

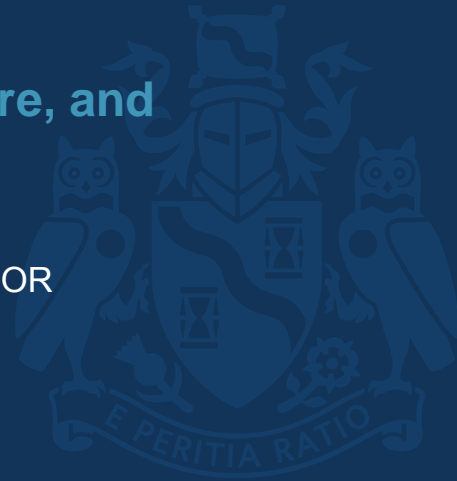


Institute  
and Faculty  
of Actuaries

## Prefer or Deter, What they do over there, and Do we care?

Jamie Leitch  
Head of Strategic Initiatives, SCOR

27 June 2016



## Prefer or Deter, What they do over there...

### The Plan

- Consider a Preferred Lives market and what role for the UK?
  - Should we be encouraging change or would it be better to deter that change?
- What they do over there
  - What the US market looks like
  - The impacts of preferred lives
- Do we care?
  - What might a UK preferred lives model look like?
  - What are the consequences?

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## Why considering?

### Nothing new?

- Nothing new: UK Market has had discussions on preferred lives for years
  - Martin Werth in 1995

Presented to the Staple Inn Actuarial Society  
on 10<sup>th</sup> January 1995

**PREFERRED LIVES –  
A MORE COMPLETE METHOD  
OF RISK ASSESSMENT**

### But moving?

- Some signs that we are moving more towards a preferred lives model
  - SARs: increased medical evidence: better risk selection
  - +25% ratings being applied & tightening of smoker definitions
  - UnderwriteMe launch & Occupation / BMI added to quote portals
  - Postcode being used by some aggregators
- Technology?

### Reminder of UK sales process...

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## How protection is traditionally bought (UK)....



How much?  
For how long?  
Covered for what?  
Benefit pattern?

Age?  
Smoker?

Provider	Monthly premium
Legal & General	£12.93
Beagle Street.com	£13.06
AEGON	£13.09
AIG	£13.24
AVIVA	£13.28
LIVE LIVERPOOL VICTORIA	£13.29

### Next steps

1 [Apply online](#) >

Personal Details?  
Occupation?  
Hobbies?  
Health – ever?  
Health – recent?  
Health – current?  
Family's health?  
Lifestyle?



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Source of quotes: Comparethemarket.com

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## How protection may be bought (UK)....



How much?  
For how long?  
Covered for what?  
Benefit pattern?

Age?  
Smoker?  
Personal Details?  
Occupation?  
Hobbies?  
Health?  
Family's health?  
Lifestyle?

Additional details:

- More important
- More scope as rating factors
- What else?

Before you know it... Preferred Lives

Provider	Monthly premium
LVE LIVERPOOL VICTORIA	£14.55
Beagle Street.com	£14.97
AEON	£15.19
Legal & General	£15.20
AVIVA	£15.28
ZURICH	£17.23

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Source of quotes: Comparethemarket.com

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## US Life Insurance Market: The Background

### The Market:

- The US life insurance market is the largest in the world: \$167 Billion in Premium (2014)
- Market is fragmented: no player above 10% market share
- Distribution: Dominated by agents: approx. 45% each for affiliated & independent agents
- Product: long term products dominate (WOL by policy count, Term by Prem/SA)
- Mortality risk dominant
  - Disability small (\$ 550m v \$167bn) and stagnant
  - CI market small but growing rapidly: through workplace: low benefit / simplified issue
  - Growth in L LTC or Chronic Illness combination products
- Mortality risk dominated by preferred lives models

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## US Market: Underwriting

### Preferred Life

- Asked an underwriting questionnaire – 50 questions + drill downs (30mins by TI)
- Paramed will undertake a home visit:
  - Vitals:
    - BMI
    - Blood Pressure
    - Pulse
  - Fluids:
    - Blood
    - Urine
    - Occasionally Saliva
- Inevitable delays
  - Arranging visit appointment
  - Lab results (2-4 days)
  - Underwriting decision
  - Generally ≈ 15 days, although months not uncommon

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## How do I qualify to be a “preferred risk”?

