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# Life Insurance & Actuaries of 2025

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14 November 2013

## Introduction

### We will cover:

- An overview of how we got to where we are
- Current key features
- Where are we heading?

### Considering:

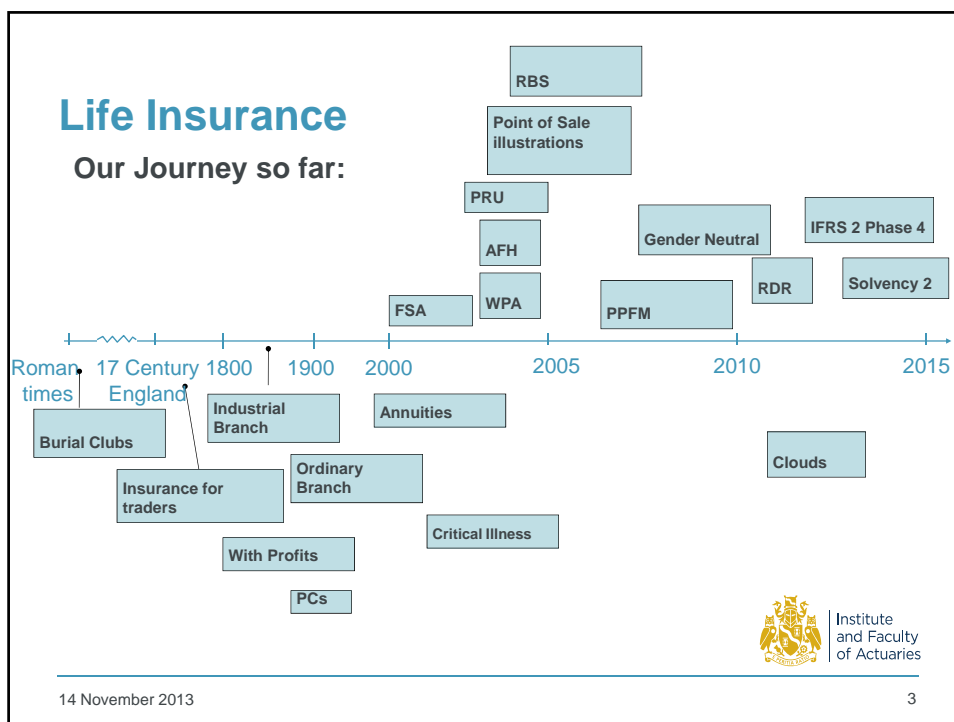
- Life insurance industry
- Actuarial skills and education



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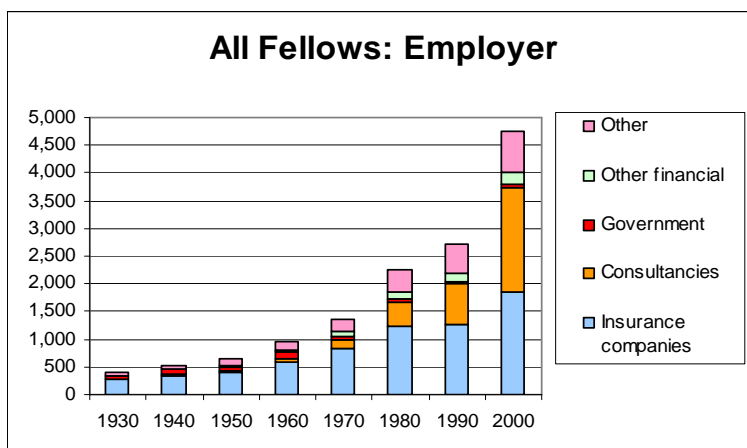
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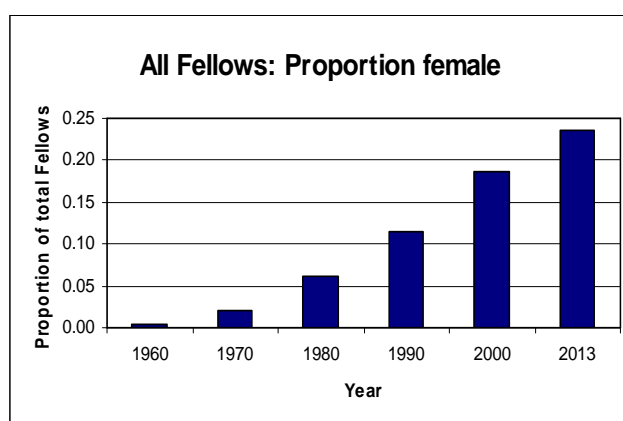
## Life insurance – Traditional roles

