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## The truth, the whole truth and nothing but the truth

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Claims Philosophy &  
Underwriting Audit Manager,  
Aviva

**Jonathan Hughes**  
Head of Strategic Development,  
RGA



15 May 2014

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## This is what we promised...

**F1: The truth, the whole truth and nothing but the truth: under- and over-disclosure in insurance applications**

We have commissioned what we believe to be one of the largest surveys of the health of the British population. By comparing this to insurance applications, we will explore:

- How applicants compare to the population
- What conditions applicants under- and over-disclose
- Alternatives for getting underwriting information

Speaker: Jonathan Hughes, RGA and Andrew Doran, Aviva



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## ...so here's what we'll cover:

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**RGA survey background**



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Population comparison

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Disclosure comparison

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## RGA survey background

Why we did it  
What we did  
What we got



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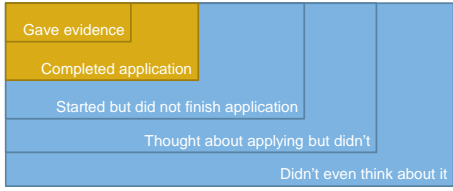
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## Why we did it

Our normal disclosure data is only a small subset of our area of interest:





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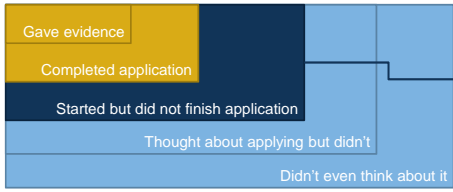
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## Why we did it

Our normal disclosure data is only a small subset of our area of interest:



What would  
they have  
told us if they  
had finished?



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### Why we did it

Our normal disclosure data is only a small subset of our area of interest:

Were they put off by underwriting?  
Or just not motivated enough?

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### Why we did it

Our normal disclosure data is only a small subset of our area of interest:

What sort of risk would they present?

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### Why we did it

We wanted to be able to answer these questions:

- 1 How does the health of non-applicants compare to applicants?
- 2 How do the demographics of non-applicants compare to applicants?
- 3 What do people know but don't tell us when applying for insurance?
- 4 How effective are "filter" questions?
- ... and many others

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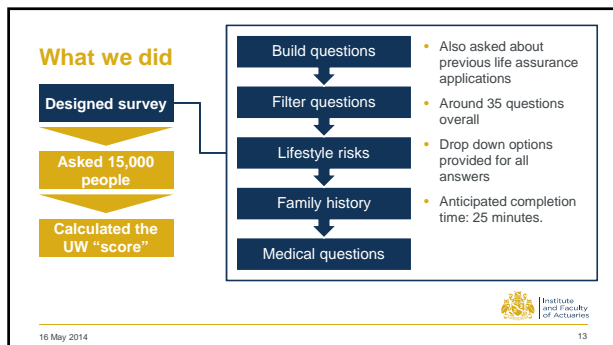
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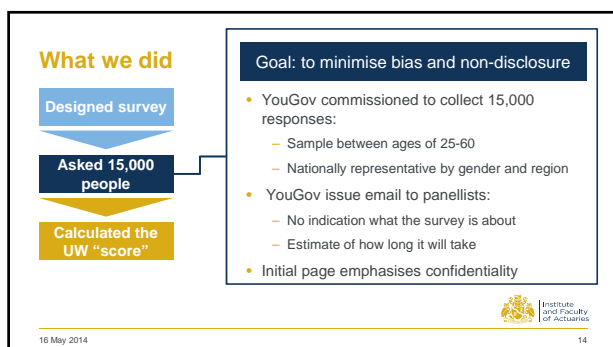
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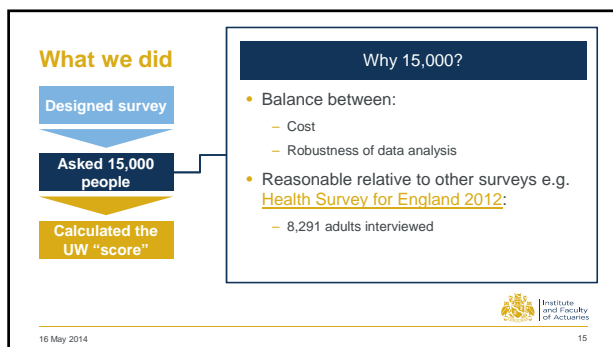
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### What we did

