

The Actuarial Profession  
making financial sense of the future

## To Tier or not to Tier

This is the Question?

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## Historical Development



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## Historical Development

- First policy sold 1983 in South Africa



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## Historical Development cont.

### Original Aim:

- **“You need insurance not only because you are going to die, BUT because you are going to live”**  
[Marius Barnard]



## Historical Development cont.

- First product covered:
  1. Heart Attack
  2. Stroke
  3. Cancer
  4. Surgery for coronary artery disease
- 1986, original 4 definitions extended to cover:
  1. Aortic aneurysm
  2. Valve surgery
  3. Organ transplant
  4. Renal failure

## Historical Development cont.

- Late 1990's, early 2000's, extended to cover 21 definitions
- In 2001 Discovery Life in SA launched 'Severity-based' Critical Illness

## Why Tiered Benefits?

1. Comprehensive protection
2. Benefit matches the financial need
3. Multiple claims possible

Arguably also:

1. Need to differentiate/market positioning
2. Makes comparisons difficult

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## Why Tiered Benefits?

And the cynic might say

“Less competitive therefore more profitable (and can pay less claims)”

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## What are Tiered Benefits?

- Benefit payment linked to severity of disease
- Severity level determined by pre-defined objective medical definitions
- Usually 4 severity levels but “some” have 7 levels

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## An Example

### Heart Attack Severity Levels

Level	Definition	Benefit paid
A	Severe generalized infarction with ejection fraction <35% at least 14 days post-acute infarction either on thallium scan or echodiagram.	100%
B	Ejection fraction <45% at least 14 days post-acute infarction	75%
C	Ejection fraction <55% at least 14 days post-acute infarction	50%
D	Non-Q wave infarction. Angiogram or thallium scan must show subendocardial damage post-acute infarction. Ejection fraction >55%	25%

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## Another Example

### Cancer

Level	Definition	Benefit paid
A	Cancer, Stage IV, showing lymphatic or blood spread to distant lymph nodes or distant metastases; Chronic Lymphocytic Leukaemia Stage 4; Stage 4 Lymphomas, Acute Myeloid Leukaemia (AML)	100%
B	Cancer, Stage III, within organ of origin with spread to regional lymph nodes; CLL Stage 3; Stage 3 Lymphomas.	75%
C	Cancer, Stage II, within organ of origin with contiguous spread to adjacent organs and no lymph node involvement; CLL Stage 2; Stage 2 Lymphomas.	50%
D	Cancer, Stage I, confined to the primary organ; CLL Stage 1; Stage 1 Lymphomas Prophylactic bilateral total mastectomy not for cosmetic purposes	25%

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## And one more Example

### Multiple Sclerosis

#### Severity Levels:

Using the Whole Person Impairment rating from the AMA Guide to the Evaluation of Permanent Impairment. This takes into account all parts of the body that may be affected.

Level	Definition	Benefit paid
A	Whole Person Impairment of 30% or above	100%
B	Whole Person Impairment of between 20% - 29%	75%
C	Whole Person Impairment of between 15% - 19%	50%
D	Whole Person Impairment of between 10% - 14%	25%

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So what are the Issues then?

## Issues to consider

1. Pricing
  - Risk of error
  - Risk of change
  - Overlaps
2. Definitions

## A quick aside on Definitions


### Respiratory Failure

Proportion of sum assured payable	Criteria to qualify for the benefit
50%	Chronic irreversible lung disease with FEV1 of 40-50% (obstructive) or FVC of 40-50% predicted (restrictive)
100%	<ul style="list-style-type: none"><li>Irreversible end stage respiratory failure (<math>FEV1 \leq 1</math> litre for obstructive lung disease or <math>FVC \leq 1</math> litre for restrictive lung disease with clinical signs and symptoms or <math>FEV1 &lt; 40\%</math> predicted); or</li><li>Lung or Heart-Lung transplant</li></ul>