### – Method 1: All-or-nothing approach

	Super Preferred Non-Tobacco	Preferred Non-Tobacco	Standard Non-Tobacco	Preferred Tobacco	Standard Tobacco
Tobacco	No tobacco use for 3 years	No tobacco use for 1 year	No tobacco use for 1 year	Smoker	Smoker
Cholesterol	Chol <= 220	Chol <= 250	Chol <= 300	Chol <= 250	Chol <= 300
Chol / HDL ratio	<5	6.5	8.0	6.5	8.0
Average blood pressure	Age 20-45: 135/80 Age 46-60: 140/85 Age >61: 150/90	Age 20-45: 135/84 Age 46-60: 144/88 Age >56: 150/90	Individual consideration: Allow treatment	Age 0-55: 140/90 Age >56: 150/90 Allow treatment	Individual consideration: Allow treatment
Family medical history	No death of a parent or sibling prior to age 65	No death of a parent or sibling prior to age 65	Individual consideration	No death of a parent or sibling prior to age 65	Individual consideration
Moving violation	Maximum of 2 in past 3 years	Maximum of 2 in past 3 years	Not applicable	Maximum of 2 in past 3 years	Not applicable
DUI or reckless driving	None in past 5 years	None in past 5 years	Not applicable	None in past 5 years	Not applicable
Weight	Within normal range of BMI				

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## How do I qualify to be a “preferred risk”?

### – Method 2: Scoring Method

Test	Criteria for Women	Criteria for Men	Points
Current cholesterol / HDL ratio	<= 4.5	<= 4.9	2
Current cholesterol / HDL ratio	<= 3	<= 3.4	2
Blood pressure average over last 2 years	<= 136 / 78	<= 136 / 86	1
Blood pressure average over last 2 years	<= 130 / 72	<= 132 / 80	1
Current blood and urine test results are within normal limits	TRUE	TRUE	1
Both parents do not have cardiovascular diseases	TRUE	TRUE	1
For age 60 and above, results of EKG in the last 2 years	Normal	Normal	1
For age 60 and above, results of stress test, angiography or pulmonary function test in the last 2 years	Normal	Normal	1
No nicotine use in the last 1 year	TRUE	TRUE	1
No nicotine use in the last 2 years	TRUE	TRUE	1
BMI	17 to 28	18 to 30	1
BMI	17 to 23	18 to 25	1

- Scoring (example):
- > 10 points: super preferred, 8-9 preferred non-smoker, 6-7 regular non-smoker
- Smokers: could just be a couple of points less (always differentiated)

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## Is it worthwhile to be “preferred”?

- 20-Year level term insurance of USD500,000 for a 40-year old male

Company	Preferred Plus Non-Smoker	Preferred Non-Smoker	Regular Non-Smoker	Preferred Smoker	Regular Smoker
A	450	565	870	1,620	2,350
B	390	485	845	1,660	2,205
C	380	480	790	1,610	2,050
D	430	515	965	1,570	2,270
E	360	475	805	1,725	2,195

- Rates are usually guaranteed for level-term products

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## UK: Preferred lives (mortality)

What could a super-preferred look like:

### Health

- Blood pressure & Cholesterol
- BMI tightening
- Smoker definition tightening
- Family history tightening

### Other (non intrusive)

- Socio-economic indicator (postcode, occupation, salary, education etc)
- Driving record
- Marital status
- Alcohol
- Exercise
- Diet

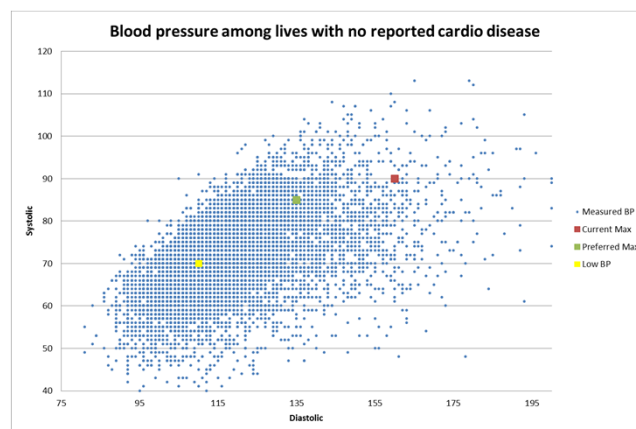
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## Preferred lives (mortality): Blood Pressure

