

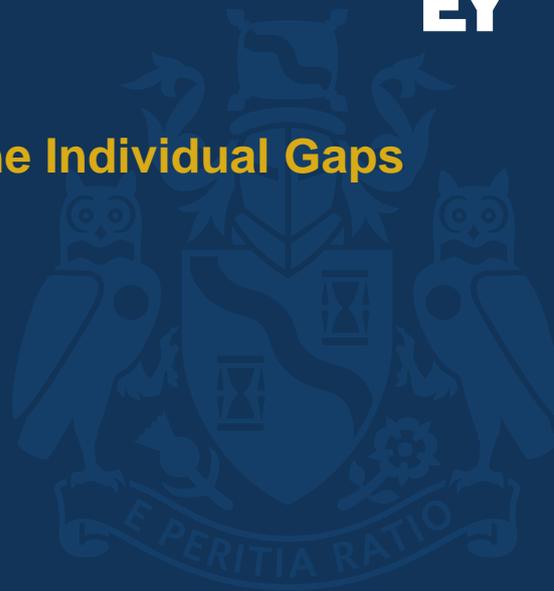


Institute  
and Faculty  
of Actuaries



## Group Business – Filling the Individual Gaps

Alexis Iglauer, PartnerRe  
Carl Ghiselli, EY



### Agenda

- Group insurance
- Defining analytics
- Producing value for the insured: both employer and employee
- Producing value for the insurer



Institute  
and Faculty  
of Actuaries



Institute  
and Faculty  
of Actuaries

## Group insurance

## Group insurance origins

Ancient Rome



Roman burial societies

1912



First modern group policy

Today



Group insurance is offered in every country with an insurance market

- Originally grew due to wage/salary caps, where benefits or other coverages didn't count toward the cap (US)
- Insureds have something in common – other than the desire to purchase coverage
  - Usually through an employer or an affinity group
- Lower cost, higher volume and in general greater predictability than individual insurance

Typical coverages:

- Life
- Income protection or disability
- Health
- Dental
- Critical illness
- Vision



Institute  
and Faculty  
of Actuaries

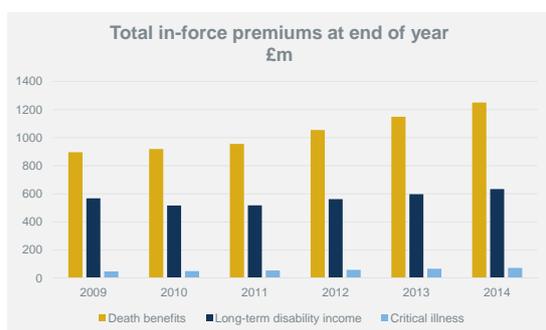
## Group vs. individual

Nearly everyone who is employed has a combination of individual and group coverages

	Group	Individual
How it is sold	Through a broker to the employer	Agent or direct
Who it covers	Usually only the employee, with buy ups for family	Individuals or policies cover multiple people
How it is funded	Employer may pay for some or all, or just provide access to group rates	Individual pays entire premium
Underwriting	No individual underwriting	Underwriting is likely to be performed
Tax	Both employer and employee contributions are often tax advantaged	Premiums may be tax advantaged (depends on tax regime)
Coverage length	As long as employed, usually guaranteed renewable; insurer can cancel or change premium	Depends on the cover, from annual to term or whole life; products may be able to change premium though many will not
Coverage amounts	Standardised based on the type of coverage (i.e. multiples of salary)	Any
Portability	No	Yes

## The UK market

The UK group market has shown consistent growth



### Market observations

- Group Life Insurance is a comparatively small and specialist component of the UK Life insurance market – premium of £5.9bn (4%) out of a total market of £141.7bn
- There are c68,000 in force schemes (up 2% in 2014)
- By comparison, Group Pension gross written premium was £80.6bn in 2013
- UK government has introduced a single-tier state pension (citizens qualifying will receive a standard rate of £155.65 per week)
- Other coverages are becoming more common (e.g. PMI), but remain small relative to life and disability



