain accessible to insurers.

Family history often functions as a proxy for inherited risk, even though it may not fully reflect the applicant's circumstances. Applicants should be able to appreciate what information materially influenced the decision, why it was relevant to the insured risk and how it affected the terms offered, without the insurer having to disclose proprietary information. In this context, transparency is vital: insurers' use of family history should be relevant, evidence-based and proportionate, rather than an indirect means of inferring genetic predisposition.

The proposed prohibition on insurers using favourable genetic information voluntarily disclosed by applicants, such as a negative test result, would prevent indirect pressure on everyone to disclose. However, a difficult question remains: how can the

applicant correct an inaccurate inference from family history, without making genetic disclosure the expected norm? It would be unfair if these applicants had to pay higher premiums for their insurance because of such inaccurate inferences.

INDEPENDENT PANEL

In a rapidly evolving field, public trust may be strengthened if

such matters are guided by an independent multidisciplinary panel rather than left to each insurer to interpret on its own.

Even if insurers employ medical expertise, that advice is commissioned by the insurer and internal expertise does not offer a common independent standard across the industry.

Inconsistent underwriting, shaped by outdated assumptions or variable in-house expertise, could disadvantage some people

and affect public confidence.

An independent panel would be better placed to issue and update guidance on matters such as how strongly genetic and health-related information predicts disease, whether the condition is likely to develop, and whether effective prevention or treatment can substantially reduce the risk. Such guidance would reassure applicants, give insurers clearer and more consistent standards, and allow the framework to keep up with relevant developments.

For a person like Lina, the practical question is whether she can undergo clinically useful genetic testing, confident in the knowledge that the result will be generally protected and that any related diagnosis or family history will be interpreted and assessed fairly by the insurer, while considering her actual risk.

A fair approach should protect people from unreasonable disadvantages, encourage clinically appropriate genetic testing, and maintain access to the insurance that Singaporeans rely on for financial security.

Transparency and independent, evidence-based guidelines could also help foster a more sustainable insurance industry.

Precision medicine presents Singapore with both an opportunity and a test of trust. Genetic testing can help people understand health risks earlier, take preventive steps and receive care better suited to them. But that promise depends on people being willing to be tested, and that depends on how genetic and health-related information is managed across the system.

If we get this right, genetic testing will not be something to fear, but a tool that helps Singaporeans live longer, healthier lives.

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