



## Underwriting Issues for Health Products

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Session Number: MBR8



Joint IACA, IAAHS and PBSS Colloquium in Hong Kong  
[www.actuaries.org/HongKong2012/](http://www.actuaries.org/HongKong2012/)

# Underwriting Issues for Health Products

## My agenda

- What is a Health product?
- Key global trends and health market developments
- What's making life difficult for Underwriters?
  - Non-disclosure
  - Cancer
  - Diabetes
- What does this all mean for the Actuarial profession?
- Conclusions



# Health products...exactly what do I mean?

- Critical Illness
  - Early pay, Intermediate pay, Advanced / Catastrophic cover
  - Targeted plans – e.g. Cancer cover / Gender specific plans
  - Multiple-pay solutions
- Disability
  - lump sum products e.g. Total & Permanent
  - Income replacement
  - Activity based cover for non-income earners
- Medex
  - Reimbursement
  - Hospital cash
  - High net worth / Global coverage (USA)
- Post-retirement Healthcare / Impaired life products / Juvenile coverage / Pre-natal plans



# Key global health related trends and market developments



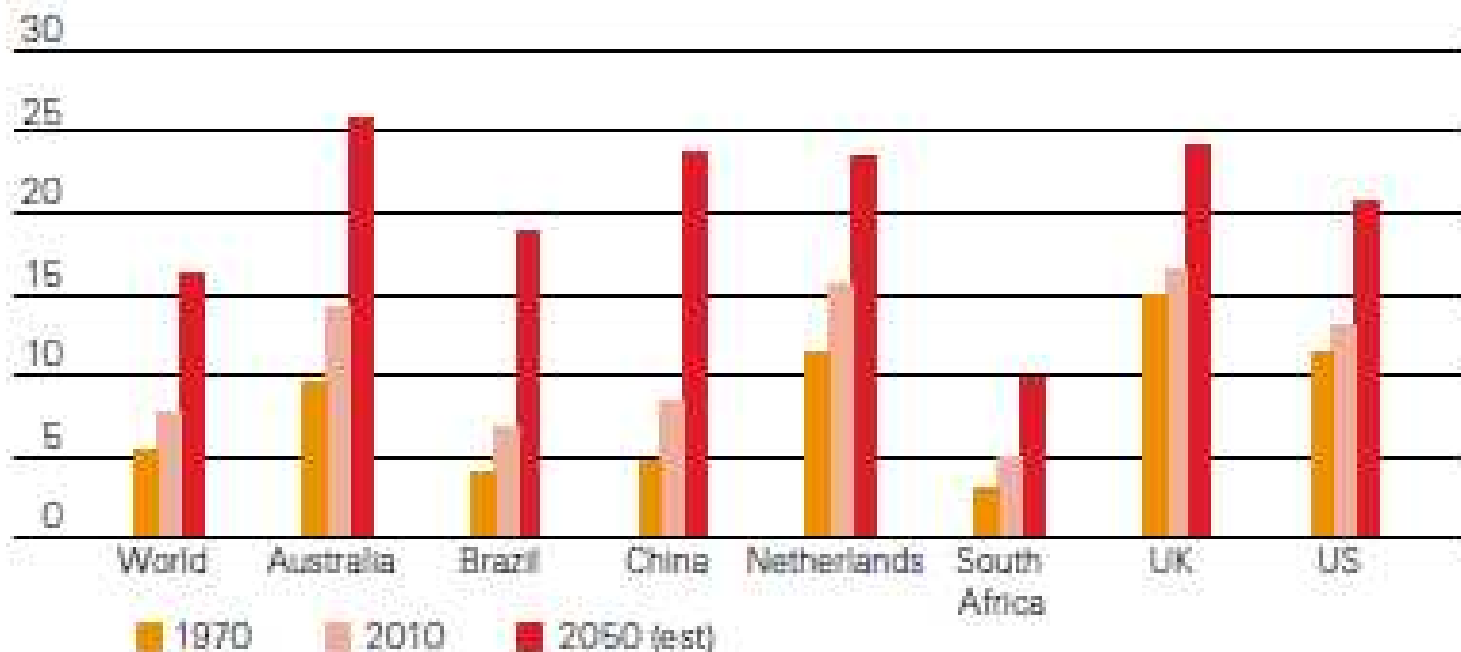
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# It should be a good time for our Industry as the key global trends are mostly in our favour!

Ageing societies	<ul style="list-style-type: none"><li>• Healthcare needs and protection gap rising</li></ul>
Fragmentation of society; decay of family structures	<ul style="list-style-type: none"><li>• Onus on individuals to provide for healthcare needs</li></ul>
Healthcare cost explosion	<ul style="list-style-type: none"><li>• Financing solutions for cost of drugs and medical intervention for critical conditions</li></ul>
Rise of Emerging Markets	<ul style="list-style-type: none"><li>• Demand for high-quality health provisioning and financing solutions to mitigate high out-of-pocket funding</li></ul>
New middle income classes	<ul style="list-style-type: none"><li>• Rising expectations, new addressable insurance markets</li></ul>

# Ageing society is relevant to all our markets today!

Figure 1: Percentage of people aged 65 and over



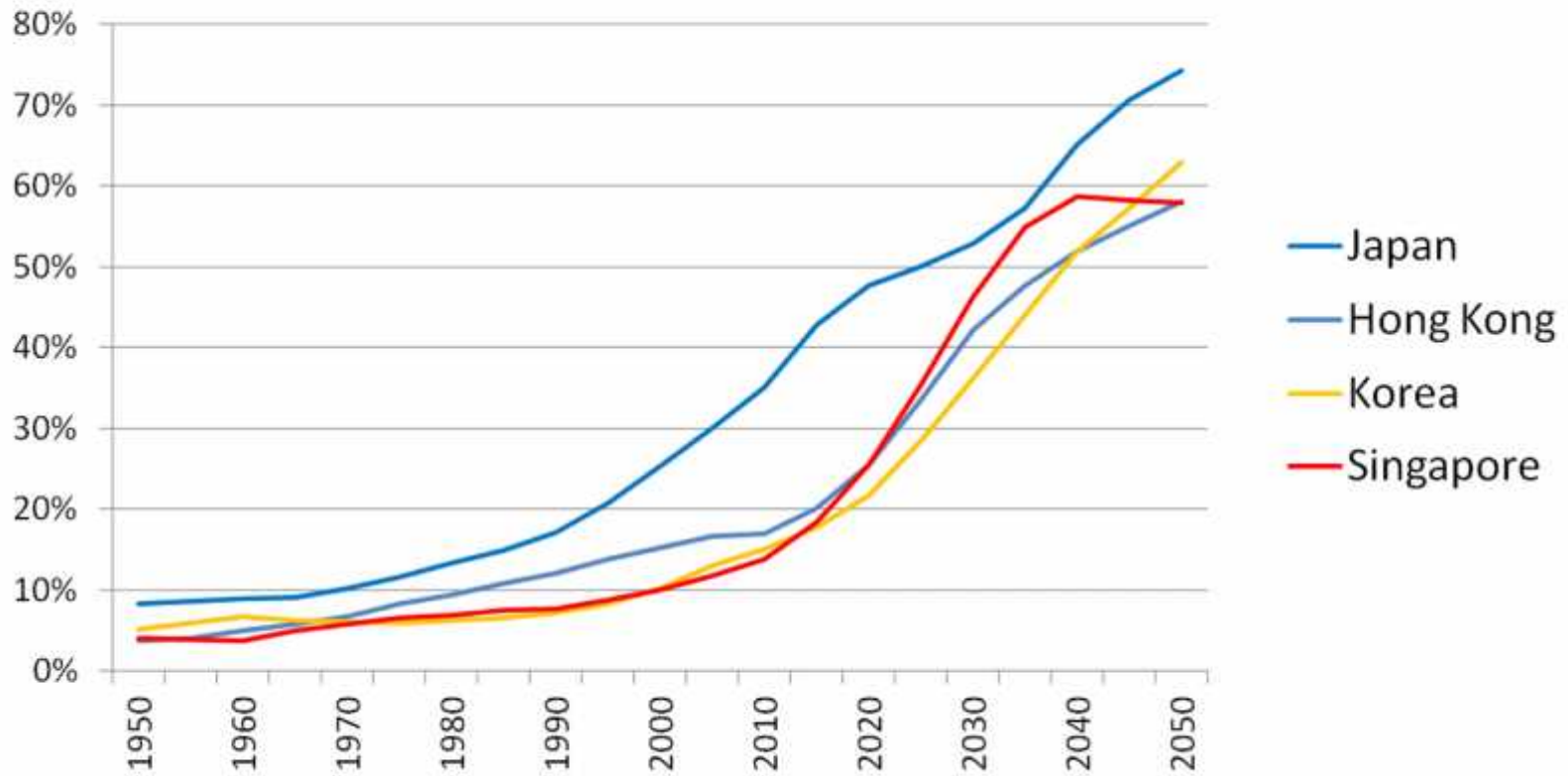
Source: OECD Factbook 2009: Economic, environmental and social statistics

