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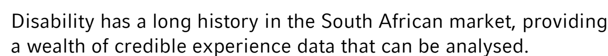
LifeTrends

50 years | somewhat different



Disability has a long history in the South African market, providing a wealth of credible experience data that can be analysed.

# Disability experience in the South African market

Disability insurance has become an important product line in the South African insurance market and we believe that it is important to continually monitor the claims experience. This is done to inform not only pricing but also product design. Hannover Re recently conducted a market disability experience study in order to understand emerging disability lump sum experience. This study combines the experience of disability policies from various companies and so provides a great snapshot of the disability insurance market as a whole.

## Product overview

Disability lump sum products in South Africa were first introduced in the mid-1900s as products that protect policyholders from loss of income due to a disability. The commonly used definitions of occupational disability are such that a policyholder is paid a benefit if they are unable to perform …

- … their own occupation;
- … their own occupation or any occupation to which they are suited by means of training/skills, or
- … any occupation.

This is referred to as an occupation-based definition.

New generation products were introduced around the year 2000, the main change from traditional products was to include a set of functional impairment criteria. These define clearly the list of conditions under which a policyholder would qualify for a payout. These new products have the advantage that they are more transparent to the policyholder in terms of eligibility to claim and the events that they would be covered for.

Claims are also easier to assess because the claim definitions are defined medical conditions with objective measures against which a policyholder can be assessed. Many of the conditions are similar to critical illness conditions and also have a tiered[1] payout structure that depends on the severity of the condition.

Many of these new generation products still include an occupation-based definition, which is referred to as an occupation underpin. Thus it is possible for a policyholder to still qualify for a payout under the occupation-based definition, even if they are unable to qualify for a benefit payout under the more objective impairment definition.

[1] A tiered product enables the policyholder to receive a payout of less than 100% of the sum assured if the condition is of a lower pre-defined severity.

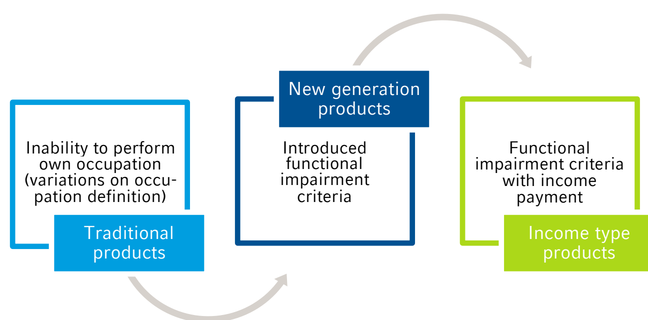
There are variations of these new generation products with respect to the definitions included, as well as the payouts. Some of these variations include the following:

- Comprehensive impairment – covers the majority of the body systems;
- Comprehensive impairment only covering severe conditions where the full sum assured is paid out;
- Comprehensive impairment with the occupation underpin[2];
- Comprehensive impairment only covering severe conditions with the occupation underpin;
- Core impairment – covers a subset of the comprehensive products (conditions such as trauma, loss of limbs, loss of vision/hearing etc.), and
- Core impairment with the occupation underpin.

The occupational disability definition that underpins these benefits can be any of the three definitions mentioned previously i.e. own occupation, own or suited occupation, or any occupation.

A new trend in disability is to introduce an income component to the impairment definition. This combines the traditional disability income product with the lump sum disability product. Traditional disability income products pay out on inability to work due to illness i.e. a traditional occupation-based product. The addition of the functional impairment criteria to this essentially converts the new generation products into income products where the claim trigger is slightly different. This has implications of increased cost when comparing to the cost of traditional disability income products.

**Evolution of disability products**




[2] This is the most common product sold in the market.

Disability policies are offered by most insurance companies in South Africa. They are sold as individual products as described, but are also a major part of employee benefits. Typical products in the employee benefit space include the following:

- Temporary disability income;
- Permanent disability income, and
- Disability lump sum (similar to the products discussed above).

Disability cover is also sold as a waiver of premium benefit as well as part of credit life offerings.