What could a product look like – health factors:

- Blood pressure: currently only underwritten if known / previous issues



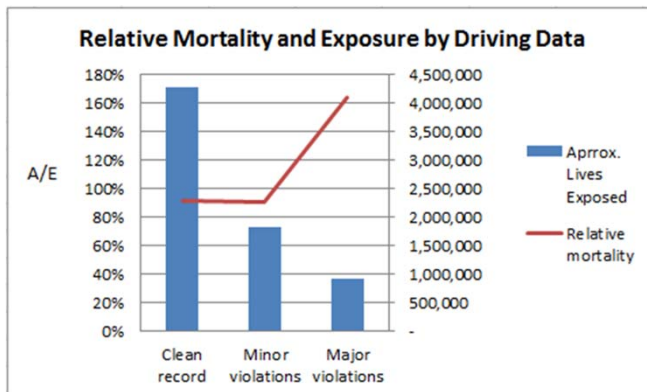
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Source: NHANES

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## Preferred lives (mortality): Driving Record

What could a product look like – non-health factors:



- Study:
  - 7m life years exposure
  - 73k deaths
  - US based study
- Implications
  - Good drivers could generate a 10% discount to aggregate
- UK
  - Relevance?
  - Much fewer disclosures to UK u/w

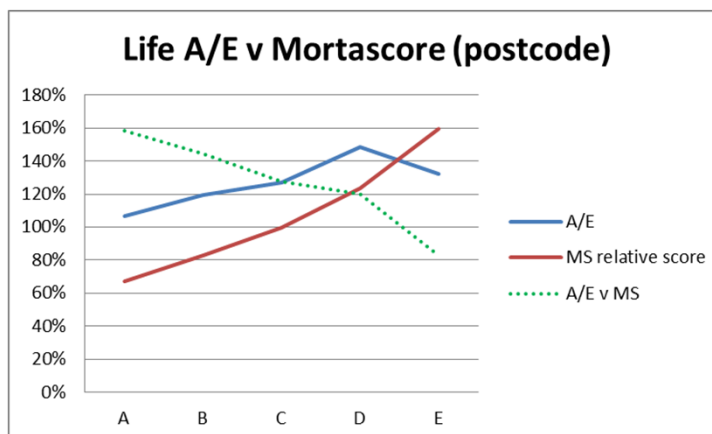
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Source: rgare.com

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## Preferred lives (mortality): Postcode

What could a product look like – non-health factors:



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Source: SCOR analysis using MORTAScore tool

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## UK: Preferred lives (morbidity)

What could a super-preferred look like:

### Health

- Blood pressure & Cholesterol
- BMI tightening
- Smoker definition tightening
- Family History

### Other

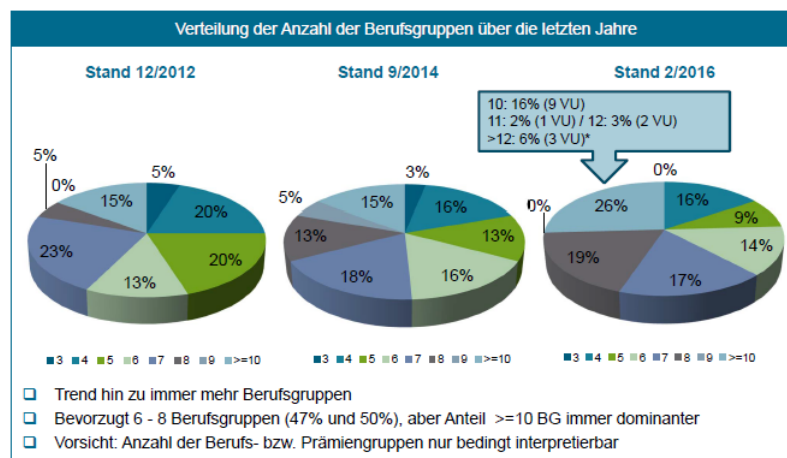
- Socio-economic indicator (postcode, occupation, salary, education etc)
- Driving record, Marital status, Alcohol, Exercise, Diet
- Wearable Tech: step count, heart rate, sleep patterns
- Personality Type