# And here in HK.....



# Right here / right now .....

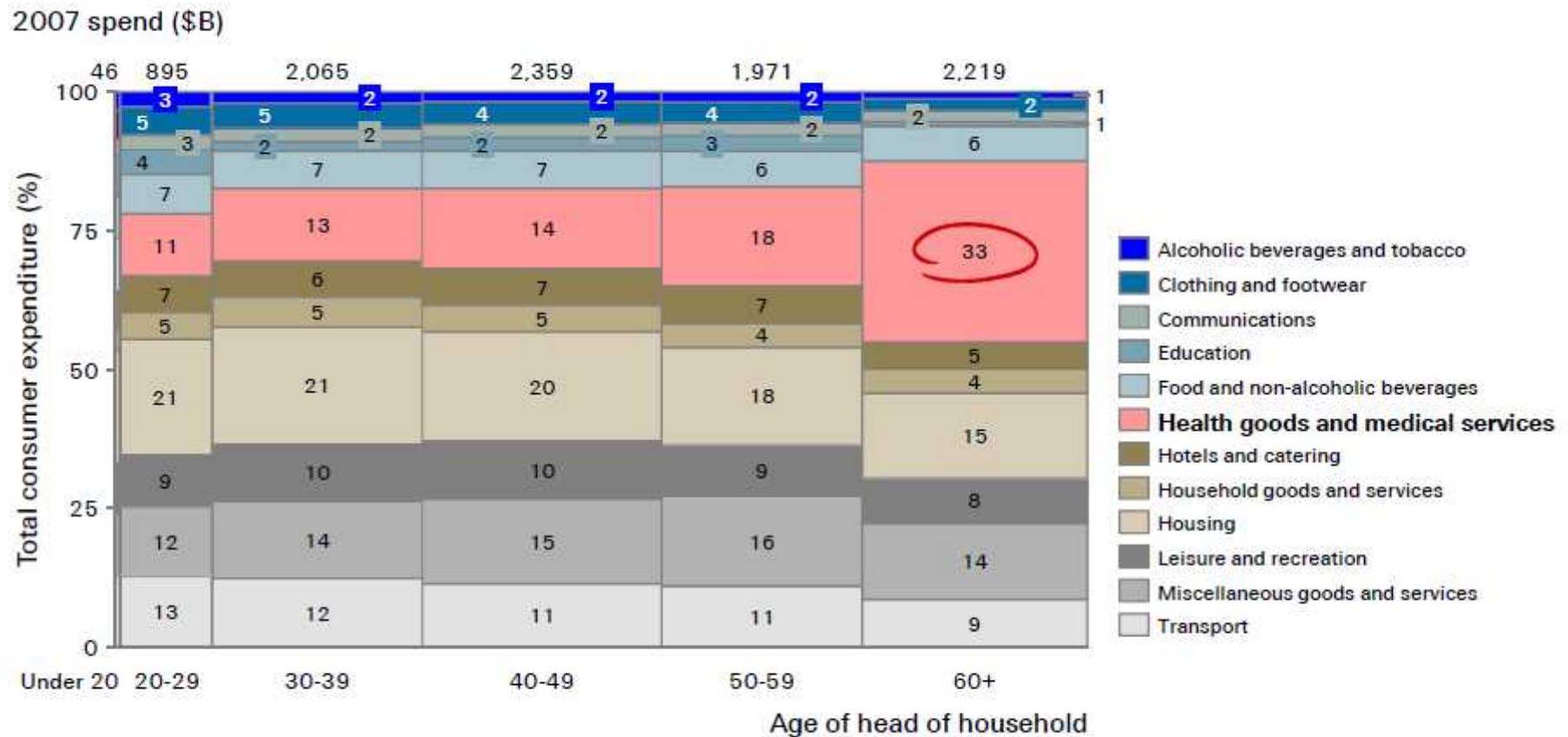
## Old-Age Dependency Ratio (65+ vs 15-64)