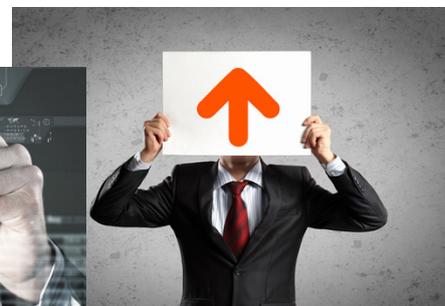
Institute  
and Faculty  
of Actuaries

## Defining analytics



## What is (are?) analytics

Analytics is the discovery, interpretation, and communication of meaningful patterns in data.



Institute  
and Faculty  
of Actuaries

Image Source: Fotolia.com  
Definition: <https://en.wikipedia.org/wiki/Analytics>

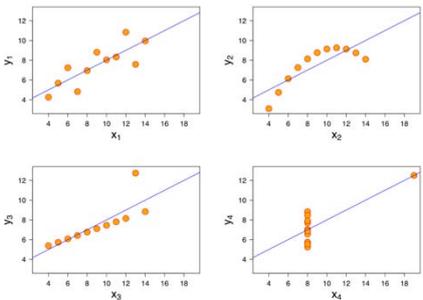
# Descriptive analytics

## Numeric methods

I		II		III		IV	
x	y	x	y	x	y	x	y
10.0	8.04	10.0	9.14	10.0	7.46	8.0	6.58
8.0	6.95	8.0	8.14	8.0	6.77	8.0	5.76
13.0	7.58	13.0	8.74	13.0	12.74	8.0	7.71
9.0	8.81	9.0	8.77	9.0	7.11	8.0	8.84
11.0	8.33	11.0	9.26	11.0	7.81	8.0	8.47
14.0	9.96	14.0	8.10	14.0	8.84	8.0	7.04
6.0	7.24	6.0	6.13	6.0	6.08	8.0	5.25
4.0	4.26	4.0	3.10	4.0	5.39	19.0	12.50
12.0	10.84	12.0	9.13	12.0	8.15	8.0	5.56
7.0	4.82	7.0	7.26	7.0	6.42	8.0	7.91
5.0	5.68	5.0	4.74	5.0	5.73	8.0	6.89

Property	Value
Mean of x in each case	9 (exact)
Sample variance of x in each case	11 (exact)
Mean of y in each case	7.50 (to 2 decimal places)
Sample variance of y in each case	4.122 or 4.127 (to 3 decimal places)
Correlation between x and y in each case	0.816 (to 3 decimal places)
Linear regression line in each case	$y = 3.00 + 0.500x$ (to 2 and 3 decimal places, respectively)

## Graphical methods



Source: [https://en.wikipedia.org/wiki/Anscombe%27s\\_quartet](https://en.wikipedia.org/wiki/Anscombe%27s_quartet)

# Predictive analytics



Image Source: Fotolia.com



Institute  
and Faculty  
of Actuaries

## Providing value for the insured

Both employer and employee

11

## Current wellness programs



Culture has shifted, employers are not just to provide a safe work environment, but are expected to care for their employees' physical and mental welfare.

- Wellness benefits/programs have been around for a long time:
  - They have focused on having a healthy population, reducing absenteeism and healthcare costs
- Nearly 2/3 of companies offer 'wellness programs', with the most popular ones being:
  - Flu vaccines
  - Nurse-lines
  - Rewards for completion of programs
  - Health risk assessments