FEV1 refers to forced expiratory volume in the first second.  
FVC refers to forced vital capacity

## A quick aside on Definitions cont.

### Respiratory Failure cont.

<b>Severity A</b>	<ul style="list-style-type: none"> <li>▪ Presence of cor pulmonale or</li> <li>▪ Pulmonary hypertension or</li> <li>▪ Lung or heart and lung transplant</li> </ul>
<b>Severity B</b> 	<ul style="list-style-type: none"> <li>▪ Home oxygen therapy with permanent Dco &lt; 40% or</li> <li>▪ Any disease or disorder requiring removal &gt; one lobe of lung or</li> <li>▪ Pulmonary venous occlusive disease or</li> <li>▪ Stage IV chronic obstructive airways disease (permanent FEV1 &lt; 30% of predicted)</li> </ul>

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## A quick aside on Definitions

### Respiratory Failure cont.

<b>Severity C</b>	<ul style="list-style-type: none"> <li>▪ Severe irreversible changes in pulmonary function tests with permanent Dco 41-45% (obstructive and/or restrictive) or</li> <li>▪ Recurrent pulmonary emboli with vena-caval filter inserted or</li> <li>▪ Stage III chronic obstructive airways disease (permanent FEV1 30-40% of predicted)</li> </ul>
<b>Severity D</b> 	<ul style="list-style-type: none"> <li>▪ Severe irreversible changes in pulmonary function tests with permanent Dco &lt; 50% (obstructive and/or restrictive) or</li> <li>▪ Lung abscess or</li> <li>▪ Empyema with drainage or</li> <li>▪ Bronchopleural fistula</li> </ul>

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## A quick aside on Definitions

### Respiratory Failure cont.

<b>Severity E</b> 	<ul style="list-style-type: none"> <li>▪ Pneumococcosis or</li> <li>▪ Pulmonary embolus diagnosed on V: Q scan or D-dimer &gt; 1.0µg/ml and helical CT scan or</li> <li>▪ Bronchiectasis or</li> <li>▪ Any disease or disorder requiring pleurectomy or</li> <li>▪ Decortication</li> </ul>
<b>Severity F</b>	<ul style="list-style-type: none"> <li>▪ Pleural effusion requiring drainage or</li> <li>▪ Near drowning requiring full resuscitation with systemic complications requiring ventilatory support</li> </ul>
<b>Severity G</b>	<ul style="list-style-type: none"> <li>▪ Hyperbaric oxygen therapy or</li> <li>▪ Surfactant therapy or</li> <li>▪ Fibrosing alveolitis or</li> <li>▪ Status asthmaticus requiring mechanical ventilation</li> </ul>

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## Back to the Issues

1. Pricing
2. Definitions
  - Understandable
  - Not increase risk
3. Underwriting
  - What's relevant
  - More risk, more conservative
  - What is material non-disclosure
  - Pressure to issue
4. Claims
  - More
  - Complex definitions
  - Pressure to "up pay"
  - No market consistency
  - Misinformation at sales stage

## Can you reduce these Risks?

1. Pricing
  - No guarantees
  - Higher margins
2. Definitions - If you have a solution please call me
3. Underwriting
  - Training
  - No select discount
  - More questions, more thorough
4. Claims - Training

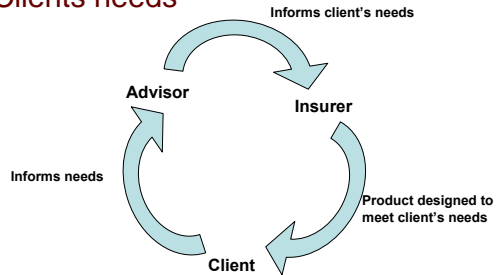
## What do the Clients think?

