

# Genetic testing and implications for life insurers

With just a few drops of saliva and a credit card, consumers can order up a wealth of information about their genetic makeup, ancestry and pre-disposition to disease. Affordable prices and easy access are making genetic tests increasingly mainstream.



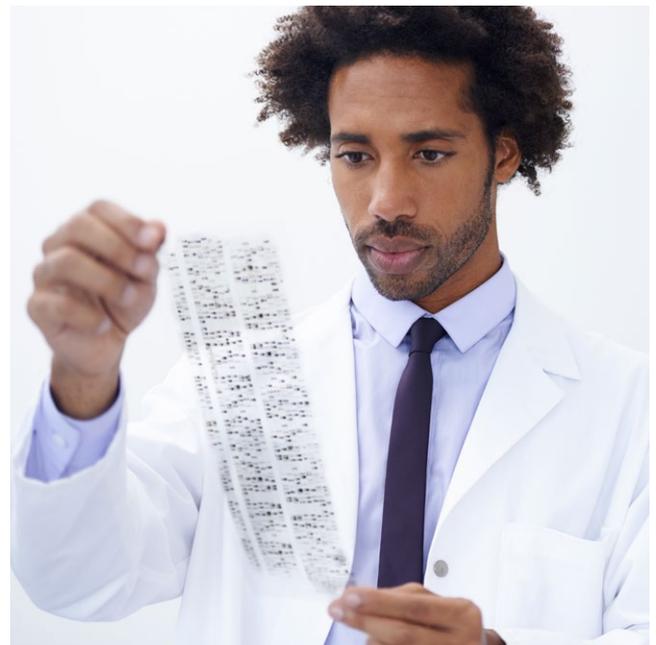
Genetic tests help people predict, prevent, diagnose and treat disease to better manage their risks, be healthier and potentially live longer.



These tests also predict health information that (if not shared) could expose life insurers to substantial adverse-selection and limit their ability to provide affordable coverage.

## Key facts

- If applicants don't share risk-relevant information from genetic testing, insurers are exposed to adverse-selection.
- The use of genetic information is highly regulated in mature markets and increasingly subject to legislation in new markets which further limits private life insurer's ability to select and manage risk.
- Family history questions at the point of sale do provide a margin of protective value against adverse-selection.
- Preserving the symmetry of information between insurers and applicants is essential for the private insurance market to work effectively.
- Insurers do not require applicants to undergo genetic testing but want access to risk relevant information revealed by a genetic test in order to underwrite and manage that risk fairly.



This opens the door to a world of advantages and disruptions that both private insurers and consumers need to navigate. How can we support the benefits to consumers who hold a deck full of unique and personal health insights while keeping the playing field fair for insurers who can help manage those risks?

We recommend life insurers continuously review and update their products, underwriting and risk selection process within a given legal framework to reflect the rapid developments in genomic technologies and their application in modern medicine.

### Risk considerations for insurers

As the new genetic-based diagnostic and predictive tools enter clinical practice, they will transform the way we practice medicine and deliver care. In turn, they will also challenge how private insurers define disease, structure and price policies and provide sustainable products and services to policyholders.

### Going forward

We are closely following the major developments in genetic testing and genomic medicine across the world landscape. This includes both R&D and a global working group specifically dedicated to follow developments and trends. Our medical experts, scientists and actuaries provide expertise on product development including new customer services designed to add value, and new genetic impact models to help understand the implications of genetic testing and anti-selection. This is an important topic for every life insurer and critical that your product design, costing approaches, underwriting guidelines and claims handling are regularly reviewed in light of ongoing developments for this and other medical advancements with the potential to change the risk landscape.

See the reverse side for a summary of the risks and considerations.

Here's a summary of the insurance risks and considerations:

#### Underwriting

It is common best practice for insurers to not request a genetic test from those applying for coverage. However, different countries apply different approaches regarding the use of existing genetic testing information for insurance purposes. Private insurers may or may not take these results into account when underwriting, depending on legislation and medical and actuarial justification. In markets where consumers are allowed to restrict or limit access to the genetic information they hold, insurers may be able to use family history questions (which have long been an important surrogate for inherited impairments) to limit exposure to anti-selection.