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## Preferred lives (morbidity): Occupation

What could a product look like – non-health factors:



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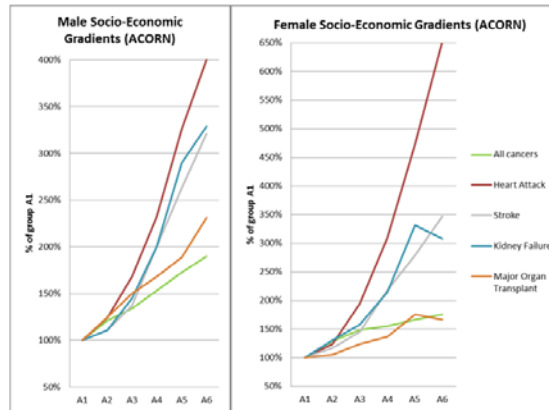
Source: SCOR analysis of German Market

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## Preferred lives (morbidity): Socio-Economic

What could a product look like – non-health factors:



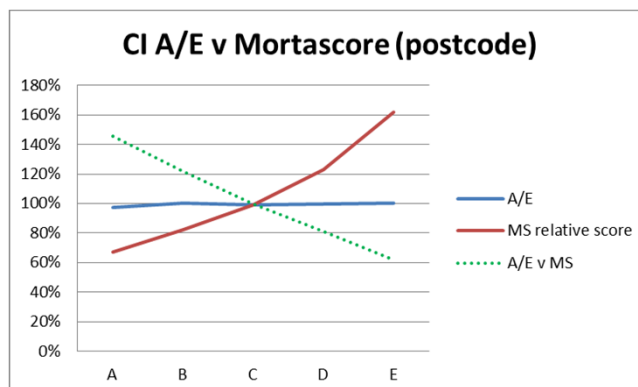
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Source: Extending the Critical Path, SIAS paper

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## Preferred lives (morbidity): Postcode

What could a product look like – non-health factors:



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Source: SCOR analysis using MORTAScore tool

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## Preferred lives (morbidity): Postcode

Is socio-economic analysis flawed?

**COVER** The health insurance and protection market covered

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Critical illness | Group protection | Income protection | Life insurance | LTC | PMI | IPMI | Ca

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### Significant numbers of customers are failing to claim on protection policies

By Fiona Murphy | 30 Mar 2016 | 0 Comments

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Customer data from LifeSearch has warned that many policyholders are not claiming on their protection policies despite having a legitimate reason to claim.

Around 1 in every 9 protection claims paid to LifeSearch clients in the second half of last year were identified through LifeSearch customer service teams making routine contact with their customers, rather than the policyholder taking any action.

The team's work has led to more than £500,000 being submitted for claims for Life Insurance and Critical Illness policies during this period and over 70% of these policies have been paid already.

The figures suggest there may be significant number of consumers in the UK – those that have either bought direct or through a firm that doesn't maintain contact with its customers - who have might be able to claim successfully.

**More from COVER**

- ▶ AIG Life: Casey and Thomas exit, Anders joins...
- ▶ UK PMI costs to face largest increase in five...
- ▶ Royal London paid 98% of all claims in 2015
- ▶ Four in ten customers demand fitness linked...

**Related articles**

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Source: [www.covermagazine.co.uk](http://www.covermagazine.co.uk)

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## Preferred lives (morbidity): Personality

What could a product look like – non-health factors:

Experiment by Friedman and Rosenman: Cardiologists

- Hypothesis – derived from observing people in their waiting room
- Labelled people: Type A or Type B
  - A: Competitive & self critical, quick, multi-task, easily wound up and may anger/overact
  - B: Non-competitive, relaxed, slow (one thing at a time), express feelings
- Study (> 25k life years exposure): Type A more prone to stress related illness
- Application in IP:
  - App form questions: Do you generally move, walk and eat rapidly? (used by F&R)
  - Can you use behavioral economics in online journeys, or simply time applicants?