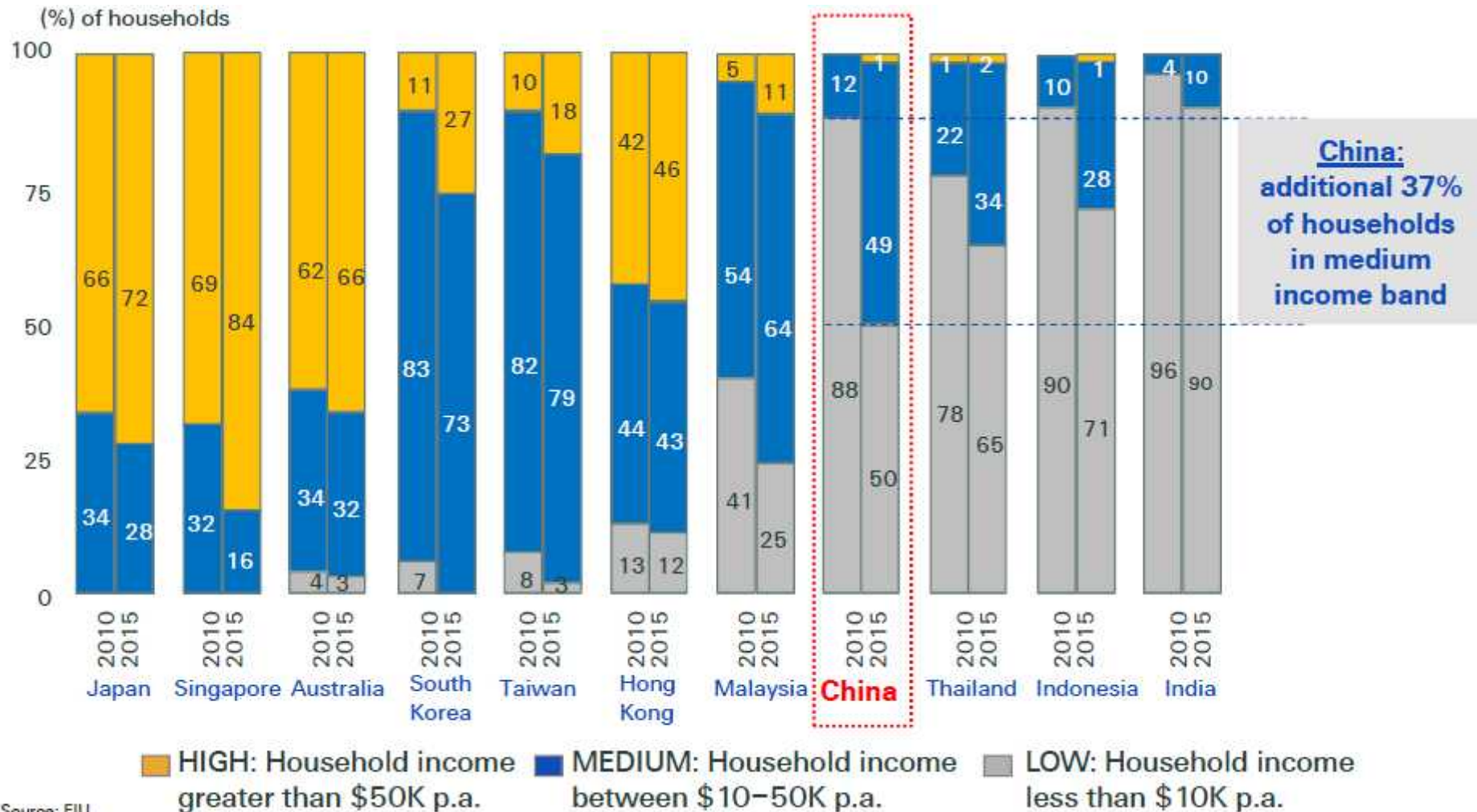


# Almost a third of expenditures of 60+ age group go to health goods and medical services

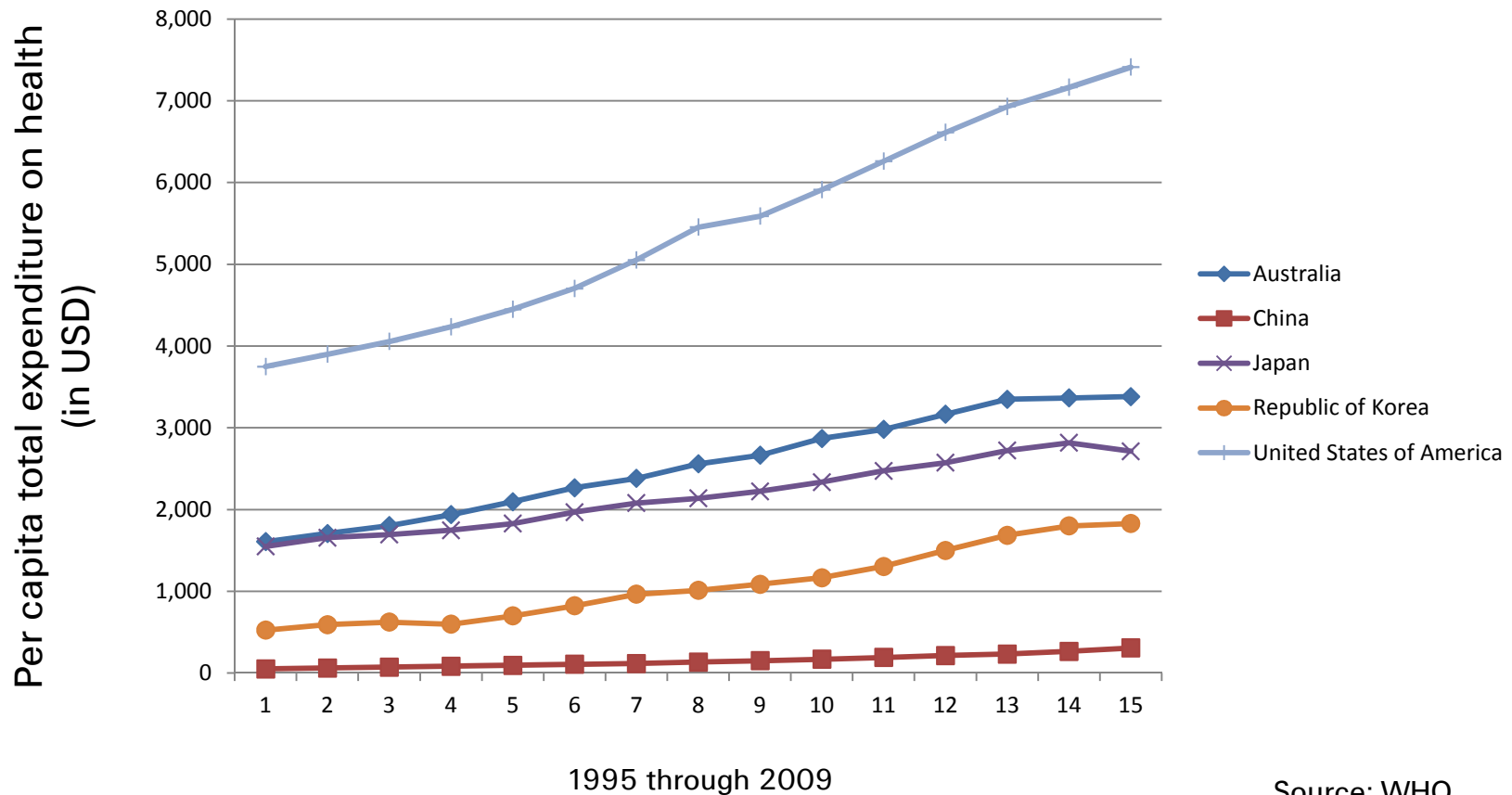


Source: Euromonitor Consumer Expenditure Data 2007

# China will see a shift of 37% of households from low to medium income by 2015



# The cost of healthcare continues to rise



Source: WHO

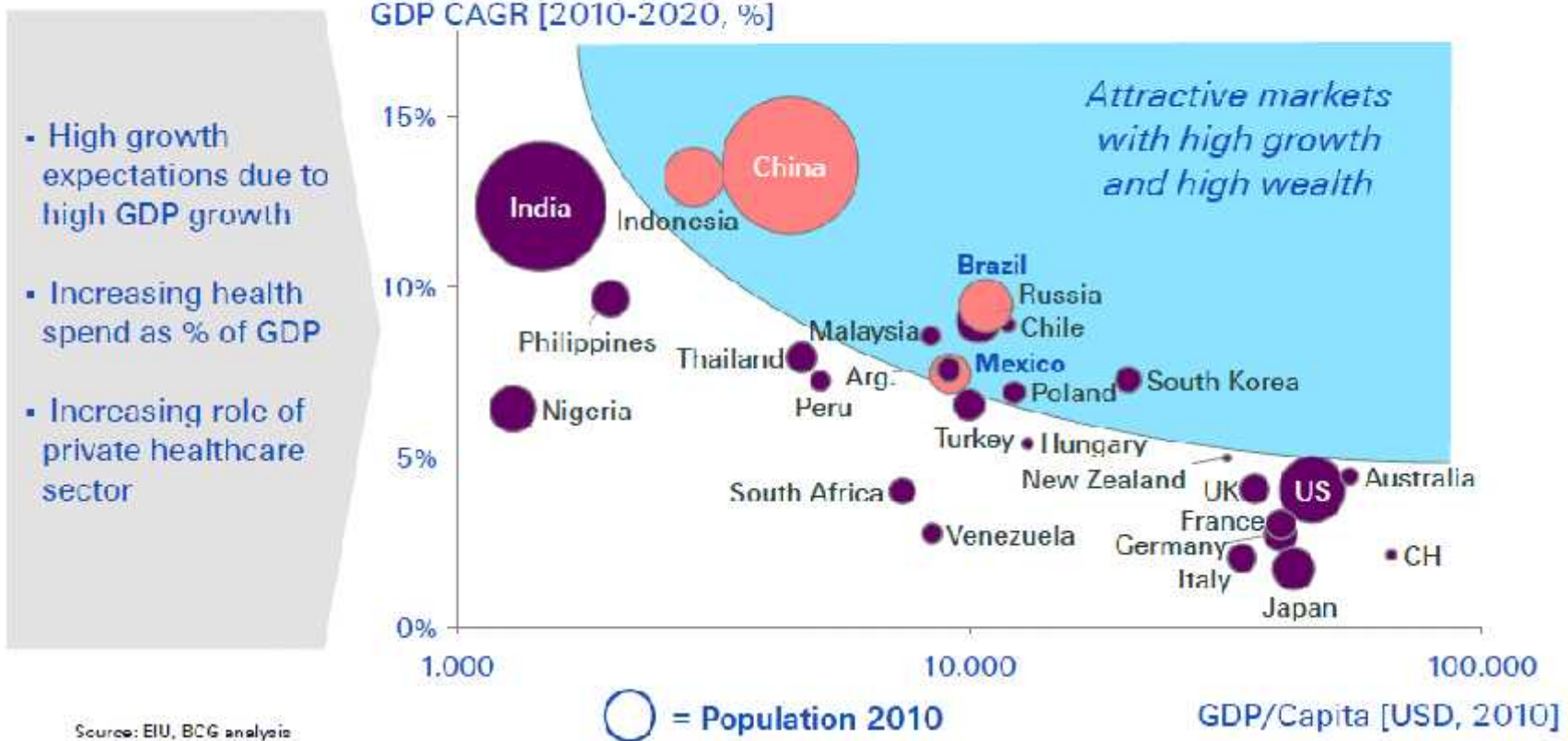


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# Emerging markets are increasingly relevant for health insurance business

Demand for high-quality health provisioning and insurance in formerly underdeveloped or strategically marginal markets