Institute  
and Faculty  
of Actuaries

Source: 2016 SHRM Employee benefits survey

12

## There is more to wellness than the physical

Issues	% of adults expressing concern	
	London	UK
Family well-being	84	72
State of health service	82	80
Cost of living	82	70
Personal level of health/fitness	80	59
Way the Government is running the country	74	73
Financial well-being	74	60
Job satisfaction	73	52
Standard of living	72	48
State of the economy in Britain	72	63
The threat of terrorism in this country	70	61
Neighbourhood crime levels	70	55
Traffic in local area	69	48
Immediate surroundings where you live	69	48
Level of contact with family and friends	67	50
Personal stress levels	66	48
Local education facilities	64	44
Job security	64	51
Work/life balance	64	49
Saving the countryside	61	66
Investment climate in Britain	53	40
Level of noise where you live	52	30
Journey to work	48	26

Source: <http://www.dailymail.co.uk/health/article-201244/Revealed-biggest-fears.html>  
<http://citywire.co.uk/money/one-in-four-middle-aged-people-care-for-elderly-parents/a586605>  
<https://www.citizensadvice.org.uk/>

There are other needs that are more financial

- From a survey of households with >£70k in income:
  - 25% worry regularly about their debts
  - 50% worry about their family's future (education, savings, pension)
  - 40% worry about job security (income)
- Many people care for their parents
  - 25% report taking an active role in caring for their parents

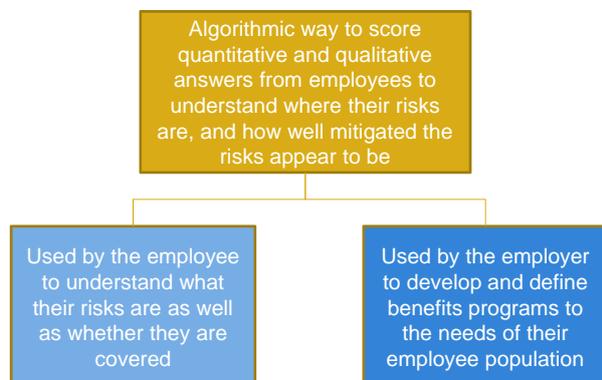


Institute  
and Faculty  
of Actuaries

13

## Financial wellness

Any more it is not enough to just provide insurance, employees expect engagement and consideration of the actual risks they face



- Financial wellness is important to continuity of life for workers and families
- Provides an index as to how well you/the group is covered relative to defined financial risks
  - E.g. Life, loss of income, retirement
- Can be over-covered or under-covered
- Simple, easy to understand metrics on your financial picture

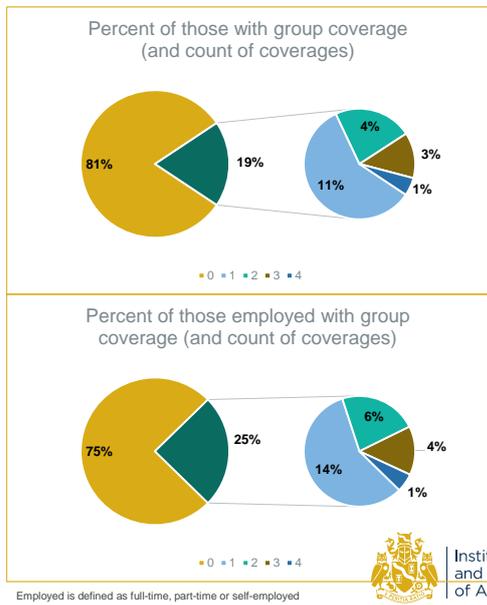


Institute  
and Faculty  
of Actuaries

14

## The value of group benefits

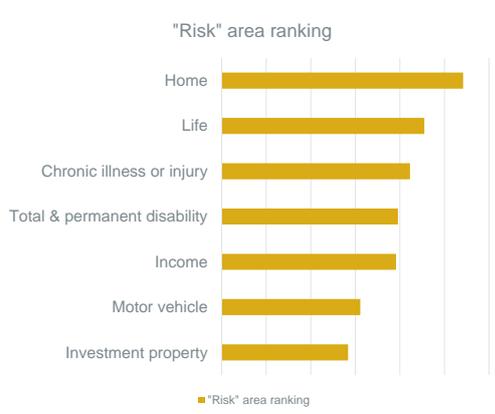
- Why you would provide group benefits as an employer
  - Employee attraction and retention (paternalistic aims)
  - Tax advantages
  - Reduces cost of cover
  
- Why you would want benefits as an employee
  - Make you feel valued
  - Lowered cost of cover
  - No underwriting
  - Cover prime earning years more effectively
  - Access to cover you may not get on your own
  - Tax advantages



Source: EY research

## The Financial Wellness Index survey

Rank each in terms of their importance to you to be protected.