## What do the Clients think?

Two further questions to answer first:

1. Who are your clients?
2. What do clients want?

## Clients needs



"Certainty that no unexpected financial burden will cripple them"

## Clients Insights

- More concerned about trauma than death  
⇒ critical illness/disability insurance
- Grudge purchase because it is intangible
- Want to benefit before death
- Life insurers make a fortune (fancy buildings)



## Advisers Filter

- Accountability prescribed by legislation ⇒ comprehensive solutions
- Cheapest price (but with biggest commission)
- Simplicity → comparability  
→ issue policy
- Also selling an intangible

## Client Perceptions

- Intermediaries
  - mixed reactions
  - like comprehensive nature
  - dislike : lack of comparability  
: complexity
- Policyholder
  - popular
  - perceived fairer
  - perceived likely increase of payment
  - same price for more cover

## Current & Future Challenges

## Challenge 1 - Understability

- Complexity
- Comparability
- Consistency

Potential solutions:

- ↳ Standardize definitions
- ↳ Minimum standards
- ↳ Trust us

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## Challenge 2: Transparency

- Complexity
- Decision making process

Possible solutions:

- ↳ Simple language
- ↳ Minimal exclusions

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## Challenge 3: Intangible

"To truly connect with consumers in the future,  
Risk solutions need to become more tangible"

[Old Mutual Client Research]

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### Challenge 3: Intangible

#### Packaging Consumer Industry

- ✓ Limited product range
- ✓ Marketing drives launch fast economical
- ✓ Marketing message
- ✓ Sensible product package
- ✓ Trendy
- ✓ SKUs



#### Insurance Industry

- ✗ Wide variety of products
- ✗ Separately designed products



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### Challenge 3: Intangible

#### Customer satisfaction

- ✦ Is it a feel good purchase? ✦ Is it rewarding?
- ✦ Is it a grudge purchase? ✦ If so, why?



Insurance policy = major purchase



- ✦ Pays R400 premium/month
- ✦ present value of policy as lump sum

35 ♂ life policy (WL) ✦ R60 011.90

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### Challenge 3: Intangible

#### Major consumer purchases of R60 000

- Panasonic Plasma 42"
- Bose surround sound speakers
- Yamaha DVD player
- PVR
- iPod Video (30GB)
- Sony Cybershot Camera
- Dell 420 D laptop
- Apple iMac

Full range of electronics

Insurance Policy R60 000

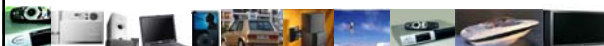
1994 Viking Carrera 150 HP with accessories

2006 VW Citi Golf 1.4

10 day skiing trip to Argentina for 3 people

Feed 600 children for a month

Would we spend R60,000 on a grudge purchase?




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### Challenge 3: Intangible

#### Learn from iPod features



- 4 buttons
- 1 touch pad
- Simple to use
- No 'wrong turns'
- Highly popular

### Challenges 4: Value for Money

iPod  
2001 (5GB) = R2 774  
2007 (60GB) = R2 774

#### Value

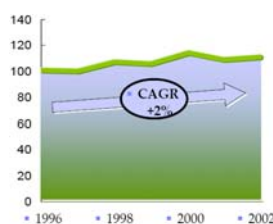
	Insurance	Consumer
Admin cost ratio	31% cost escalating	19% cost of product decreasing
Time	40 days to get a policy	deliver PC within 4 - 5 days
Convenience	policy changes done in person	download updated software
Quality	complex limited understanding	simple design user friendly

### Challenge 4: Value for Money

#### Unit cost : Insurance vs Manufacturing

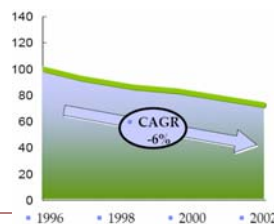
#### Insurance

- Admin cost
- Life insurance per policy, indexed



#### Automotive

- Labour productivity
- Employees per unit, indexed



## Conclusion

1. More closely match financial needs
2. Fairer
3. Cheaper

But

1. Complex
2. Open to abuse