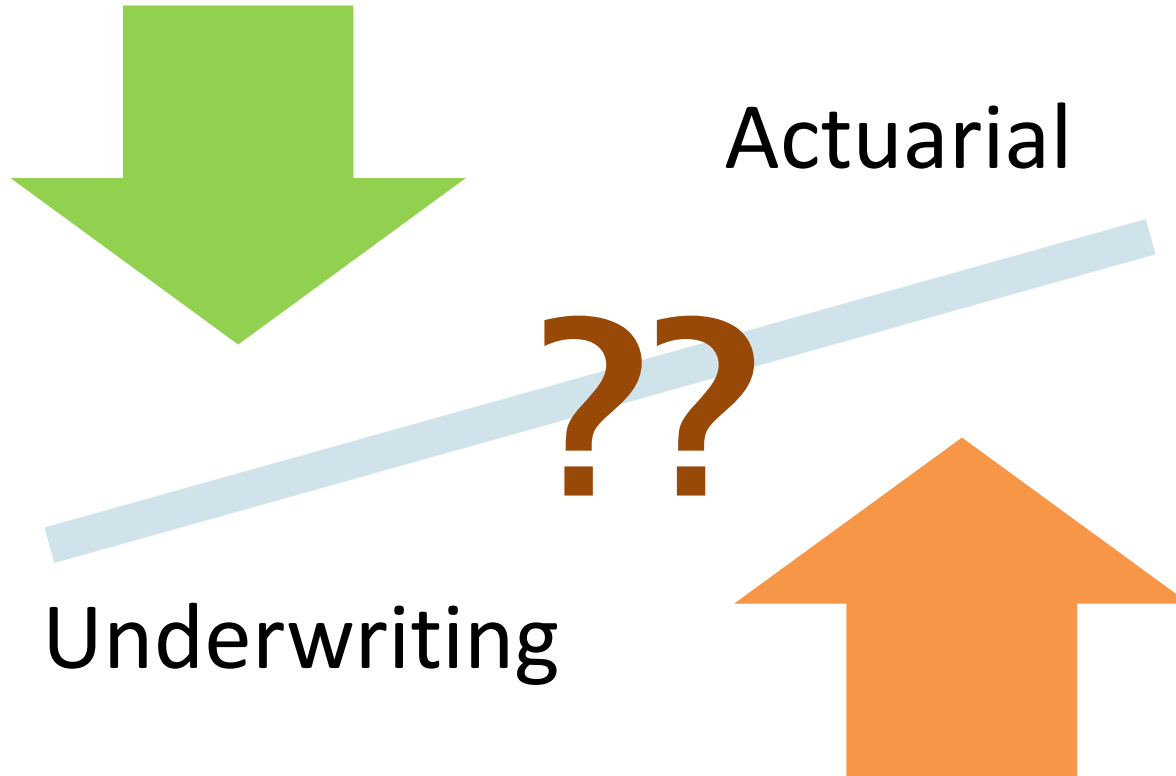


# What is making life difficult for Underwriters?

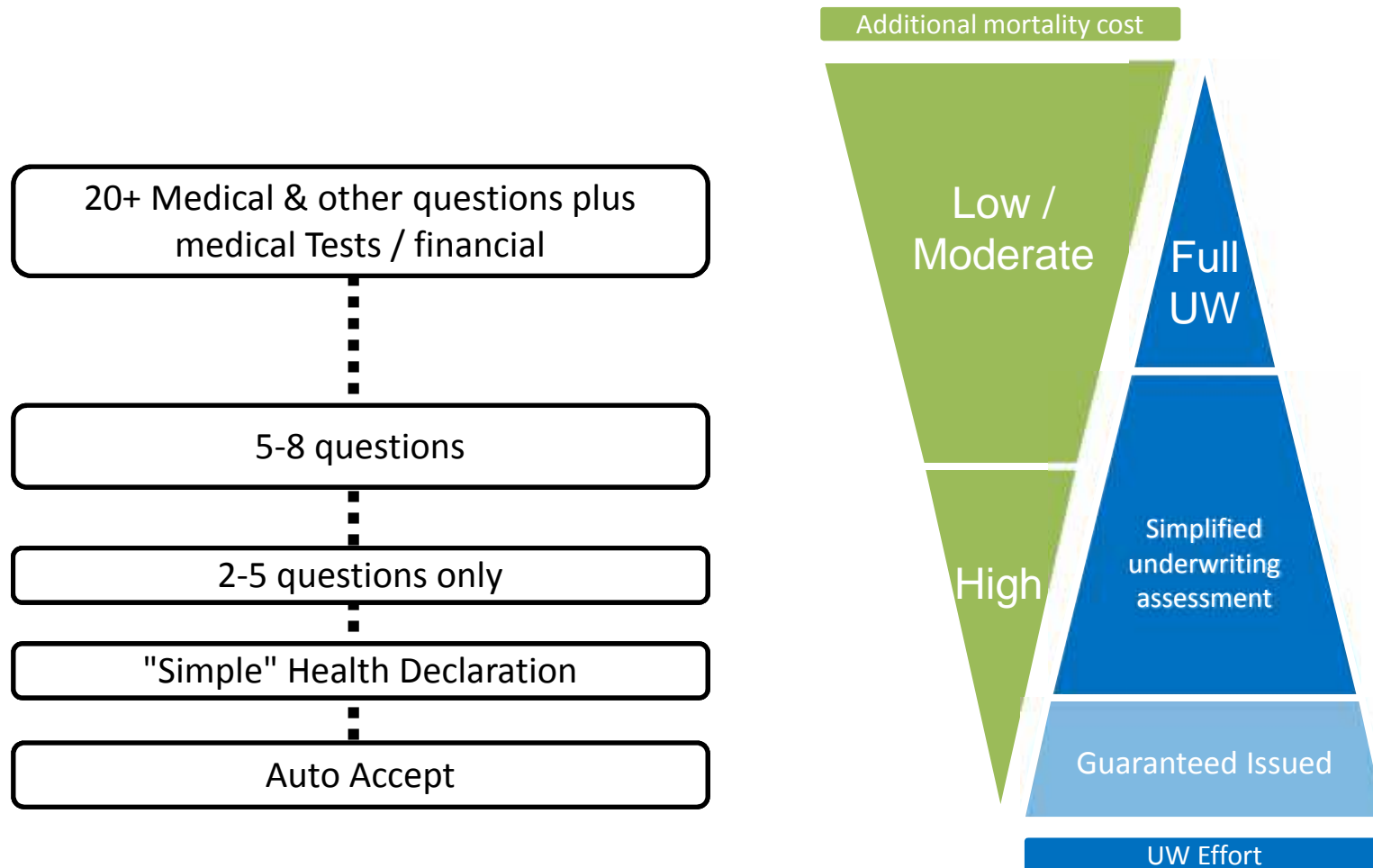


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# Are we in a hard or soft market?