#### Adverse-selection

Non-disclosure of risk-relevant genetic information will increase life insurer's exposure to adverse-selection. Those with a negative test could deter or delay the purchase of insurance and/or lapse existing policy coverages, leaving only those with higher risk to buy disproportionate insurance cover, which can have a significant impact on the efficient operation and sustainability of insurance markets.

#### Overdiagnosis

Widespread adoption of genetic tests as screening tools (e.g. liquid biopsy) carries the risk of increase in disease incidence. Population screening tests also run the risk of identifying a "disease" that may never have caused symptoms or premature death. This is followed by the risk of over-treatment that may be unnecessary or even harmful. Over-diagnosis of disease will significantly impact the experience of critical illness and life insurance portfolios. Private insurers can consider tightening definitions to exclude premature genetic tests for diagnosis and/or reducing the duration of long-term critical illness guarantees to help manage this risk.

#### Health-care costs

Increasing uptake of genetic testing may create unexpected health care costs far beyond reimbursement for the actual test. If we identify disease risk sooner, we can also expect higher costs for more screening, medical counselling and preventive or therapeutic interventions. There is also the risk that sophisticated medical treatment may incur high costs but, in the end, be unnecessary. Conversely, early preventive intervention guided by genetic tests and genetic counselling could decrease costs of long-term medical-care for advanced/late stage diseases.

#### Products including genetic testing services

Some life insurers are exploring ways to offer customers genetic testing services as a way to improve long-term health outcomes. The health benefits of offering predictive genetic testing should be balanced against the risk for potential adverse-selection, claims experience and increased exposure to legal and reputational challenges. As best practice, we recommend insurers that offer genetic testing should ensure access to adequate pre- and post-test genetic counselling. Applicants should fully understand the abilities and limitations of the test and the personal consequences the new information may have for one's health and future insurability.

#### Legal risk

Government regulations around how insurers can use genetic information vary by market and range from requiring self-regulation, to imposing strict legal limitations or raising an outright ban. We see it as imperative that industry groups and regulators work together to agree on reasonable self-regulation in order to help balance the interests of consumers and preserve the ability of insurers to underwrite sustainable products.

#### Reputational risk

The use of genetic testing information has created much debate because of its potential for unfair discrimination in employment and insurance. Even where market regulations allow, insurers have been reluctant to use genetic data because of ethical concerns and the associated reputational risk that its use could be viewed as overly invasive.

The entire content of this factsheet is subject to copyright with all rights reserved. The information may be used for private or internal purposes, provided that any copyright or other proprietary notices are not removed. Electronic reuse of the data published in this factsheet is prohibited. Reproduction in whole or in part or use for any public purpose is permitted only with the prior written approval of Swiss Re, and if the source reference is indicated. Courtesy copies are appreciated. Although all the information used in this factsheet was taken from reliable sources, Swiss Re does not accept any responsibility for the accuracy or comprehensiveness of the information given or forward-looking statements made. The information provided and forward-looking statements made are for informational purposes only and in no way constitute or should be taken to reflect Swiss Re's position, in particular in relation to any ongoing or future dispute. In no event shall Swiss Re be liable for any loss or damage arising in connection with the use of this information and readers are cautioned not to place undue reliance on forward-looking statements. Under no circumstances shall Swiss Re or its Group companies be liable for any financial and/or consequential loss relating to this factsheet. Swiss Re undertakes no obligation to publicly revise or update any forward-looking statements, whether as a result of new information, future events or otherwise. This factsheet does not constitute legal or regulatory advice and Swiss Re gives no advice and makes no investment recommendation to buy, sell or otherwise deal in securities or investments whatsoever. This document does not constitute an invitation to effect any transaction in securities or make investments.