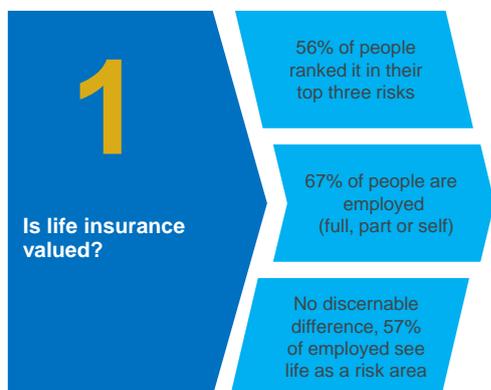
<p><b>74%</b></p> <p>Of people surveyed ranked their home in the top three</p>	<p><b>77%</b></p> <p>Obtained insurance to cover this risk</p>
<p><b>56%</b></p> <p>Of people surveyed ranked their life in the top three</p>	<p><b>48%</b></p> <p>Obtained insurance to cover this risk</p>



Source: EY research

## Life insurance survey review

Life insurance is often a group coverage, as well as one expected to be valued by the individual



Life insurance makes a good case study, it is often sold and not bought – but through a group there is a natural touchpoint and ease of sale:

- Often the employer subsidises the coverage
- There is usually no underwriting for the base benefit offerings
- Premium is calculated at a group level, and is usually lower than a retail premium



Institute  
and Faculty  
of Actuaries

17

## Life insurance survey review

Life cover is not as common as could be expected based on risks identified



Institute  
and Faculty  
of Actuaries

18

## Life insurance survey review

Group life cover is purchased at the same rate regardless of how you view your risks



Institute  
and Faculty  
of Actuaries

19



Institute  
and Faculty  
of Actuaries

## Producing value for the insurer

20

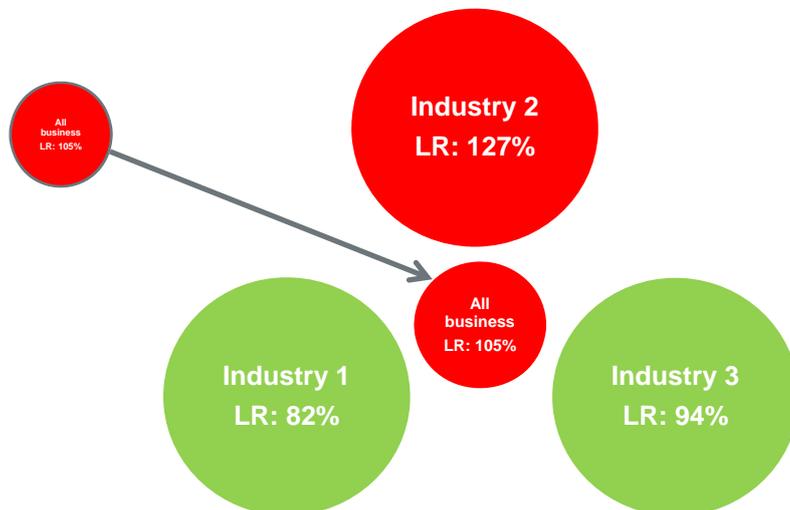
## Improving the value proposition

- Business segmentation
  - More accurate pricing
- Predictive pricing
  - What will be the impact of workplace measure X?
- Improved claims management
  - Targeting
  - Monitoring