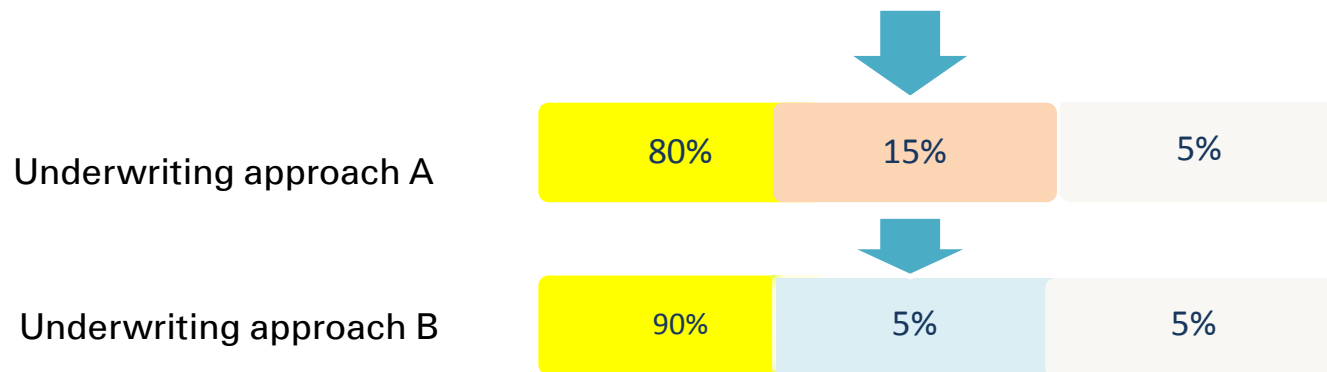
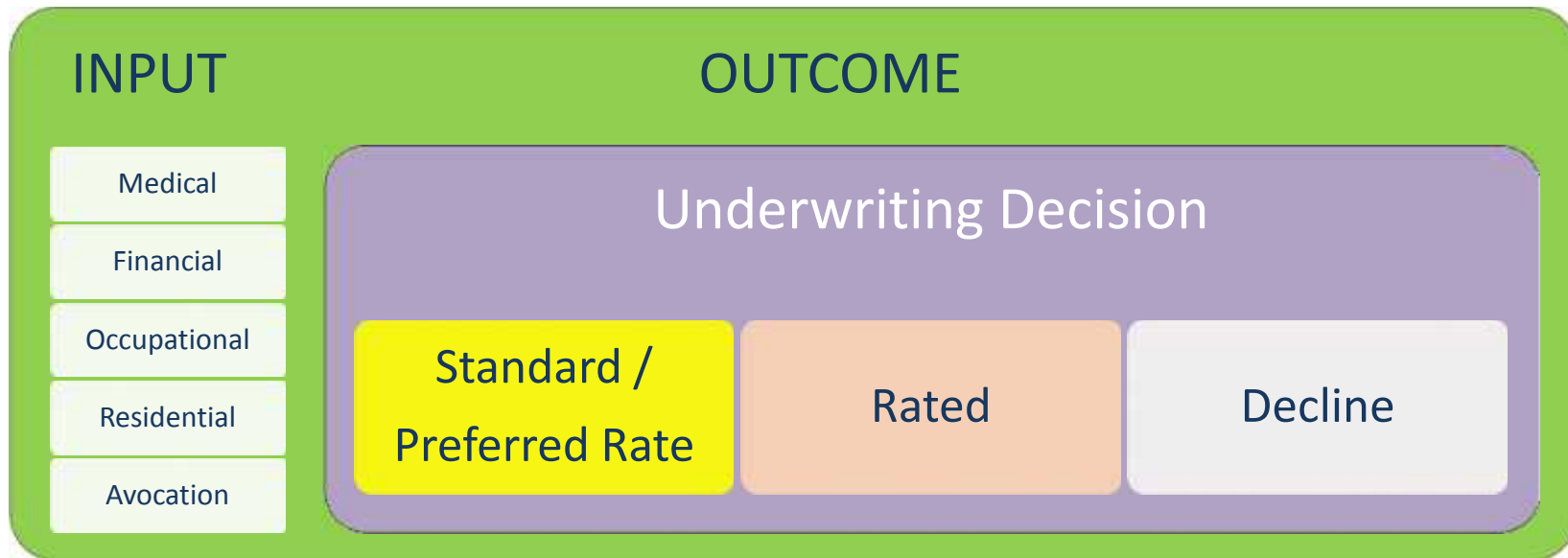


# Cost & risk management – in theory it's a complementary relationship





# Matching the costing assumptions with the underwriting outcomes isn't so simple.....



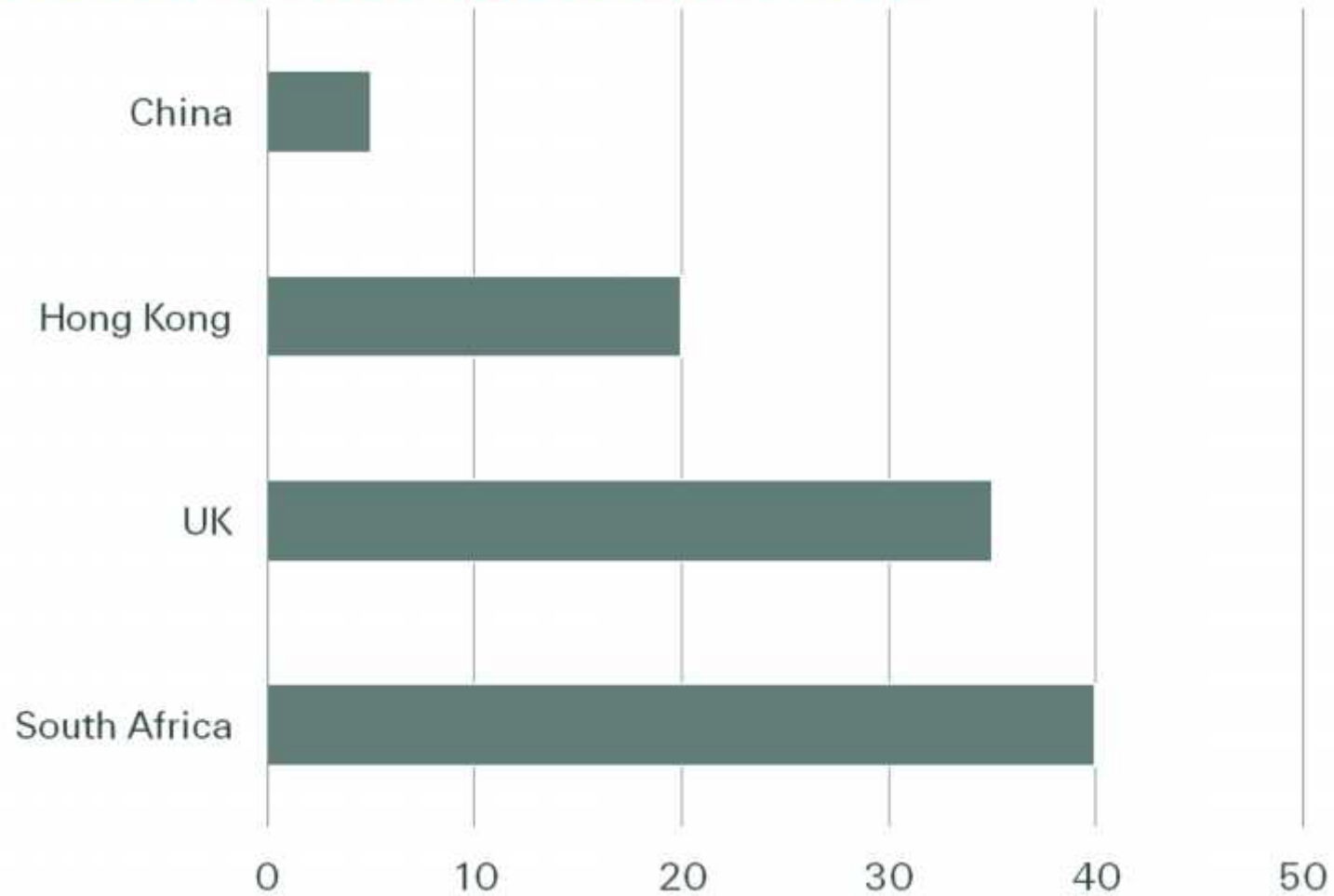
# Underwriting challenges: #1 Non-disclosure