There are also various levels of underwriting associated with these disability products such as:

- Fully underwritten products;
- Semi-underwritten products, and
- Non-underwritten products (e.g. employee benefit schemes).

## Hannover Re market study

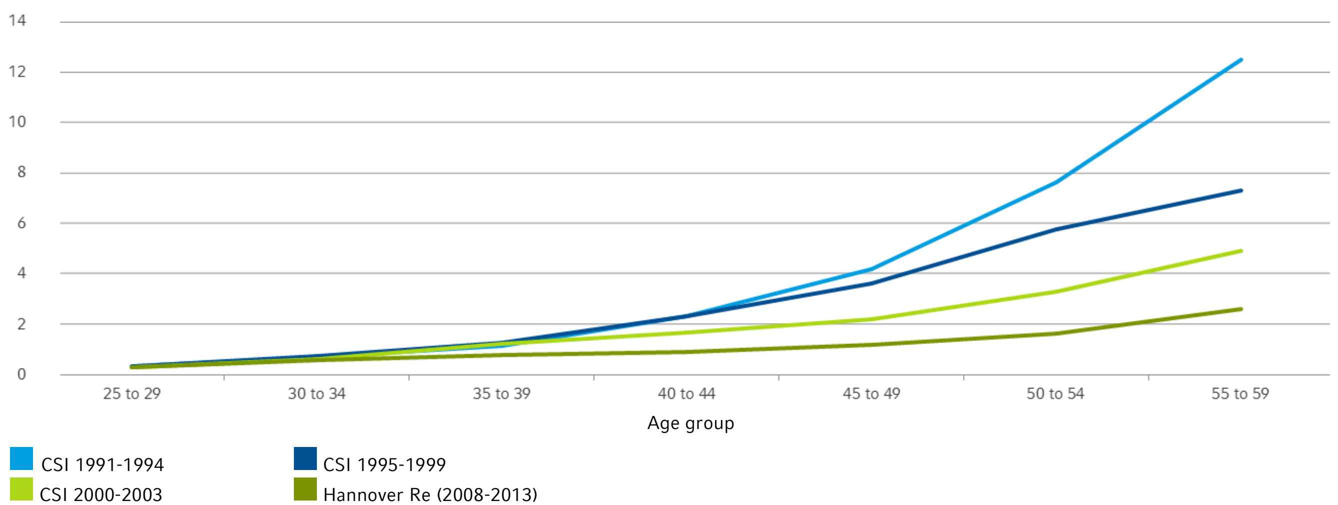
Our study is based only on fully underwritten business, with the focus being on the amounts of the claims instead of the number of claims – the tiered nature of the product is such that using the claim numbers in the analysis has limited value. Thus instead of counting each of the smaller claims as one claim, the amount of the claim is used – this gives a smaller weight to the lower severity claims. Our study looked at policies in force from 2008 – 2013 and comprises approximately 3,000 claims.

The Actuarial Society of South Africa also conducts disability lump sum experience studies under the Continuous Statistical Investigations (CSI) committee. Their latest published study is the 2000 – 2003 study[3], with the focus being on new generation products. Prior to this study, two studies were published covering the years 1991 – 1999[4].

[3] Continuous Statistical Investigations Committee, Actuarial Society of South Africa (2011), Lump sum Disability Investigation 2000 – 2003: http://www.actuarialsociety.org.za/Societyactivities/CommitteeActivities/ContinuousStatisticalInvestigation(CSI).aspx

[4] Continuous Statistical Investigations Committee, Actuarial Society of South Africa (1997), Lump sum Disability Investigation 1995-1999: http://www.actuarialsociety.org.za/Societyactivities/CommitteeActivities/ContinuousStatisticalInvestigation(CSI).aspx

**Graph 1: Comparison of the derived claim rates**
per mille




From the results of these three studies as well as the Hannover Re study, a clear downward trend in the disability experience is observed.

The Hannover Re study results cover the following analyses:

- Claims analysis (type of claims, average age of claim, profile of claimants etc.);
- Subsequent claims development (tiering and multiple claims);
- Exposure profile (profile of lives that are covered by the companies in the study);
- Claim rates, and
- Assessment of the actual claims compared to what was expected and priced for.

