DISABILITY INSURANCE

NEW STUDY BY MUNICH RE LEADS TO IMPROVED RISK ASSESSMENT

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In disability insurance, the stricter the benefit triggers, the lower the risk of losses and the price of the cover. But what about any medical risk loadings? Should these automatically be more favourable for products with stricter benefit triggers? Munich Re's new recommendation is that they should not.

As a leading reinsurer, Munich Re offers medical underwriting guidelines for disability insurance products in over 120 markets. The core products in this type of business include policies for protecting employees from loss of income. In the German market, these include occupational disability insurance and work incapacity insurance. A look at the benefit triggers illustrates the differences: In the case of income protection insurance, in Germany, the claim occurs when the insured individual can perform less than 50% of their last occupation for a period of at least six months. Total and permanent disability insurance has a stricter definition of benefit triggers and operates only if the insured is no longer able to perform any kind of work on a permanent basis.

THE CHALLENGE

But what about the loadings for risk-relevant pre-existing conditions for occupational disability and total and permanent disability insurance? Given the different product definitions, do these conditions have a different impact on the risk of losses, resulting in a need to adjust medical loadings either upward or downward? If so, for which pre-existing conditions are the product-related relative risk differences most significant? Data-driven answers to these questions have been lacking, with the result that medical underwriting guidelines in this area have so far been developed primarily based on expert assessments.

There has been a lack of usable data and analyses for determining risk relations and an evidence-based assessment. The reasons for this are complex. Medical literature rarely addresses such specific insurance-related medical issues, as medical research primarily focuses on treatment-relevant outcomes rather than findings aimed at refining insurance definitions. In addition, the data from the private insurance industry does not usually provide any detailed medical information – for example on different durations of incapacity to work due to illness – for data protection reasons alone. >

THE STUDY DESIGN

In order to increase the accuracy and consistency of risk assessment across all types of disability insurance products, Munich Re's Medical Research & Development team used alternative data sources and developed these as part of its own study. This was made possible by the combination of actuarial and insurance-medicine expertise, as well as the company's own portfolio data and additional external health insurance data with information on several million insured individuals.

The team conducted a retrospective longitudinal study and investigated the connection between diagnosed pre-existing conditions and subsequent sick leave or periods of reduced earning capacity. A period of eight years was looked at. The dataset contained diagnoses in ICD-10 format, demographic data in the form of six age bands, and socioeconomic information.

In terms of measurable parameters, the study analysed periods of incapacity to work of 4, 13 or 26 weeks as indicators for triggering disability or occupational disability insurance, and the receipt of a reduced earning capacity pension as an indicator for triggering total and permanent disability insurance.

To obtain representative data for risk assessment in the specified disability insurance products, the project team first cleaned the initial dataset. Only data from insured individuals in the product-relevant age range who are able to pursue gainful employment and are eligible for disability insurance were analysed. The relative risks for various pre-existing conditions were then determined and corresponding risk loadings calculated. To rule out confounding and interaction effects, the team then adjusted the results using multivariate analyses and actuarial expertise. >

FIGURE 1: Many pre-existing conditions lead to short-term absence from work, while a few pre-existing conditions lead to longer absences from work