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Source: [www.simplepsychology.org](http://www.simplepsychology.org)

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## UK Market: Why the timing may be perfect

### The Market

- Stagnant: ready for a shake up
  - Volume / Players
  - Distributors keen
  - Innovation being rewarded eg Vitality

### Technology

- Potential to deliver pain free
  - Big data
  - Wearables
  - E-medical records
  - Blood pressure checks
  - Cholesterol

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## UK Market: Why the timing may be perfect

### Technology

- [www.instantbloodpressure.com](http://www.instantbloodpressure.com)

### Simple

Produce a systolic blood pressure, diastolic blood pressure, and heart rate approximation in under 35 seconds.

1



Place Finger Over Rear Camera Lens

2



Press Phone Into Your Chest Over Your Heart  
(Finger still in place)

3



Quietly Hold Position for < 35 Seconds And See Results

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## UK Market: Why the timing may be perfect

### Technology

- Smartphone technology
  - Cornell University researchers
    - Check cholesterol and vitamin D using...
    - ..small add on device and a single drop of blood, sweat or saliva



- SAMSUNG patent to use smart phone to measure body fat

Source: [www.cornell.edu](http://www.cornell.edu) & [www.technobuffalo.com](http://www.technobuffalo.com)

## UK Market: Why the timing may be perfect

### Technology

- Its getting out there already....

Press Release

Monday 18 April 2016

#### VITALITYLIFE FIRST INSURER TO INTRODUCE FINGER-PRICK BLOOD TESTING

VitalityLife is improving the way protection applicants undergo blood testing by introducing 'finger-prick testing' to the UK Life Insurance market.

**VitalityLife**



Source: [www.vitality.co.uk](http://www.vitality.co.uk)

## Do we care?

We should care – lots of potential impacts

- Some good



- Some less so



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## Do we care?

US innovation and new opportunities....



Simplified Issue  
Mid / Lower End

Preferred Lives  
Top End of Market

Simple U/W  
Limited Questions  
Use of Big Data

Complex Underwriting  
Slow & Painful

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## Simplified Issue

### The Application

- Health questions
- Prescription drugs database
- Motor vehicle records & Central insurance claims database

### Drugs database

- SCOR Velogica tool: >300,000 rules
  - Drugs, combinations, dosage, time periods, patient details (and interactions eg smoking), physician

### Outcomes

- SCOR Velogica tool
  - 95% decisions no underwriter involvement
  - 90% decisions made in one minute
  - Entire sales process usually completed within 15 minutes

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## Do we care?

US innovation and new opportunities....



Simplified Issue  
Mid / Lower End

Standard  
Life Insurance

Preferred Lives  
Top End of Market

Simple U/W  
Limited Questions  
Use of Big Data

Middle Ground!  
Big data and algorithms to  
reduce complex preferred  
underwriting

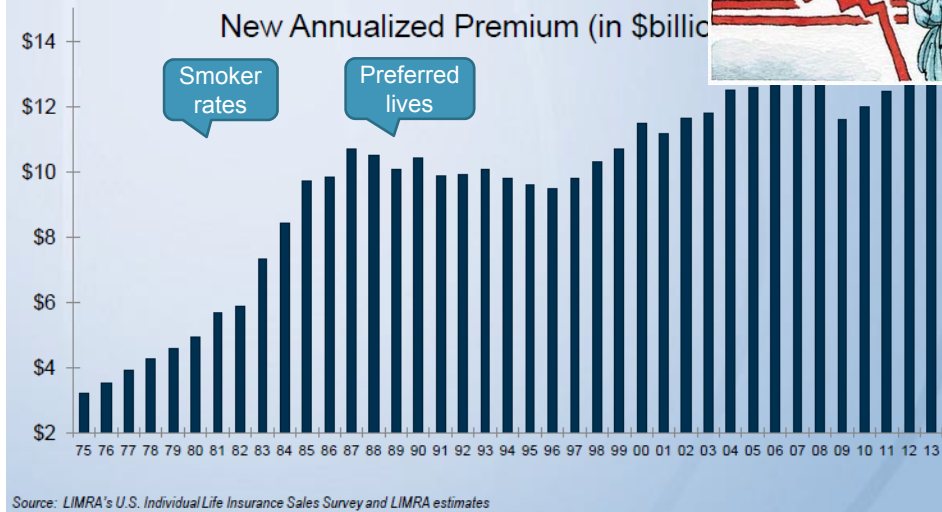
Complex Underwriting  
Slow & Painful

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## Do we care?