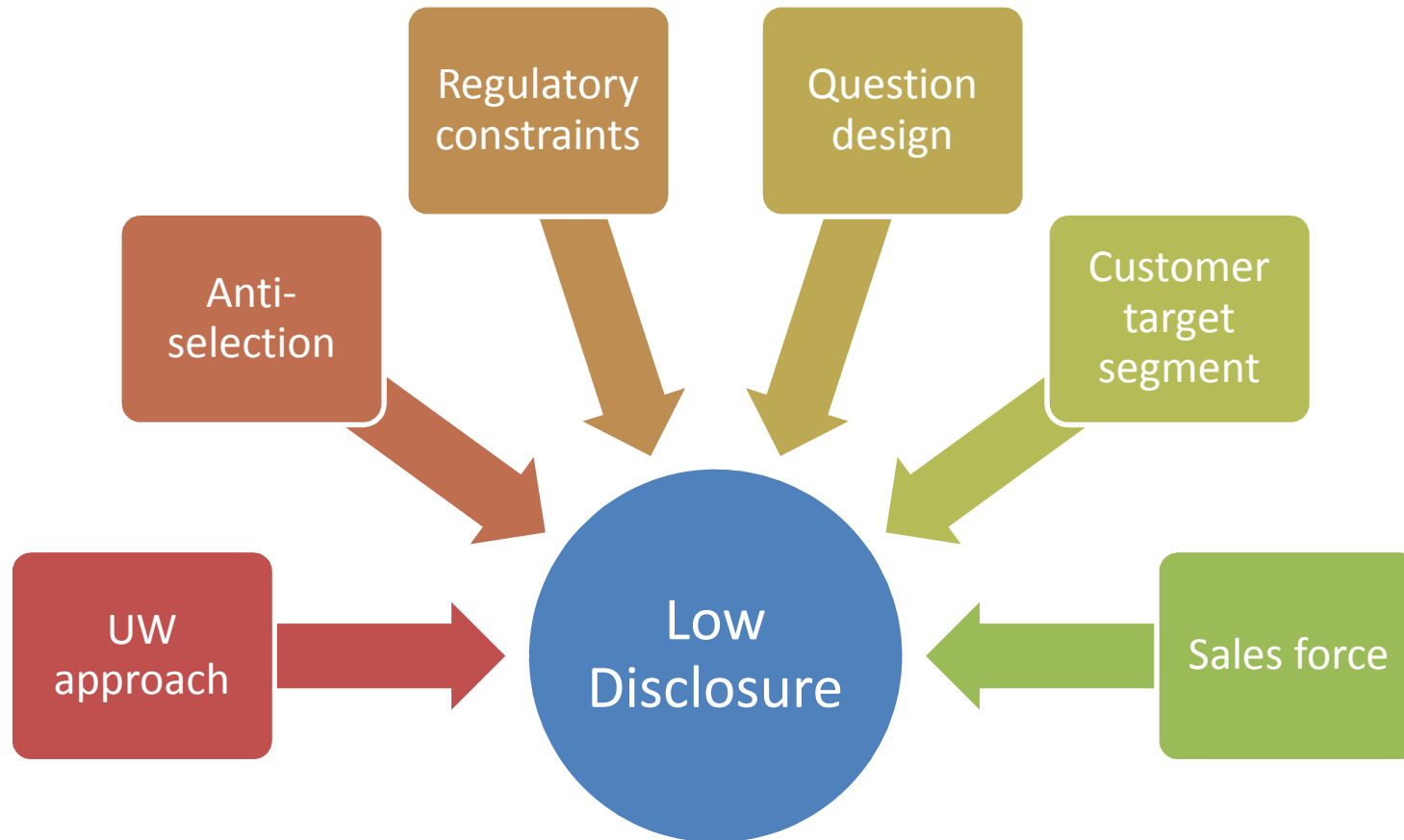
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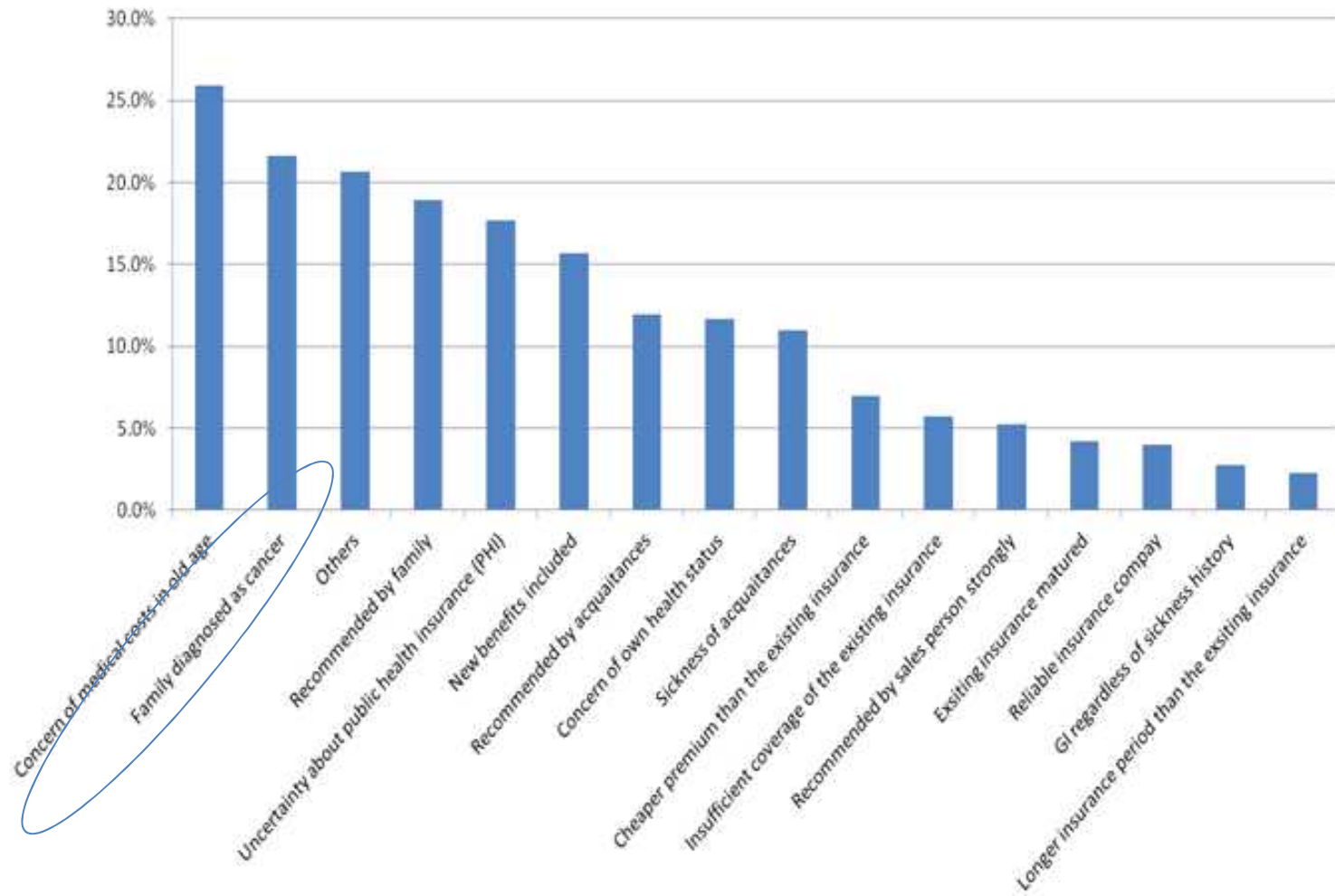
## Customer disclosure – what percentage of applicants say "Yes" to at least one medical question on the application form?



# Non-disclosure is a multi-factorial disease..... behaviour is key



# Motivation to purchase cancer product (Japan)



## Why act to improve disclosures now?




Rapid primary market growth	Even faster growth for Health products	Importance of brand
Incontestability clause	Ability to anti-select based on own knowledge increasing	Changes in product selling / buying patterns
Increased focus on loss ratio / insurance profitability	Higher non-medical limits	Underwriters in Asia say that non-disclosure will get worse!

# Underwriting challenges: #2 Cancer



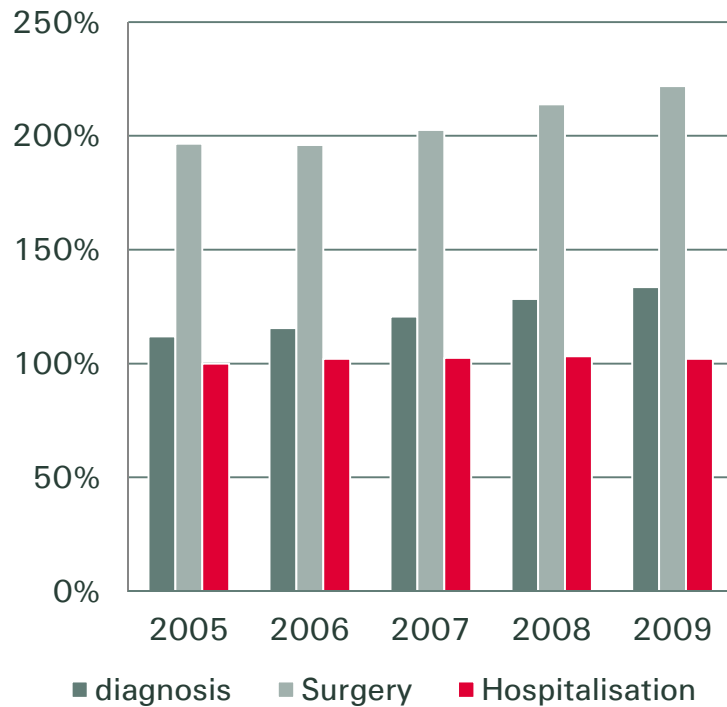
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## We see an increasing number of people - Top 5 Cancers by diagnosis

South East Asia							
M	F	M	F	M	F	M	F
Lung	Breast	Stomach	Thyroid	Lung	Breast	Stomach	Breast
Liver	Cervix-uteri	Colo-rectum	Breast	Stomach	Lung	Colo-rectum	Colo-rectum
Colo-rectum	Colo-rectum	Lung	Colo-rectum	Liver	Stomach	Lung	Stomach
Stomach	Lung	Liver	Stomach	Oesophagus	Liver	Prostate	Lung
Prostate	Liver	Prostate	Lung	Colo-rectum	Colo-rectum	Liver	Cervix-uteri