Designed survey

Asked 15,000 people

Calculated the UW "score"

**"Score" = approximate UW loading**

- For each disclosure:
  - Nothing adverse = 0
  - Rateable = +typical mortality loading
  - Probable decline or postpone = +500
- Approximations necessary, so aimed at enough detail to identify four groups of lives:
 

Standard	Heavily rated
Lightly rated	Uninsurable

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### Comparison to using application data

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>✓ Full breadth of British population</li> <li>✓ No incentive to under-disclose</li> <li>✓ No sentinel effect</li> </ul>	<ul style="list-style-type: none"> <li>✗ UW decisions are approximate</li> <li>✗ Less important to tell the truth</li> <li>✗ Survey cost money</li> </ul>

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### What we got

- ✓ 15,127 survey responses
- ✓ 13,615 UW scores:
  - After removing any "don't know / prefer not to say" responses
- ✓ YouGov weightings to reflect British population
- ✓ Profile information:
 

• Age	• Marital status	• Income & employment
• Gender	• Children	• Social grade

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## Population comparison

Survey v population  
Survey v insurance applicants



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## Survey v population

Excellent match to population by age and gender

Mix of Gender and Age – our sample				Mix of Gender and Age – ONS Population Estimates for 2012			
	Male	Female	Total		Male	Female	Total
25-34	13%	14%	27%	25-34	14%	14%	29%
35-44	15%	15%	30%	35-44	14%	15%	29%
45-54	15%	14%	29%	45-54	15%	15%	30%
55-60	7%	7%	14%	55-60	6%	6%	12%
<b>Total</b>	<b>50%</b>	<b>50%</b>	<b>100%</b>	<b>Total</b>	<b>50%</b>	<b>50%</b>	<b>100%</b>

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## Survey v population

Survey slightly more "up market" than population

HMRC income data	IPSOS/MORI social class poll
<ul style="list-style-type: none"> <li>More earners over £50,000 relative to whole population</li> <li>But our survey is for lives aged 25-60 i.e. peak earning years</li> </ul>	<ul style="list-style-type: none"> <li>Poll of adults aged 15+ in 2008</li> <li>About 10% more ABC1s in RGA survey</li> </ul>

Exact comparisons are hard, in particular due to different age ranges.

But reasonable to expect online panellists to be over-representative in this direction.

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### Survey v insurance applicants

Survey lives who have previously applied				Survey lives who have never applied			
	ABC1	C2DE	Total		ABC1	C2DE	Total
25-34	14%	5%	20%	25-34	24%	16%	40%
35-44	22%	9%	31%	35-44	15%	11%	27%
45-54	21%	11%	33%	45-54	11%	10%	21%
55-60	10%	6%	16%	55-60	6%	5%	12%
<b>Total</b>	<b>68%</b>	<b>32%</b>	<b>100%</b>	<b>Total</b>	<b>57%</b>	<b>43%</b>	<b>100%</b>



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### Disclosure comparison

Survey v insurance disclosures:

- What's different?
- Why?



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### Survey v insurance applicants

We have two ways of doing this comparison:

- Use the survey itself:
  - Final question asked about prior life insurance applications
- Use insurance application data