The following sections will provide some of the results of the claims analysis and the subsequent claims development.

## Disability claim cause analysis

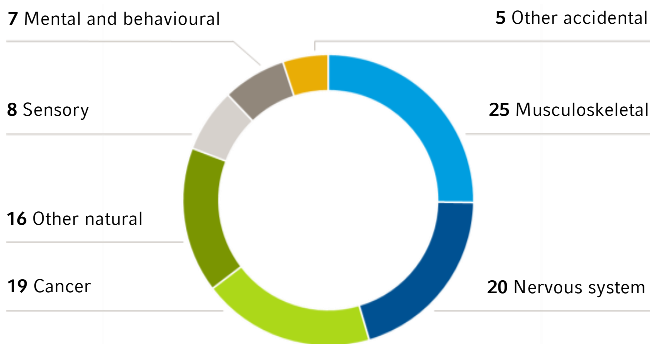
### Claim causes for disability products

The major cause of claim for disability lump sum products are musculoskeletal conditions, accounting for 25% of all claims. This claim cause group includes conditions such as loss of use of limbs, loss of limbs, paraplegia, hemiplegia, spinal conditions etc.

The next largest claim cause group is nervous system disorders, accounting for 20% of all claims. Examples of conditions included in this claim group are strokes, Multiple Sclerosis and Parkinson's disease.

Cancer is the third largest claim group for disability lump sum products, with coverage only being provided for Stage 3 and Stage 4 (the more severe stages of cancer).

**Graph 2: Claim causes for disability lump sum products**
in %




"Other natural causes" account for 16% of all claims and include the following conditions:

- Cardiovascular claims;
- Digestive system disorders;
- Endocrine disorders;
- Blood disorders;
- Renal disorders, and
- Respiratory disorders.

Mental and behavioural claims account for 7% of the total disability claims. This claim cause group includes conditions such as dementia, depression, post-traumatic stress disorder etc. Sensory conditions mostly include hearing loss, vision loss and skin and soft tissue disorders and account for 8% of all claims. Other accidental causes are relatively low, at 5%.

## Claim causes for other products

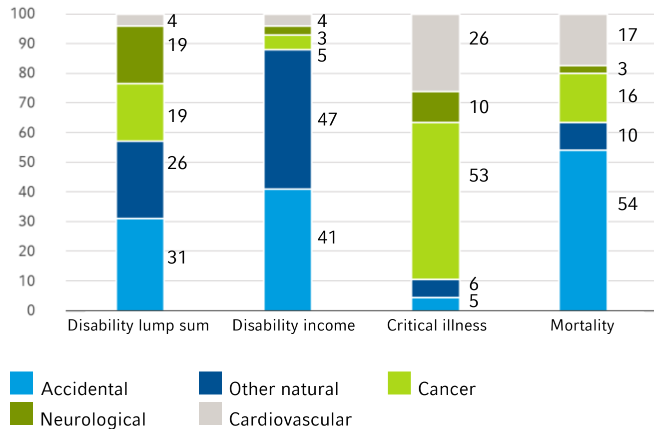
The major causes of claims differ significantly for various products in the market.

The claim cause split for disability income products is quite different to disability lump sum products: the majority of claims for disability income products are for less severe conditions that occur for shorter periods of time. The main cause of claim for critical illness products is cancer, which accounts for 53% of all claims. This is different to disability lump sum where cancer only contributes 19%. The reason for this is that disability lump sum products only cover Stage 3 and Stage 4 cancers and hence all the early detections are not reflected in the disability experience.

For life cover products the biggest cause of claim is accidental causes such as motor vehicle accidents - this accounts for more than half of all the claims; cancer and cardiovascular claims are the next biggest claim cause contributors.

The claim cause breakdown for each product line is shown in Graph 3.