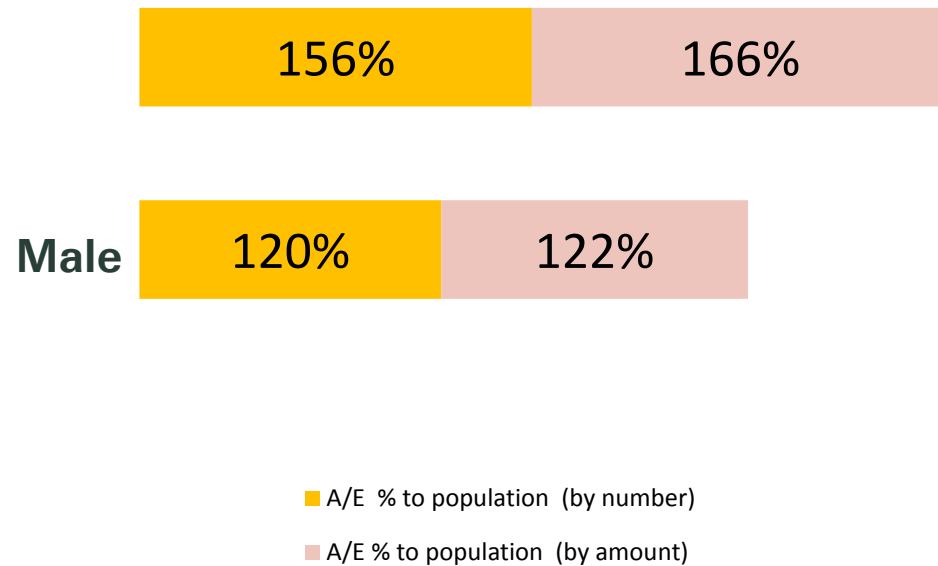


# Cancer experience in Korea



Loss ratio : claim paid/ premium received  
( KIDI, 10 life insurers)

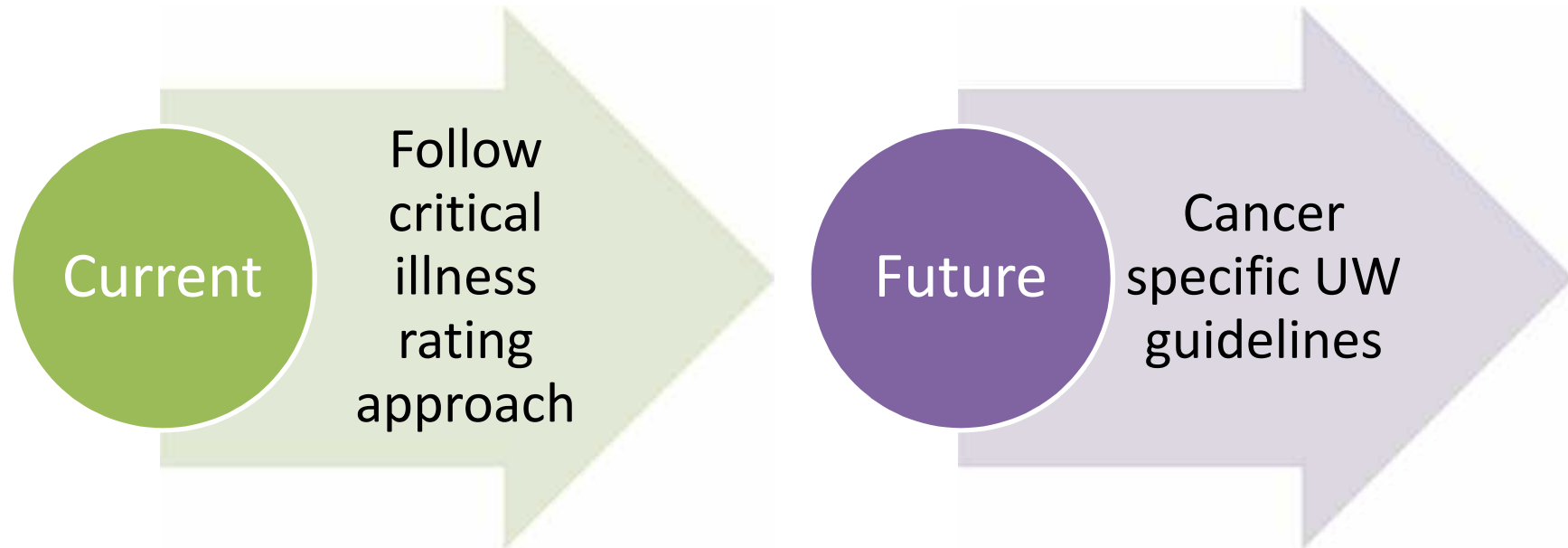
# Cancer experience in Japan



## Cancer risks are the most difficult to identify through underwriting.....

Cardiovascular risks	Cancer risks
• Proposal form disclosures	• Have you had cancer before?
• Smoking habit / Cotinine test	• Do you have a family history?
• Family history	• Do you have symptoms?
• Medical examination report	
• Blood pressure readings	
• Cholesterol test	
• Pulse rate	
• Resting ECG	
• Exercise ECG	

# But what about the 12M people p.a. who are diagnosed with cancer.....are they insurable?



## Cancer Philosophy Overview

Category	Examples
A. Strongly related	Smoking, FH of Cancer, Previous history of Cancer, Crohn's and Ulcerative Colitis, Pre-malignant conditions
B. Somewhat related	Build, Diabetes, CVS risk factors, LFTs, Epilepsy, Hypo/Hyperthyroidism, Alcohol Abuse
C. Common conditions but unclear correlation	Depression, Hyperlipidaemia, Use of HRT by women
D. Unrelated conditions	Asthma, Renal Stones, Appendicitis

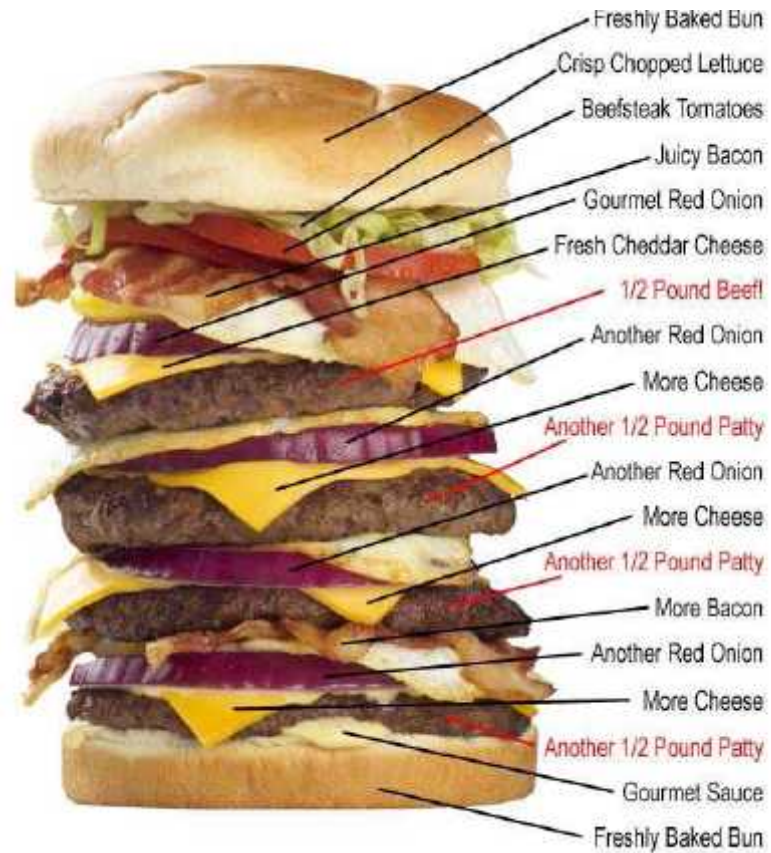
# Underwriting challenges: #3 Diabetes



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# What is Diabetes?

