Insuring Tomorrow's Cures
Balancing the promises and practicalities of innovative

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Introduction

The pace of medical innovation has increased in recent years. It has been driven by the growth of artifical intelligence (AI)-enhanced personalised medicine alongside advances in general medicine. This trend may challenge the assumptions underpinning the products and pricing of life and health insurers, who base their models on population-level patterns of morbidity, mortality, longevity, and disability.

Four factors could prove disruptive for life and health insurers: 1) earlier detection may increase the incidence of disease, even as outcomes improve; 2) curative or near-curative therapies can expand the insurable pool, including previously excluded conditions; 3) direct-to-consumer diagnostics could lead to information asymmetries between insurers and policyholders, leading to adverse selection; and 4) a small number of high-cost therapies could destabilise premiums and coverage limits without new financing approaches.

The Geneva Association has mapped key diagnostic and therapeutic advances, assessing their likely impacts on insurance products, underwriting, and regulation. The work draws on a literature review, as well as a series of roundtables with experts from insurance, medicine, and academia.

1. Diagnostics: More digital, less invasive

Five diagnostic innovations, supported by AI, are making health risks more visible, often before symptoms emerge.

AI-supported imaging can help interpret CT, MRI, ultrasound and similar scans,[1] spotting patterns linked to early cancer, vascular change, or other disease signals. Its near-term value is likely to be better triage and higher reading capacity, allowing more people to be screened sooner. Its reach, however, is still limited by capacity, staffing, and referral pathways.

Liquid biopsies and multi-cancer early detection (MCED) tests can identify tumour-related signals without an invasive tissue biopsy through bodily fluids. MCED aims to detect multiple cancers with one test, potentially improving survival through earlier intervention. Current limits include variable sensitivity for small tumours and the practical challenge of managing follow-ups when cancer signals are present but without clear tumour identification.[2]

Genetic risk profiling, such as polygenic risk scores, estimates inherited risk for complex diseases. Their accuracy varies[3] and results can be misunderstood. Misinterpretation of risk is a concern, where a finding of higher chance of disease is treated like a diagnosis, driving anxiety and unnecessary testing.

Wearables and remote monitoring can track measures such as heart rhythm, glucose, sleep, and activity. They can promote healthy habits, early intervention, and improved chronic-disease management but depend on sustained behaviour change.

Multi-omics and companion diagnostics combine genetic, transcriptomic, proteomic, and metabolic data to improve diagnostic precision and match patients to therapies. While promising, these approaches are currently constrained by cost, complexity, and the need for specialist infrastructure.

1 Lång et al. 2023.
2 The GRAIL's Galleri test is a large-scale clinical trial on MCEDs in the US and UK.
3 Hingorani et al. 2023.

2. Therapies: From management to modification and cure

We identified five therapeutic areas, which could better alter and manage disease pathways:

Metabolic therapies, including GLP-1 class drugs, can improve obesity and diabetes outcomes and may reduce cardiovascular risk among other health conditions. However, uncertainty remains around long term adherence and side effects.[4,5,6,7]

Genetic medicines, including gene therapy and gene editing, offer the prospect of durable benefit or one-off cures for certain inherited conditions but often with very high upfront cost.

Cell therapies can produce strong remission outcomes in some cancers[8] but are hard to manufacture and scale.

RNA-based medical technology has paved the way for relatively quick vaccine development following the COVID-19 pandemic. However, use of RNA-techniques for personalised cancer vaccines is harder to scale because, unlike a virus, each tumour is unique.

Immunotherapies can redirect immune responses in cancer and may slow progression in early Alzheimer's and other diseases. However, benefits are currently modest, especially for the latter, and require careful monitoring.

Both the need to develop critical infrastructure and affordability are major constraints in the development of diagnostic and therapeutic breakthroughs. The report highlights three recurring hurdles: 1) high prices or high demand impacting healthcare payers; 2) uncertain reimbursement creating a wariness around provision; and 3) gaps between patient expectations and what payers can realistically fund.

3. What does this mean for life and health insurance?

Some diagnostic innovations can be deployed relatively quickly into existing care pathways, with short-term impacts on insurers. Therapeutic disruption will have a medium-term, five-year impact, led by anti-obesity drugs and metabolic health breakthroughs. Therapies targeting small eligible populations or requiring specialist centres are expected to have a more modest impact.

3.1 Health insurance: First-wave effects

Health insurers may face near-term budget pressure from 1) claims derived from both high-cost one-off treatments; and 2) high-volume chronic therapies, such as GLP-1 drugs. This will be balanced by improved detection and prevention approaches, although such investments could take years to accrue.