US Market size....

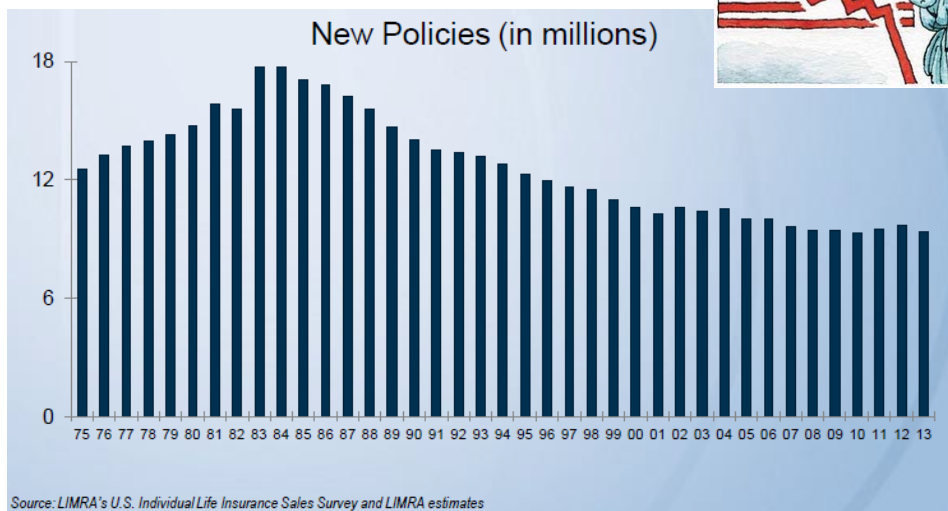


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## Do we care?

US Market size....

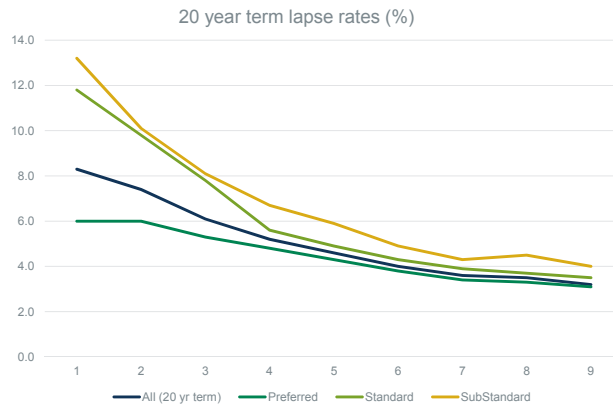


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## Do we care?

### Lapses



- US industry stats
- All lives lapse rate reasonably consistent with leading UK providers.
- Commission helps?

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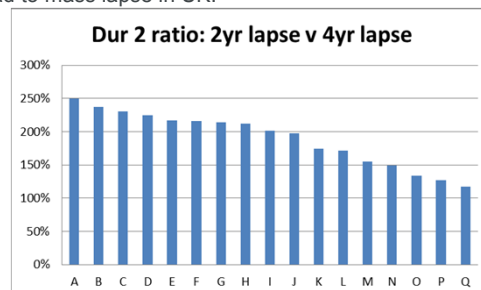
Source: 2013 LIMRA persistency study

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## US Market: Preferred Life consequences

### One-off mass lapsation

- US experienced significant lapsation as a result of preferred lives market disruption
- Introduction of preferred almost certain to lead to mass lapse in UK:
  - Already significant re-broke culture
- Resource & Expenses:
  - Chasing clawback
  - Marketing: how to mitigate?
- Significant loss of EV from in-force
  - Lapsed profits
  - Changed mix of remaining
    - Future lapses
    - Future claims