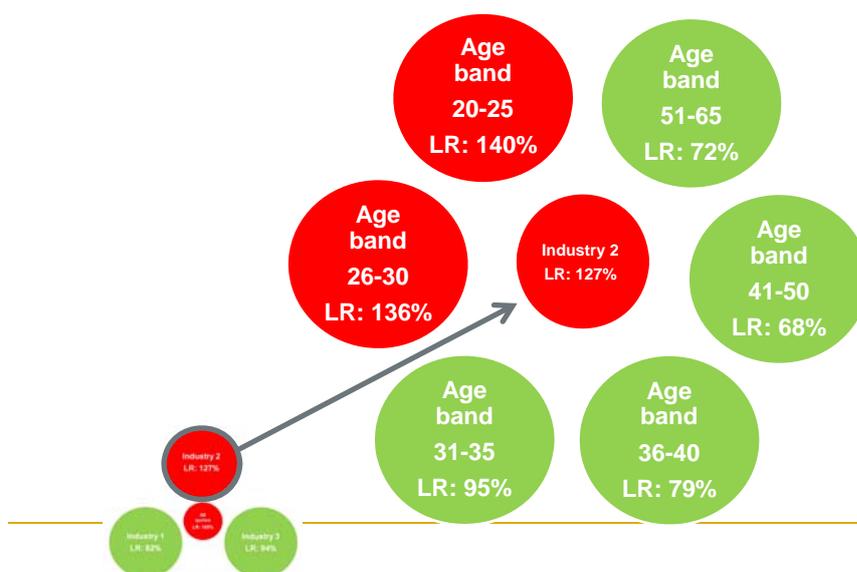
## Business Segmentation



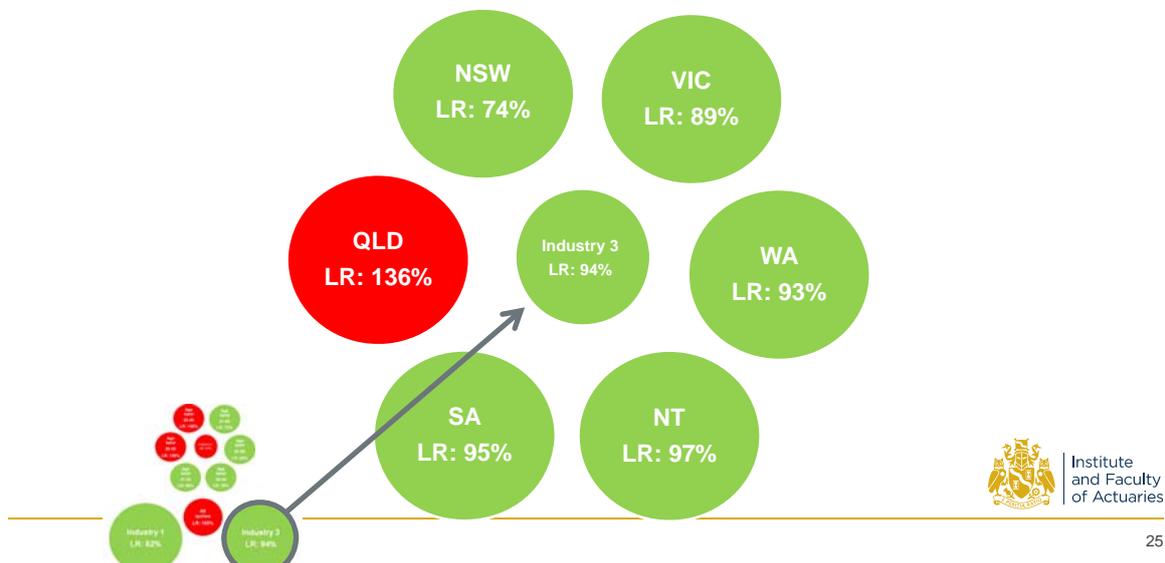
## Business Segmentation



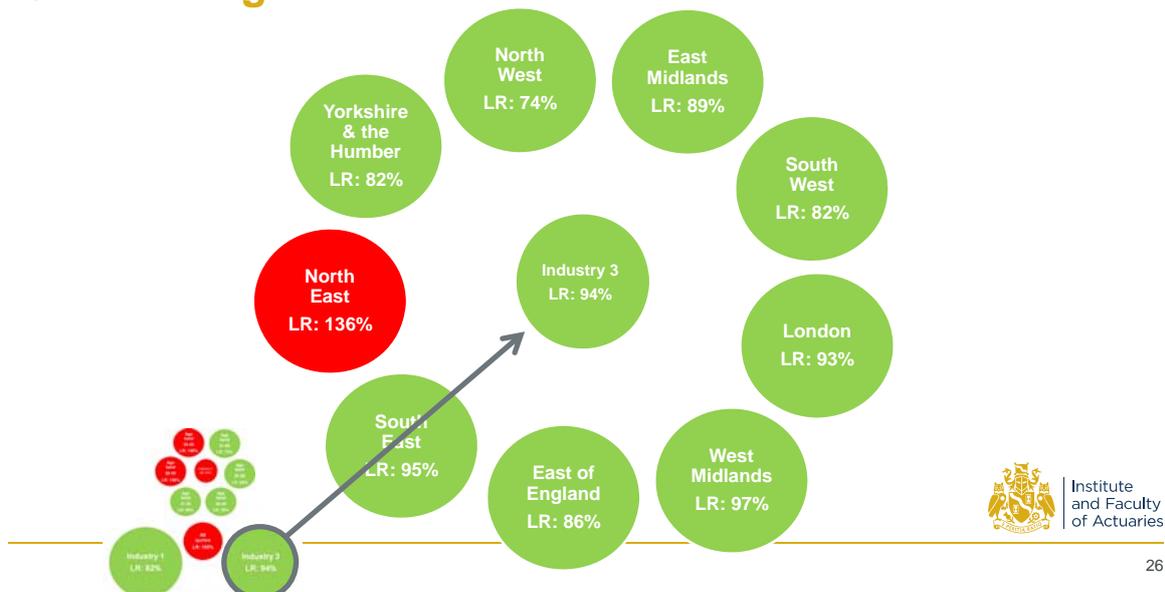
## Business Segmentation



## Business Segmentation



## Quotes insights - interactions



## Challenge #1 – data, data everywhere

In-Force



Accounting



Quotes



Claims



Wearables



Social Media



Browser history



Phone movement



Shopping history

Absenteeism



Institute  
and Faculty  
of Actuaries

Image Source: Fotolia.com

27

## Challenge: aggregating this data into a coherent whole

- Insurers are natural aggregators for this data
  - Knowledgeable about data protection
  - Extensive data storage infrastructure
  - Actuaries used to drawing conclusions from data
- Or are they?
  - Data protection a competitive disadvantage?
  - Tech companies store lots of data on very modern infrastructure
  - Data Analysts better trained in modeling techniques
  - Competition is fierce



Institute  
and Faculty  
of Actuaries

28

## Challenge #2 – models don't know the business

- Multidisciplinary team
  - Data engineers
  - Analysts
  - Actuaries
  - Underwriters
- Experienced practitioners
- Management buy-in
- Benevolent IT

**Questions**

**Comments**

The views expressed in this [publication/presentation] are those of invited contributors and not necessarily those of the IFoA. The IFoA do not endorse any of the views stated, nor any claims or representations made in this [publication/presentation] and accept no responsibility or liability to any person for loss or damage suffered as a consequence of their placing reliance upon any view, claim or representation made in this [publication/presentation].

The information and expressions of opinion contained in this publication are not intended to be a comprehensive study, nor to provide actuarial advice or advice of any nature and should not be treated as a substitute for specific advice concerning individual situations. On no account may any part of this [publication/presentation] be reproduced without the written permission of the IFoA [or authors, in the case of non-IFoA research].