**Graph 3: Claim causes by product line**
in %



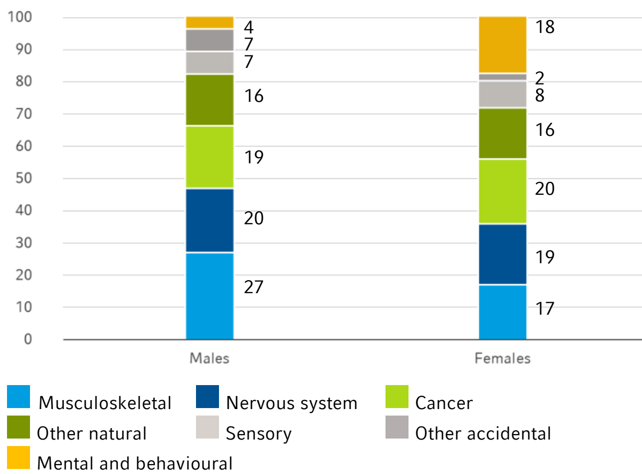

## Gender differences in disability claims

A more detailed analysis of the claim causes for disability lump sum products shows that the claim causes differ between males and females. The main differences are for the following claim causes:

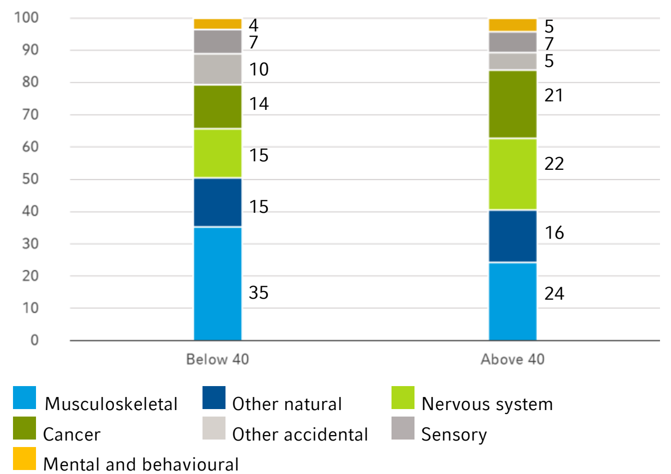
- Musculoskeletal claims for males account for 27% of all claims whereas they only account for 17% of all female claims.
- Mental and behavioural claims for males account for only 4% of all claims whereas they account for 18% of all female claims.
- In addition, other accidental causes are also slightly higher for males than for females.

All other claim causes have a similar contribution for both males and females, as can be seen in Graph 4.

**Graph 4: Claim causes by gender**
in %




**Graph 5: Claim causes by age band (males)**
in %




## Age difference for disability claimants

Causes of disability claims also differ by age group and gender, with the main difference for males being that there are significantly more musculoskeletal and accidental claims below age 40. There is a corresponding increase in the cancer and nervous system claims above age 40.

The claim cause breakdown for males by age is shown in Graph 5.

The average age of disability claimants is 47 for males and 45 for females. In addition, the following claim cause groups have a lower average age at claim:

- Mental and behavioural claims;
- Musculoskeletal claims;
- Other accidental claims, and
- Sensory claims.

Disability lump sum claim causes can differ significantly between men and women.

## Disability claims tiering analysis

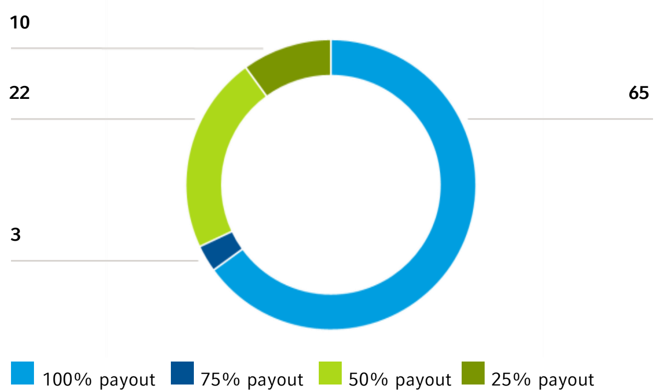
The majority of the new generation disability products are tiered and hence it is important to understand the impact of this on the product design and the cost.