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Source: SCOR analysis

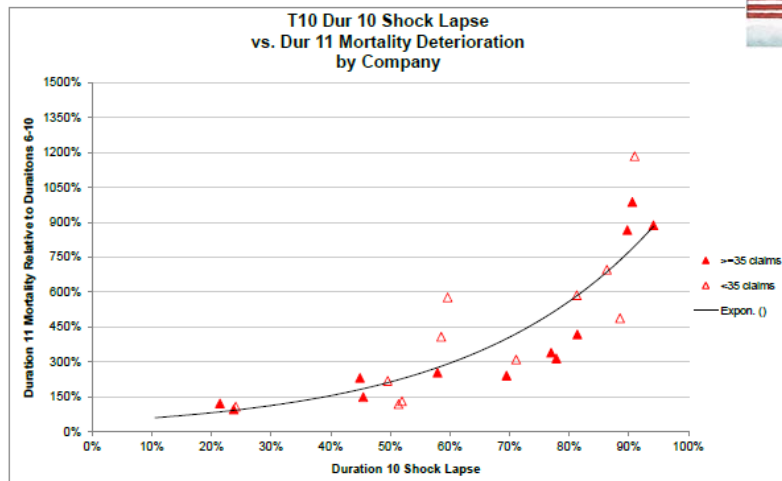
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## US Market: Preferred Life consequences

### One-off mass lapsation – claims impact

- US market insight into mass lapse: post term lapses



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Source: Society of Actuaries: Report on the lapse and mortality experience of post level premium period term plan 2014

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## Do we care?

### Non Contestability and Non Disclosure

- If we collect more information at outset – less reason to decline at claims
  - Significant ND issue in UK ≈ 10% of applications, higher % of claims
  - But we only decline a very small % at claims stage: innocent paying?
- US market moved to a 2-year contestable period

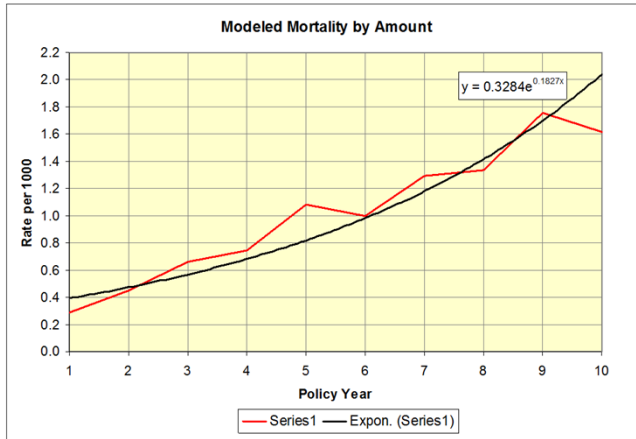


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## Do we care?

### Non Contestability leading to Fraud



- Years 1-2
  - Good experience
  - Tough claims stance
- Years 3-5
  - Blip in experience
- Years 5+
  - Starts to settle

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## Do we care?

### Industry reputation

 [www.parliament.uk](http://www.parliament.uk)

#### CAR INSURANCE POSTCODE DISCRIMINATION

Session: 2012-13

Date tabled: 19.03.2013

Primary sponsor: Gallovay, George

Sponsors: Sharma, Virendra | Godsilff, Roger | McDonnell, John | Riordan, Linda | Meale, Alan

That this House notes that car insurance rates can differ by more than 10 times between people insuring from different postcodes; further notes that these extraordinary disparities in insurance charges can take place even between neighbouring postcodes; further notes that these disparities are discriminatory against people on low incomes and particularly people from particular ethnic minorities who are concentrated in particular postcodes; calls on the Government to outlaw postcode discrimination and oblige insurers to insure on the basis of the individual, not the area, as a matter of urgency; and further calls on the Government to legislate if necessary to ensure insurers are provided with information about individuals applying for car insurance that is relevant to make an insurance assessment but in line with respecting the individual's right to privacy.

### Patient records should not have been sold, NHS admits ...

[www.telegraph.co.uk](http://www.telegraph.co.uk) > News > NHS ▼

24 Feb 2014 - It published guidance for insurers and actuaries on how to "refine" critical illness cover. .... to insurers, quoting SIA as a "major organisation for UK insurers"; this is not the case. .... and search for "extending the critical path".



- Interesting to note that in the US ZIP Code is not used as a rating factor

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## Prefer or Deter, What they do over there...

### Do we care?

- Perhaps not enough: how much time do we spend studying US market?
- We should care:
  - Opportunities and learnings
  - Risks and threats: employer and Industry

### Prefer or Deter?



### How could we deter?

- Difficult!
  - Collective responsibilities
  - Common underwriting process?
    - Common application form in annuities world

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## Questions

## Comments

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