



ACTUARIAL CAREER PATH WORKSHOP

Agenda

Overview

Insurance

Consulting

Insurance vs. Consulting

Nontraditional Actuarial Roles

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What is an actuary?

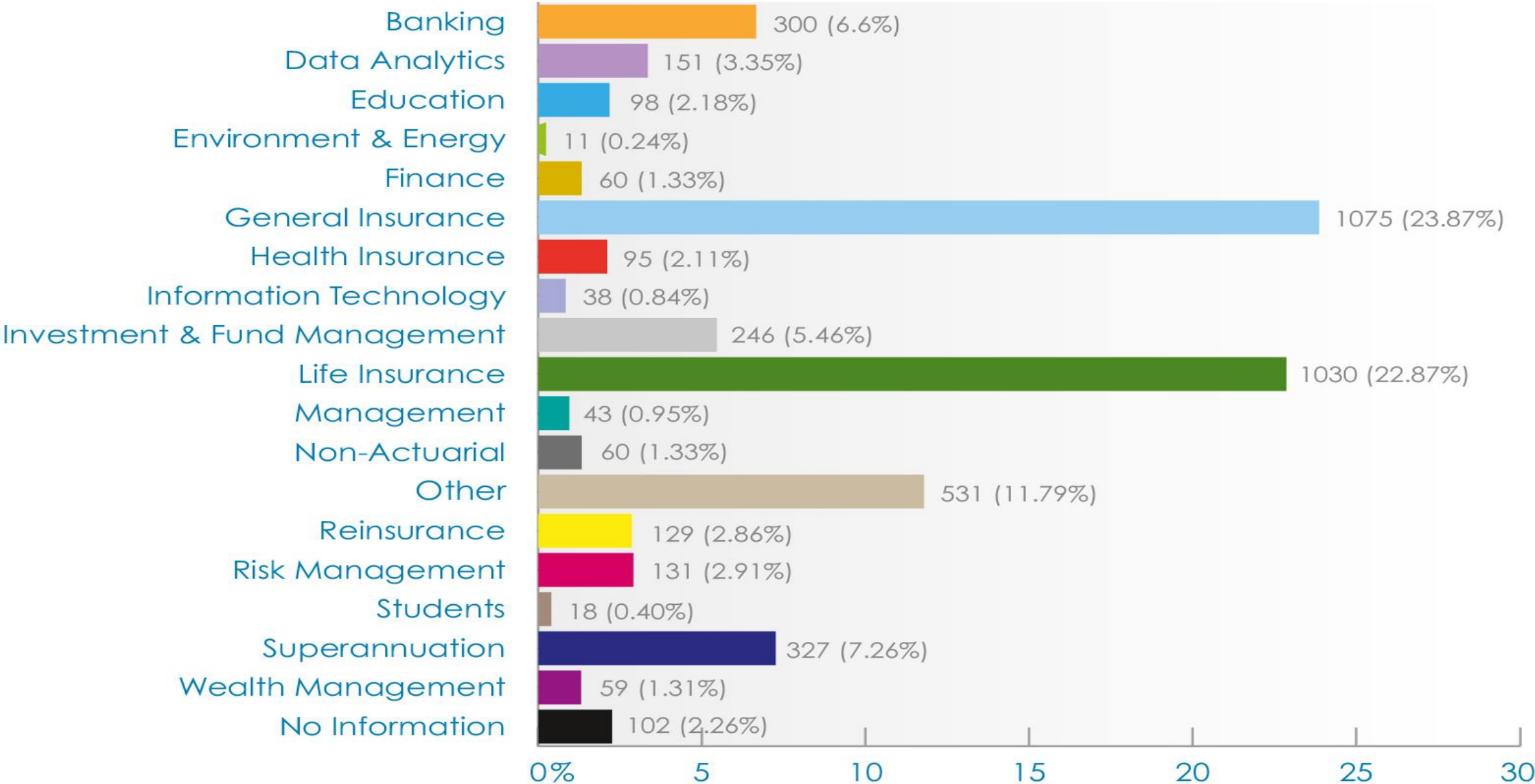
An actuary is a **business professional** who uses mathematical and statistical techniques to identify, quantify, and manage the risks that individuals and businesses face.



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Membership by Primary Practice Area





Why actuary?

Highest-paying Bachelor's Degrees (Source: [PayScale](#))

	Degree	Early Career Pay	Mid-Career Pay
1	Petroleum Engineering	\$94,600	\$175,500
2	Actuarial Mathematics	\$56,400	\$131,700
3	Actuarial Science	\$61,200	\$130,800
4	Nuclear Engineering	\$69,000	\$127,500
5	Chemical Engineering	\$70,300	\$124,500



High in demand

Actuaries' Expected Change in Employment (2016-26)



22%

2% annual growth
over a decade

All Workers' Expected Change in Employment (2016-26)



7%

0.7% annual growth
over a decade

(Source: [Bureau of Labor Statistics](#))