Tiered products ensure policyholders are covered for all severities of each condition and thus provide more comprehensive cover. The majority of the benefits covered under disability lump sum products are covered at either 50% or 100% of the insured amount. This is different to critical illness where there are benefits paid from 5% of the insured amount up to 100%. One of the reasons for this is that disability definitions are designed to cover the more severe cases of each condition in that the policyholder has to be permanently disabled. Thus tiered products cost less than products that pay out the full insured amount for each condition. This is because many of the claims will be paid at less than 100% of the insured amount, a feature which in turn reduces the cost. A typical definition of a tiered condition is as follows:

| Condition | Payout as a % of the insured amount |
|---|---|
| Loss of **or** loss of use of foot | 25% |
| Loss of **or** loss of use of leg (below the knee or above the knee) | 50% |
| Loss of **or** loss of use of leg (through the hip) | 75% |
| Total loss **or** total loss of two lower limbs | 100% |

The breakdown of all the claims paid by severity is shown below: 65% of all claims are paid at 100% of the insured amount and 35% are paid at lower severities. This implies that, on average, the total paid out by the insurance company is 82%[5] of the total amount insured.

**Graph 6: Claims paid at various severities**
in %




Not all conditions are paid at lower severities. For example, in the case of cancer claims, coverage is only provided for Stage 3 and Stage 4 cancers which are quite severe and hence the full insured amount is paid out in the event of a cancer claim.

The table below shows the average amount paid out relative to the total sum insured per condition. Musculoskeletal and sensory claims have the lowest ratios due to the claim definitions in these categories. There are numerous low severity conditions covered in these categories and thus there is a larger amount of tiering. Cancer is close to 100% as expected, due to the fact that all companies in the study cover Stage 3 and Stage 4 cancer, both of which are paid at 100%.

| Claim condition | Average proportion of the sum insured paid out |
|---|---|
| Musculoskeletal | 76% |
| Nervous system | 86% |
| Cancer | 92% |
| Mental and behavioural | 81% |
| Sensory | 64% |
| Other natural | 87% |
| Other accidental | 83% |
| **Total** | **81%** |

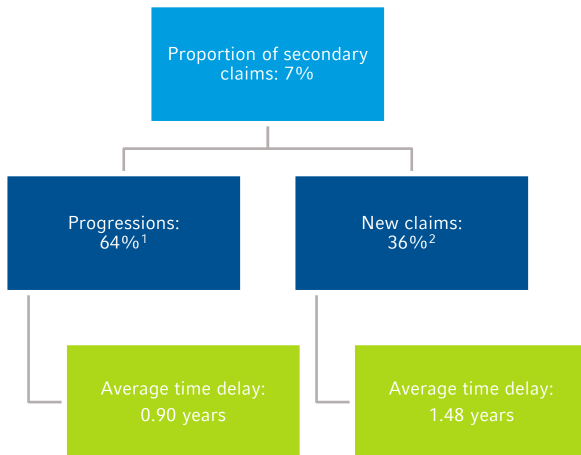
[5] Weighted average of the severity and the proportion of all claims paid at these severities.