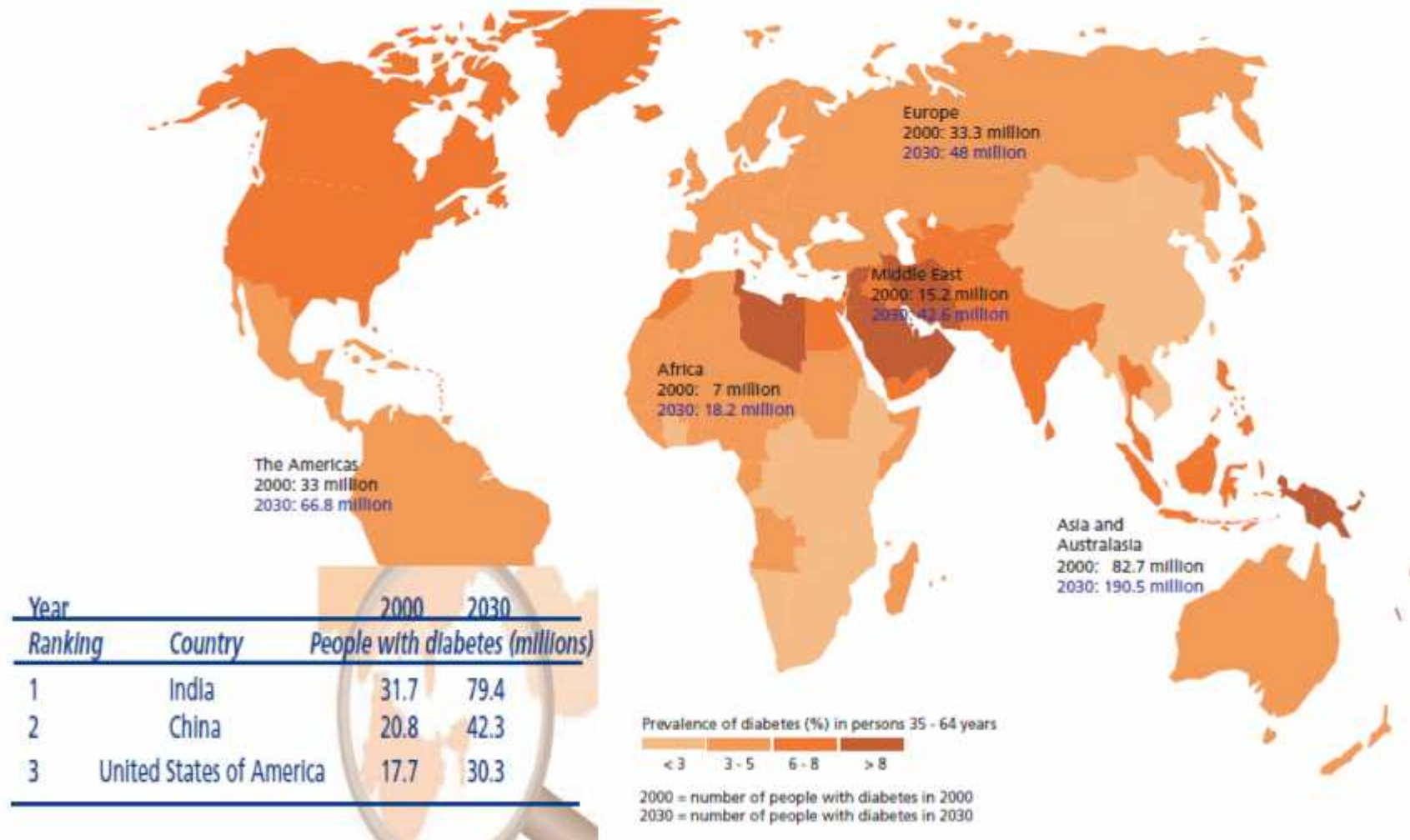


## WHO Statistics on Diabetes

- 346 million people worldwide have diabetes.
- In 2004, an estimated 3.4 million people died from consequences of high blood sugar.
- More than 80% of diabetes deaths occur in low- and middle-income countries.
- Diabetes is predicted to become the seventh leading cause of death in the world by the year 2030.
- Total deaths from diabetes are projected to rise by more than 50% in the next 10 years.
- WHO projects that diabetes deaths will double between 2005 and 2030.

WHO August 2011

# Prevalence of diabetes







# Underwriting terms are improving particularly for the more healthy diabetics

## Favourable features include

- Shorter Duration of the disease
- Good blood sugar control (FBS/Hba1c)
- Non-smokers
- Lack of associated risk factors (e.g. Hypertension / Lipids)
- No micro/macro-vascular complications?
  
- Policy duration
- Scope / breadth of cover

# What does all this mean for the Actuarial profession



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## Stay in touch with the future!

- Pillcam – Yes, it's a camera in a pill!
- You swallow, they watch
- It only takes 30 mins
- Your oesophagus & small bowel is the focus
- Video capsules measure 11mm x 26mm and weighs less than four grams and takes up to 18 images per second
- So what does this mean for insurance medicine?
- And will it mean more anti-selection?

Futuristic Medicine



# Health products...understanding how underwriting can / can't help is key to your assumptions

## ■ Critical Illness

- Early pay, Intermediate pay, Advanced / Catastrophic cover
- Targeted plans - e.g. Cancer cover / Gender specific plans
- Multiple-pay solutions

## ■ Disability

- Lump sum products e.g. Total & Permanent
- Income replacement
- Activity based cover for non-income earners

## ■ Medex

- Reimbursement
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- High net worth / Global coverage (USA)

## ■ Post-retirement Healthcare / Impaired life products / Juvenile coverage / Pre-natal plans

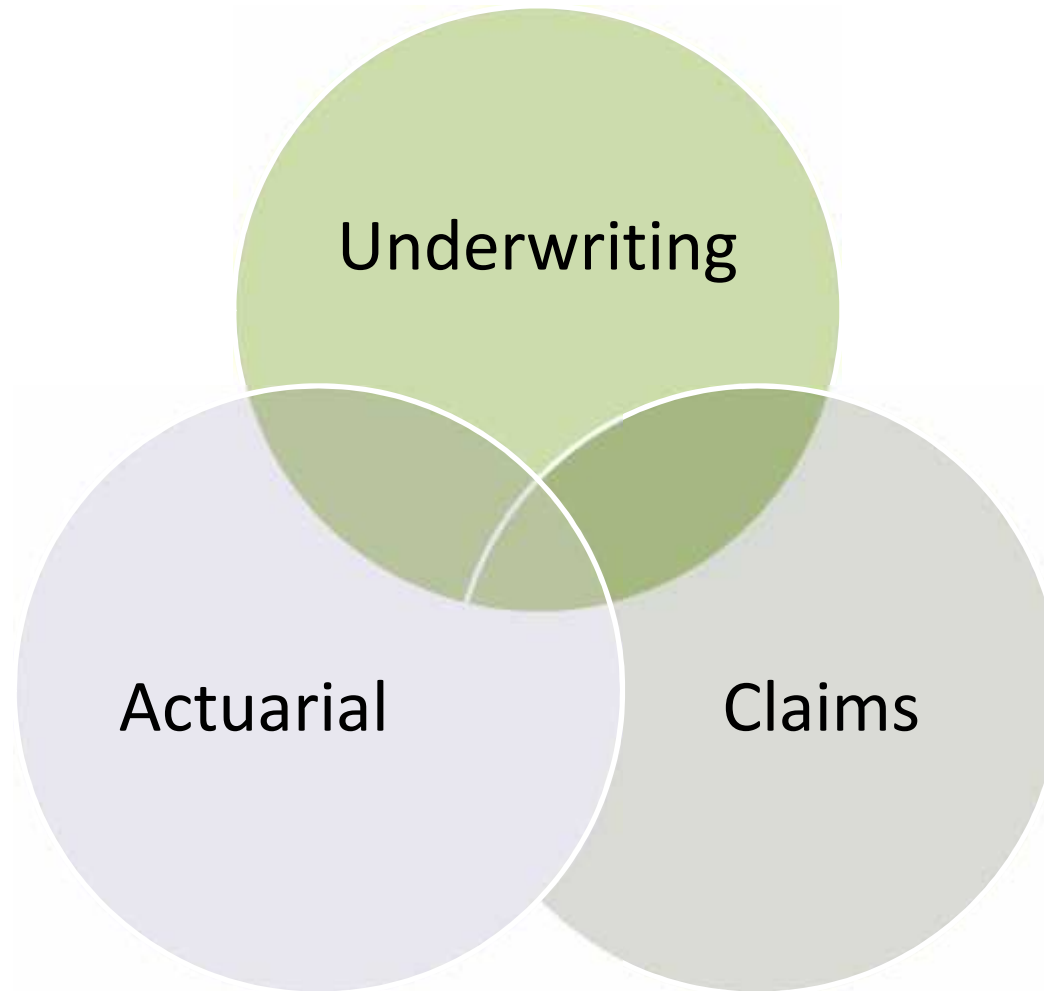


# Conclusion



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# Careful portfolio management will be key to success







Thank you