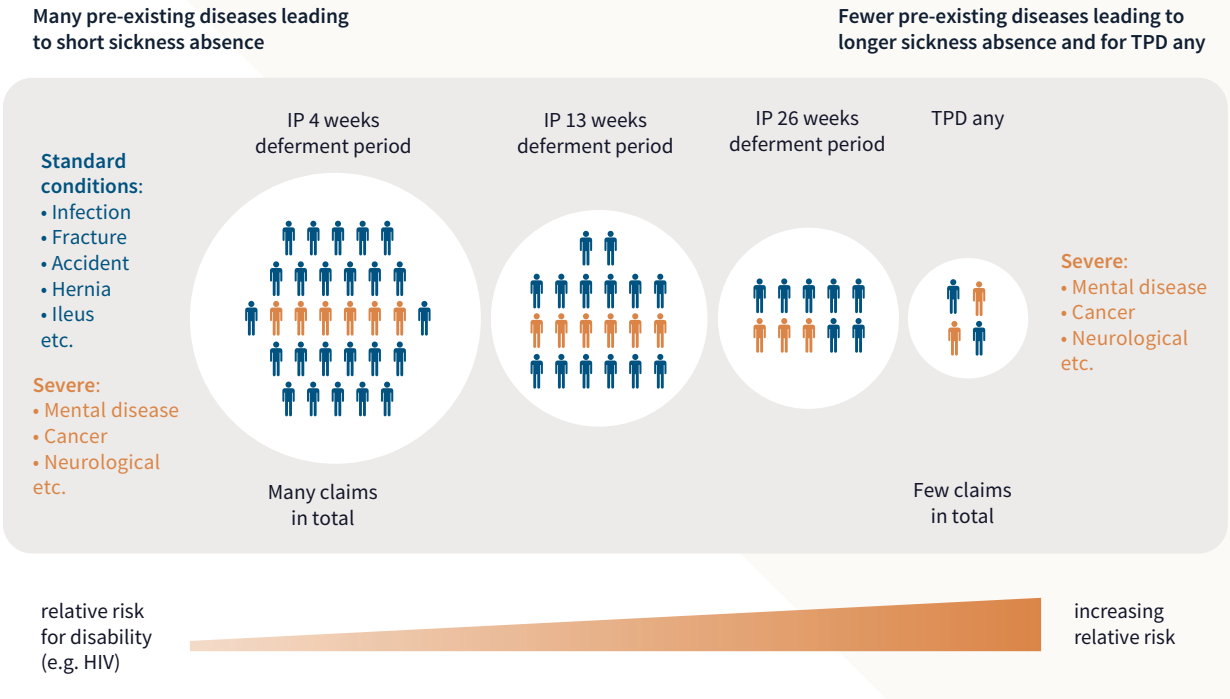
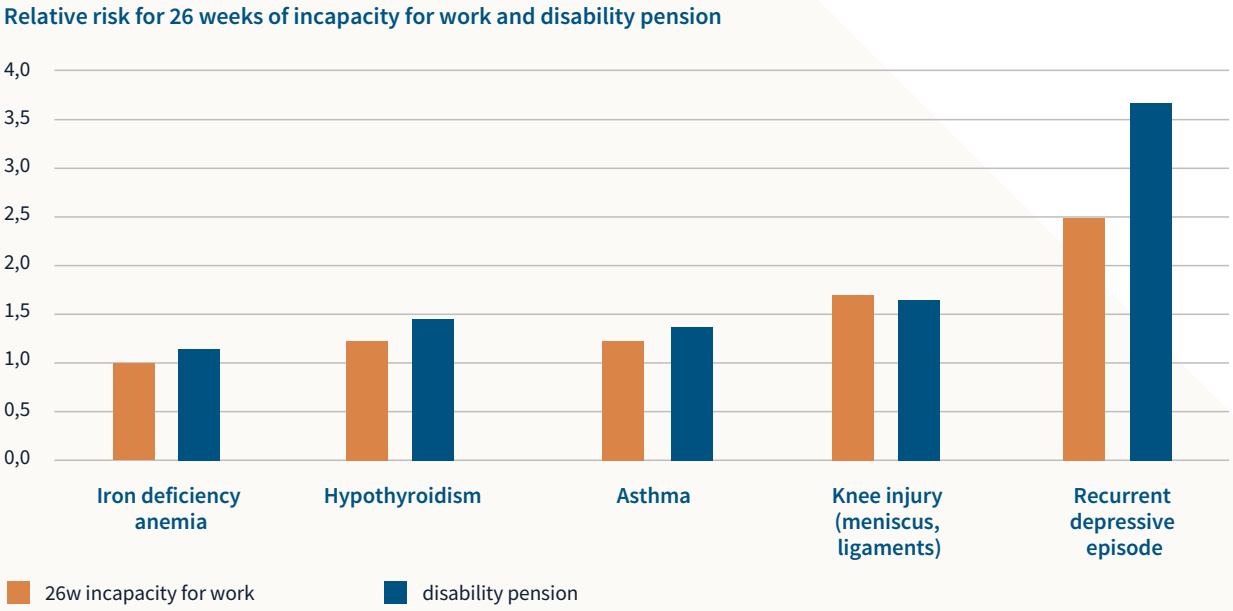


FIGURE 2: The relative risks of work incapacity and disability vary according to the severity of the underlying condition



Two patterns:
Pre-existing conditions can either have a **stable relative risk** in incapacity for work **and** disability pension or show an **increase in relative risk** from incapacitiy for work to disability pension.

Relative risks depend on the severity of the pre-existing condition (AU = incapacity for work; EMR = reduced earning capacity pension).

NEW FINDINGS

The study confirms a fundamental actuarial assumption: work incapacity insurance with strict benefit definitions results in fewer claims compared to more complex products with lower-threshold benefit triggers. However, several findings are new and, in some cases, surprising. The study examined over 1,000 medical diagnoses in ICD-10 format, revealing that while many illnesses cause short-term work absences during the insurance period, only a small number lead to longer-term absences. (Figure 1)

Another finding is particularly relevant for evidence-based risk assessment. Contrary to what is generally assumed, the relative risk associated with individual pre-existing conditions is not homogeneous across the product groups (Figure 2). On the contrary: for products with stricter benefit triggers in particular, individual serious or chronic illnesses such as cancer, heart disease, serious neurological and mental disorders have an increased risk and lead to a disproportionately high number of claims.

The increasing risk patterns can be seen in people with coronary heart disease, for example. In these individuals, the risk of a claim is increased by 100% for products with a short deferment period. For products with a reduced earning capacity pension, the risk increases to up to 300%. These increases reflect the higher susceptibility of the stricter benefit trigger to serious outcomes of illness. >

CONCLUSIONS

The study shows that illnesses with milder or easily controllable clinical courses exhibit stable risk patterns across the disability insurance product lines. The medical risk loadings for such illnesses can therefore be applied uniformly to all product types. However, there is a group of severe or chronic illnesses which, with stricter definitions of disability, have a higher relative risk and thus increasing risk patterns.

A look at the stability of entire portfolios shows how relevant these findings are. The fact is that for favourable coverages with a strict definition of benefits, every additional claim due to pre-existing conditions carries more weight. This makes it all the more important to calculate loadings in line with the risk involved. This is because loadings that are too low and not risk-adequate can jeopardise the stability of entire insurance portfolios if the latter contain many high-risk contracts. The risk loadings should therefore not automatically be low just because the chosen disability product is simple and inexpensive.

Munich Re has already implemented the findings and revised its underwriting guidelines accordingly. Insurers are now in a position to assess disability risks more precisely, make risk-adequate decisions to protect the community of policyholders, and write sustainable business. <

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