## Multiple claims

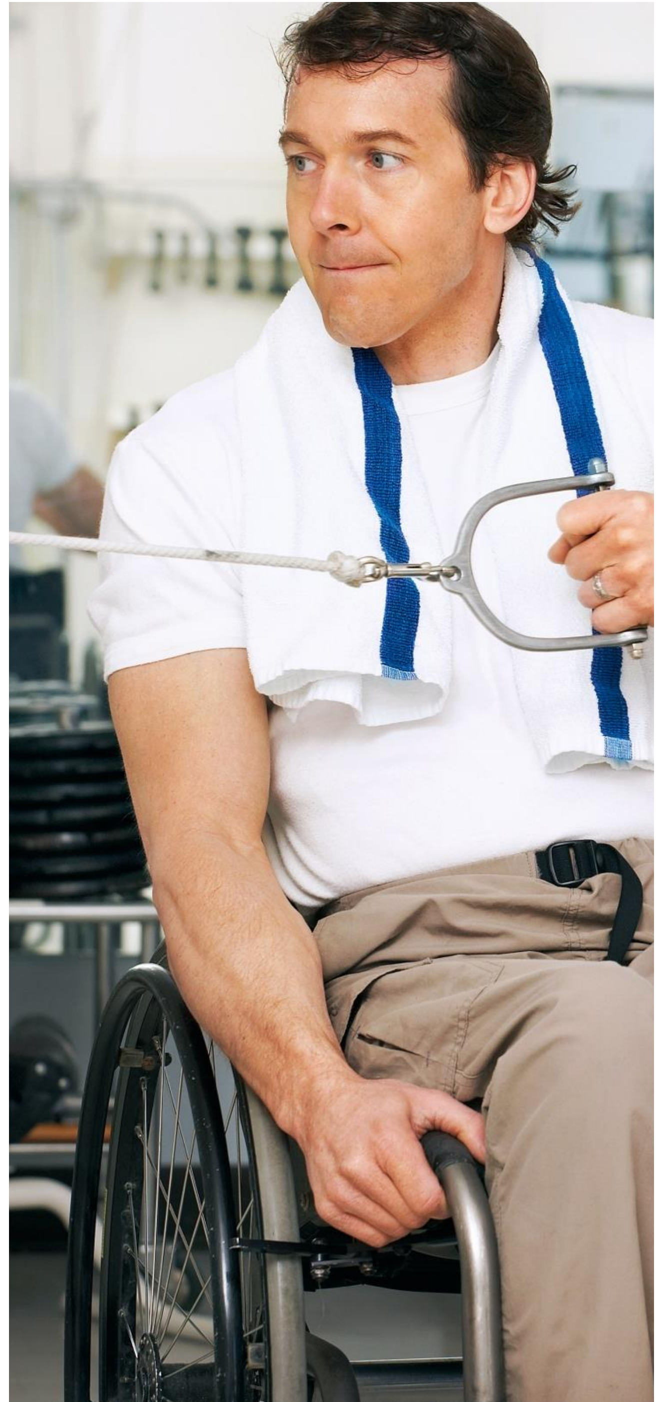
Disability policies are not necessarily terminated after a claim is paid, as claims can be paid at less than 100% of the insured amount. Cover will then continue at the balance of the insured amount, with the result that these products offer policyholders the opportunity to claim more than once on the policy.

One of the analyses performed on the Hannover Re study was an investigation of how many claims observed were in fact multiple claims on the same policy. It was found that 7% of all disability claims in the study were secondary claims i.e. the same policyholder had claimed more than once. Upon further analysis it was determined that 64% of these secondary claims arose from the same claim group as the first claim (progressions), with 36% coming from a completely different claim group e.g. the first claim being cardiovascular and the second claim being musculoskeletal. Musculoskeletal is the dominant cause for secondary claims and a possible reason for this is that this is a claim group where many of the conditions are covered at lower severities i.e. 25% and 50%, and thus policyholders are able to claim more than once. Unsurprisingly, the average time between a first and second claim was found to be 0.9 years for claims that arose from the same group and 1.5 years for claims that occurred in two different claim groups.

**A breakdown of secondary claims**




1 Musculoskeletal claims accounts for ± 30% of progressions.
2 Musculoskeletal claims accounts for ± 40% of new secondary claims.



A significant proportion of claims, both new and secondary, are for musculoskeletal conditions.

## Conclusion and next steps

At Hannover Re we use the information arising from our experience studies to understand the emerging disability experience and to estimate the true cost of disability. Claims information is used to understand the drivers of cost as well as the trends in certain claim groups.

We also use experience study information to derive the prices of disability lump sum products and to understand which of the risk factors best reflect the risk. For example, there is a lot of uncertainty in the industry regarding whether gender is a good predictor of disability risk, however, the experience emerging from the studies enable us to determine this. Another area of investigation going forward will be the importance of socio-economic class versus occupation class in predicting disability risk.

Hannover Re will continue to update and monitor disability experience and carry out investigations to ensure that our clients have access to the most recent and relevant information and pricing bases.

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