3.2 Life insurance: Mortality protection mostly benefits

Expectations of improved treatment and survival outcomes[9,10] will require insurers' models to be more dynamic. Medical innovations may expand eligibility criteria, widening the risk pool and allowing greater granularity in rate and loading reviews. Better tracking of biomarkers will allow insurers more touchpoints with customers, improving the perceived value of coverage.

3.3 Living benefits: Mixed and product-specific effects

Living benefit lines are exposed to changes in diagnosis timing, treatment effectiveness, and longevity. Annuities may be impacted by longer lifespans; however, healthier ageing may extend working lives and shift retirement timing. Critical illness will be affected by earlier screening and resultant early-stage diagnoses, pressing insurers to revisit definitions and triggers. Meaningful dementia breakthroughs would alter care needs, customer expectations, and pricing assumptions. Improved recovery outcomes from chronic and obesity-related conditions may reduce long-duration claims in disability and income protection lines.

4 Gleason et al. 2024.
5 Primetherapeutics 2024.
6 Swiss Re 2024c.
7 He et al. 2022.
8 Khan et al. 2022.
9 Swiss Re 2025.
10 RGA 2025.

4. The road ahead: Practical considerations for insurers

4.1 Coverage decisions: Define value more consistently

Closer alignment to independent public-sector evidence reviews would provide enhanced guidance to what is covered and to what level. A shared, industry-wide view on high-value versus low-value tests and treatments could reduce waste and protect trust.

4.2 Product design: Prevention, pathways, and triggers

Critical illness products, in light of earlier detection, will benefit from product and trigger updates. Distinguishing between lumpsum and staggered payouts will create greater consumer value as well as keep products financially viable. Improving the inclusion of preventative measures within products provides some counterweight to the soaring costs of some therapeutic innovations.

4.3 Underwriting: Towards a more dynamic approach

A shift to continuous risk assessment and dynamic underwriting can capture material risk changes over the policy term, underpinned by clear rules on consent, data use and customer communication. Direct-to-consumer testing risks creating information asymmetries and adverse selection. Increasingly granular risk segmentation may improve identification of higher-risk individuals, but also raises concerns around equity, affordability, and appropriate disclosure requirements. Insurers therefore face a delicate balance between more precise underwriting and broader social expectations of common risk pooling.

4.4 Managing cost shocks: New pooling and payment tools

Mechanisms that turn high-cost/high-demand volatility into more predictable spending include: 1) reinsurance or stop-loss protection for defined high-cost therapies; 2) subscription-style treatment payments at a predictable per-member cost;[11] 3) outcome-linked, annuitised payments;[12] and 4) collective, evidence-based price negotiations for new therapeutics.

TABLE 1: A SIMPLIFIED SCHEMATIC OF EMERGING RISK POOLING AND PURCHASING MECHANISMS

Emerging models/ features	Reinsurance	Subscription model	Annuitised payment	Disease-specific price negotiations
Insures against	Low frequency catastrophic claims risk	Volume risk	Upfront budgetary shock and performance risk	Price volatility
How it functions	Excess cover for unexpected claims from (defined) therapies through stop-loss arrangements	Periodic fixed fee to access high-cost therapies	Costs spread over several years, which can also be performance-linked	Payers (including insurers) negotiate terms in defined disease areas using collective bargaining
Risk pooling	Yes, risk transferred to reinsurer	Yes, at payer level, based on anticipated demand	No, it is a contracting mechanism	No, essentially a procurement arrangement
Implications for health insurance	Protects solvency, especially for rare or high-cost cases	Predictable costs but there is a risk of getting projections wrong	Eases affordability but adds long-term liabilities and the need to follow clinical outcomes	Improves access and bargaining power, but limited to selected conditions
Implications for life insurance	May improve insurability for conditions that were previously excluded, for example, lifelong conditions cured by gene editing	May improve insurability for conditions Could affect mortality/longevity projections if uptake is widespread	May improve insurability for conditions Could affect mortality/longevity projections if uptake is widespread	N/A

Source: Geneva Association

11 Massachusetts Institute of Technology 2021.
12 Jørgensen et al. 2017.

4.5 Regulation and ethics: Genetic data, AI, and trust

Insurers need to navigate widely differing and fast-evolving rules on genetic and health data. They need to balance strong consumer safeguards with the ability to design sustainable, innovative forms of coverage. Dialogue with public authorities and interest groups is not merely an issue of compliance. Such exchanges can define clear guardrails alongside core business considerations.

5. Concluding remarks

Medical innovation is likely to deliver earlier signals for disease risk and detection, alongside more effective treatments, improving survival and quality of life. At the same time, rising treatment costs and increasingly precise diagnostics may put pressure upon traditional risk pooling and challenge notions of access, equity and affordability. Insurers can act now by redesigning products to support prevention and earlier diagnosis, modernising underwriting and risk financing, and engaging regulators and health system partners on the conditions needed to scale new innovations.

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