- Appointed Actuary / Appropriate Actuary
- AFH/WPA
- Financial Reporting
- Pricing
- Marketing
- Modelling
- Reinsurers
- Consultancies

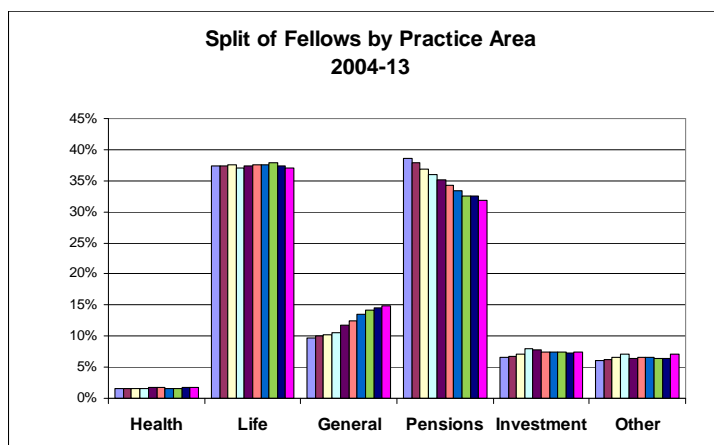
## Our membership - history



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## Our membership - history

### Key features:

- Significant increases in membership numbers
- Shift away from male bias
- Increased proportions in “non-traditional areas”
- Increased proportions working in consultancies rather than insurance companies
- Increased proportions based overseas
- Life insurance remains a dominant proportion of the overall membership



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## Actuarial education - history

### 1930 Syllabus of Examinations: Life insurance content

- Compilation of office premium rates for assurance and annuities
- Valuation of life assurance and employers' liability insurance contracts
- Valuation of friendly societies, the treatment of resulting surplus and problems connected therewith
- General provisions of the Acts relating to such companies
- Analysis and distribution of surplus and other practical problems arising on the valuation of life assurance; surrender values of policies
- The investment of the funds of insurance companies, friendly and other provident societies; the valuation of investments
- Valuation of life interests and reversions



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## Actuarial skill sets - history

### 1954 “Would you like to be an Actuary?”

“Are you fond of mathematics? Would you like to apply your mathematics and your general knowledge to work which is useful and of importance to everyone?”

“Talk it over with your parents and with your mathematics master and, if you know of an old boy of your school who is an actuary, have a talk with him – he would certainly be pleased to advise you.”

“It should be emphasised that although technical ability is an essential part of an actuarial qualification, ultimate success in an actuarial career depends upon other things also, such as those qualities of character which fit men to be leaders.”

“There are excellent opportunities for the right men.”



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## Life insurance today – Products

- Individual underwriting (concept of pooling loss)
- EU regulations
- Takaful insurance
- Aging population
- Increase in enhanced/impaired market
- Low interest rate environment
- Gender neutral – leads to age neutral?
- Genetics – but can we use this?
- Regulation/Tax/Government – pressure on charges, auto enrolment
- Internet
- Competition from other savings providers



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## Life insurance today – Actuarial roles

- Dwindling new with profits business, many funds in run-off
- Regulation
- More emphasis on risk function and “softer skills”
- Hugely complex models to measure capital
- Requirement for approximations as technology cannot keep pace – use of proxy models
- Fewer and fewer life companies due to consolidation
- Underwriting specialism
- Globalisation