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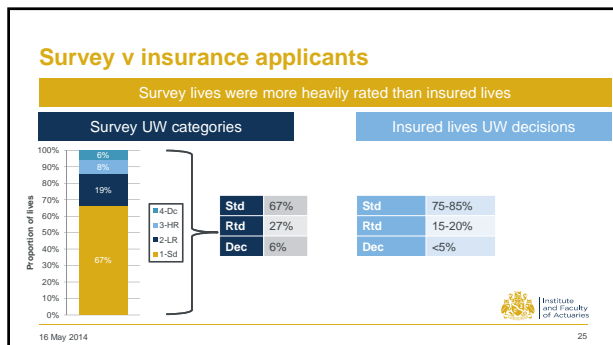
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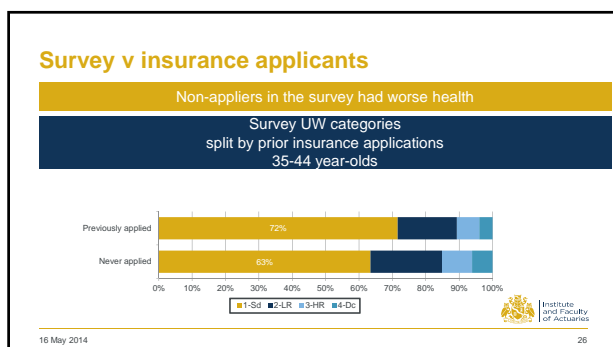
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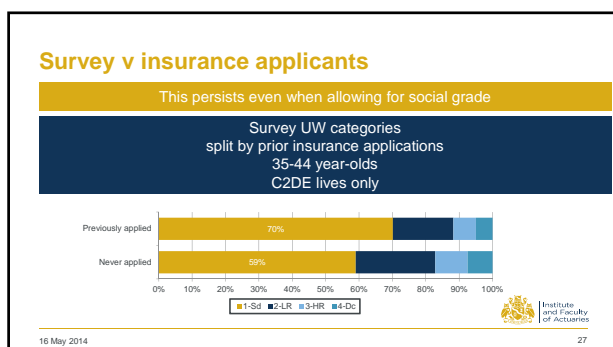
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### Survey v insurance applicants

Survey lives more likely to make lifestyle disclosures

	Survey lives	Insured lives
>40 units of alcohol per week	3.8%	<1%
Recreational drugs in the last 5 years	7.3%	<1%



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### Survey v insurance applicants

Survey lives more likely to disclose mental illness

	Survey lives	Insured lives
Rated or declined due to mental illness	5.4%	~2%?



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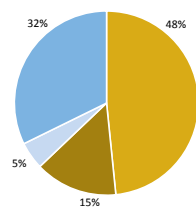
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### Claims declined - alcohol / drugs / mental health



■ % Alcohol declines  
 ■ % of mental health declines  
 ■ % of drugs declines  
 ■ % of other

- 68% of all death claims declined was either due to alcohol, drugs or mental health misrepresentation
- Almost half of death claims declined were due to alcohol misrepresentation
  - Almost 75% were male
  - Almost 25% from Scotland and Wales
  - Most occupations C2DE
  - Trend of retired lives



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## Survey v insurance applicants

### Conclusions:

- 1 Survey disclosures are higher for:
  - Alcohol
  - Drugs
  - Mental illness
- 2 Lives who have never applied for life insurance are in worse health, even after allowing for:
  - Age
  - Social grade
- 3 Alcohol, drugs and mental illness account for the majority of why insurers decline death claims
  - Mostly males
  - Mostly C2DE



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## Ideas for alternatives

What we could do differently



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## What we could do differently

For those who accidentally fail to disclose important information:

- |  |   |
|--|---|
| <b>Change the context</b>              | Make the application feel less like a "pass or fail" interrogation and more of a discussion |
| <b>Make the process more engaging</b>  | Apply a more graphical approach to questions that commonly attract under-disclosure         |
| <b>Monitor the application process</b> | Identify applicants who answer key questions unreasonably quickly                           |



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### What we could do differently

For those who deliberately fail to disclose important information:

#### Monitor the application process

Identify applicants who change answers or hesitate over key questions

#### Targeted post-issue sampling

Use predictive models to identify lives most likely to have non-disclosed and focus sampling there

#### Targeted pre-sampling

Could this even be done "live" during the application process?



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### What we could do differently

Some slightly more crazy ideas...

#### Put pictures of clocks all over the application form

People thinking about **time** lie less than people thinking about **money** (according to [The Economist](#) anyway)

#### Gamify the application process

Games are already being used to generate leads. Could they also generate disclosures?



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### Questions

### Comments

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.

The views expressed in this presentation are those of the presenters.



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