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## Current membership

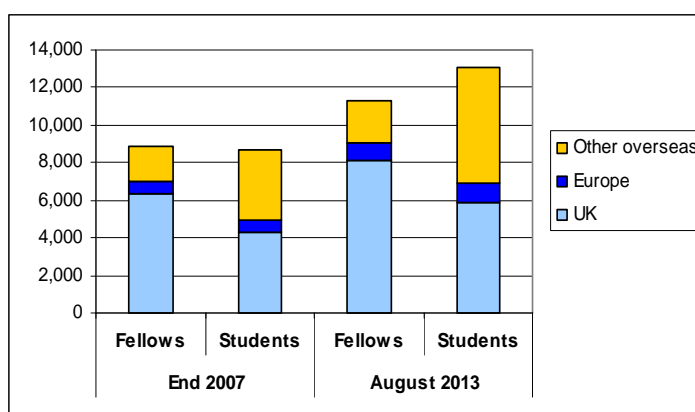
- August 2013: Total membership 25.4k (of which student membership >13k)
- Exam entries 2013: 13.6k April (9.3k 2007), 12.6k Sept (8.4k 2007)
- Only half new students have mathematics as their first degree; just over a quarter have actuarial science
- Largest proportion of new qualifiers cite life insurance as their key work area
- 40% of new qualifiers female
- Over 50% of students are based overseas



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## Current membership – by location



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## Actuarial education - present

- Core Technical subjects not purely mathematical
- Improvements in educational materials and tuition provision
- Shift to specialism area rather than broad-based
- Increased range of specialism areas available
- Greater focus on business and “softer” skills
- Use of Universities
- More use of Online delivery
- CERA



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## Actuarial education – “softer” skills

- Business awareness (CT9)
- Modelling (CA2)
- Communications (CA3)
- Work-based skills
- Professionalism

**“A guide to Becoming an Actuary” (2013/2014)**



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## What can we learn from other markets?

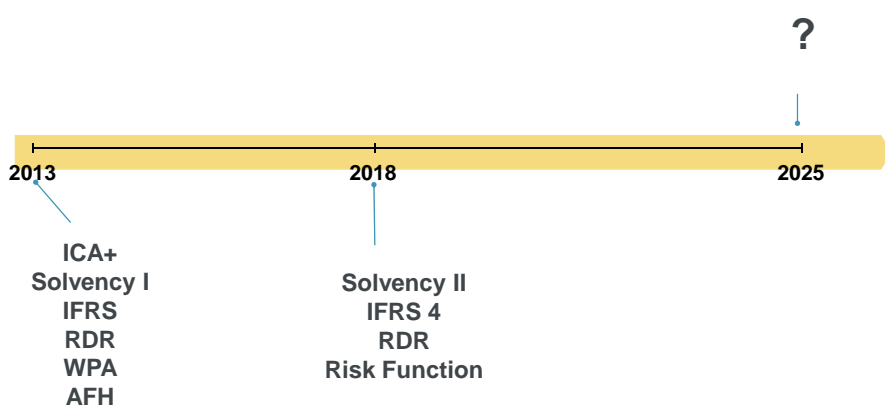
- Australia
- America
- South Africa/Asia/Africa/Middle East



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## Where are we heading? - Regulation



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## What do you think?

### Solvency II will be:

1. In force by year end 2016
2. Delayed until the Euro economy recovers
3. Adopted only by the UK
4. Abandoned completely and UK adopts ICA+
5. Don't know / don't care

**Result: Option 1 was the most popular but was closely followed by Option 4. There was also reasonable support for Option 2 in third place.**



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## What do you think?

### In 2025, in terms of statutory actuarial roles:

1. AFH and WPA roles will be maintained
2. Only the WPA role will be maintained
3. Only the AFH role will be maintained
4. A different actuarial role will be created
5. Don't know / don't care

**Result: Option 4 was the overwhelming winner.**

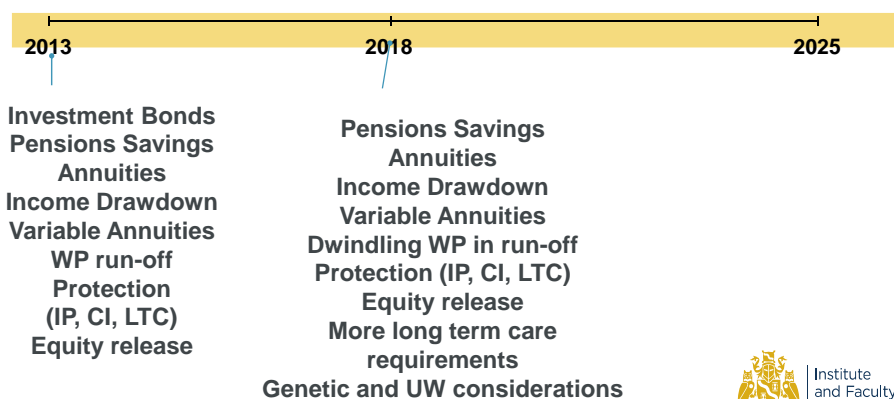


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## Where are we heading? - Products

?



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## What do you think?

**In 2025, products sold by life insurance companies will:**

1. Be dominated by simpler products bought over the internet
2. Be dominated by more complex products to mitigate low interest rates (Variable Annuities)
3. Be dominated by protection products, particularly long term care insurance
4. Not include savings products at all
5. Don't know / don't care

**Result: Option 1 was the most popular, followed by Option 3 and then Option 2 (little support for Option 4)**



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## What do you think?

**In 2025, underwriting/rating will be:**

1. Age neutral (same price, irrespective of age)
2. Mostly based on individual pricing
3. Driven by genetic testing
4. Similar to now
5. Don't know / don't care

**Result: Option 2 was narrowly the most popular, with Options 1 and 4 being difficult to separate for second place.**



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## What do you think?

**How many UK life insurance companies will there be actively selling new business in 2025?**

1. A few less than now
2. Half of current numbers
3. One or two
4. None at all
5. More than now

**Result: Option 2 was the most popular, followed by Option 1.**



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## Where are we heading? – Role & skills

### Old world

- Understand commutation functions
- Zillmerisation
- Deal with surplus distributions
- Product pricing
- Actuarial funding
- SV bases
- Perform experience analysis
- Build stochastic models
- Understand cohorts, impact of selection
- Limited “softer skills”

### Brave new world

- More granular experience analysis
- More complex stochastic models
- Understand cohorts, impact of selection
- Innovative product pricing
- Dealing with legacy systems
- Still need for risk transfer
- Need more “softer skills” to succeed
- Big data
- Technology



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## What do you think?

### The main opportunity for actuarial skills is:

1. Need to build more complex models
2. Need to simplify and de-mystify complex models
3. Movement into risk function
4. Movement into specialist underwriting roles
5. There aren't any opportunities; there will be fewer actuarial roles

**Result: Option 2 was the most popular by some margin, followed by Option 3 and then Option 1.**



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## Actuary of the Future: IAA

- Highly numerate, being able to understand, analyse and solve problems, making complex judgements and formulating commercial recommendations (not just restricted to financial services)
- High level of conceptual skills to complement the numeracy skills
- Being able to recognise and communicate the uncertainty in business decisions
- Working within multi-disciplinary teams to improve business outcomes
- Trusted advisors to businesses – influencing commercial decisions and decision-making



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## Institute of Actuaries in Australia: Actuarial Capabilities Framework

- Contribution to business strategy
- Leadership
- Actuarial approach to problem solving
- Valuing uncertain future cash flows
- Risk management
- Professional governance
- Product development, management and pricing
- Investment advice and governance



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## Changing skills requirements

- Analytical skills
  - “Big data”
  - Interpretation
  - Simplification of models?
- Softer skills / business skills
- More globalised / transferable skills?
- Increased interaction with (and competition from) other professionals?
- *Some educated views*



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## Actuarial education – changes?

- Specialism v. broad-based?
- UK v. global?
- Technical v. softer skills?
- University provision?
- Traditional exams v. open book or coursework based?
- Computer-based v. written?
- The role of online delivery?
- Analyst qualification



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## What do you think?

**Business and communication skills are best developed through:**

1. The actuarial qualification system
2. Employer training
3. On the job practice
4. None of the above – you can either do it or you can't
5. Don't know / don't care

**Result: Option 3 was clearly the most popular response, followed some way behind by Option 2.**



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## What do you think?

**The qualification system:**

1. Already equips actuaries well for the foreseeable future
2. Needs to do more in the technical subjects
3. Needs to do more in the non-technical subjects
4. Needs to do more in both technical and non-technical subjects
5. Don't know / don't care

**Result: The response was fairly evenly split between the extremes of Options 1 and 4.**



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## What do you think?

**Your 18-year old has expressed an interest in following in your footsteps to become a life insurance actuary. What is your response?**

1. What a great idea
2. It's entirely up to you, I'm staying out of it
3. Bad idea, but how about becoming a general insurance or health insurance actuary?
4. No way – do something completely different
5. Don't know / don't care

**Result: Option 1 was the most popular, followed by Option 2. A positive note on which to finish!**



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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 presenter.



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