Overview

Insurance

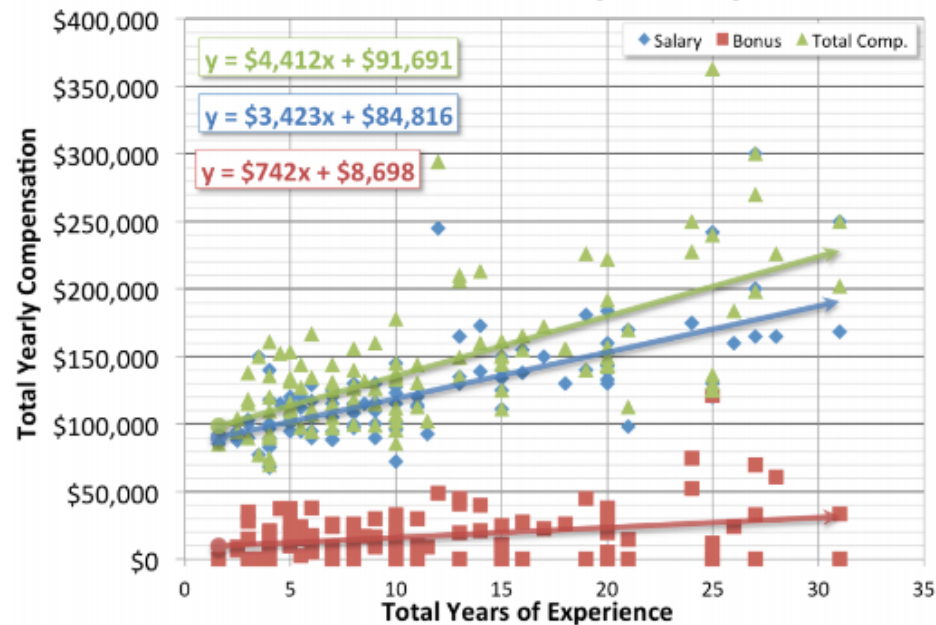
Consulting

Insurance
Vs.
Consulting

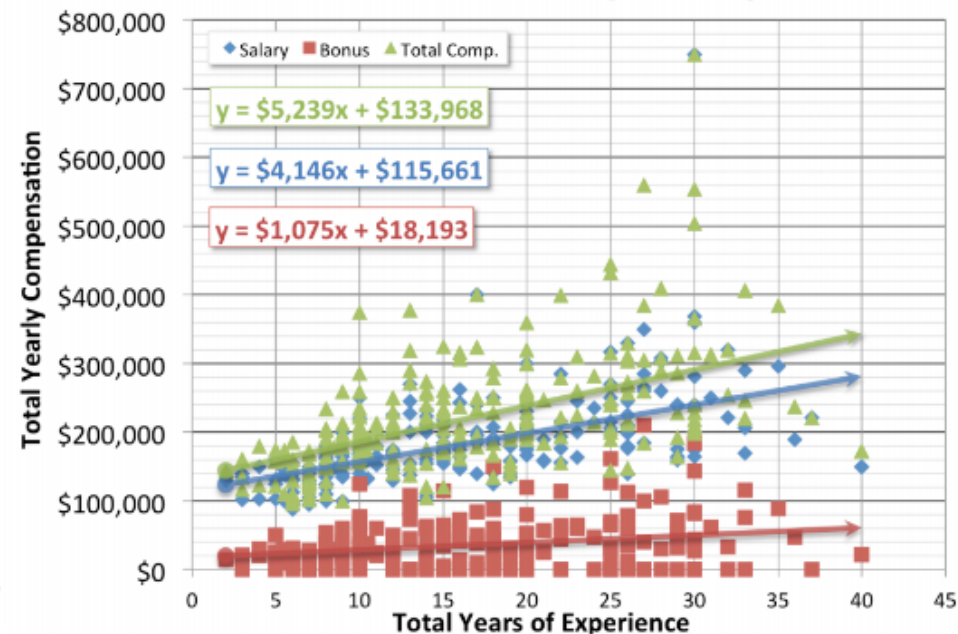
Other
Actuarial
Roles

Steady and prolonged salary growth!

2017 ACAS Salary Survey



2017 FCAS Salary Survey



(Source: [DW Simpson](#))

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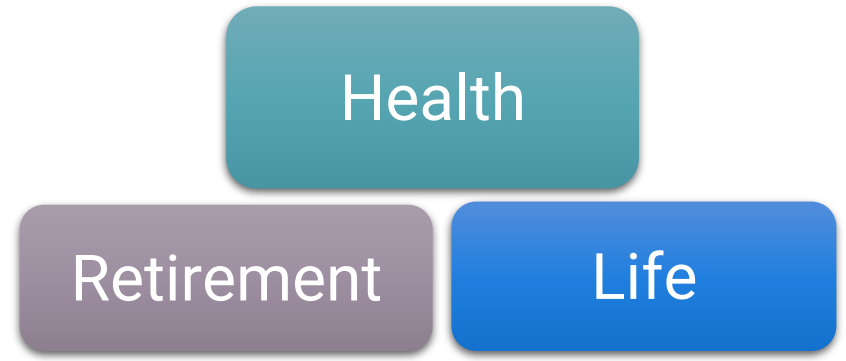


Casualty Actuarial Society

Property
&
Casualty
Insurance

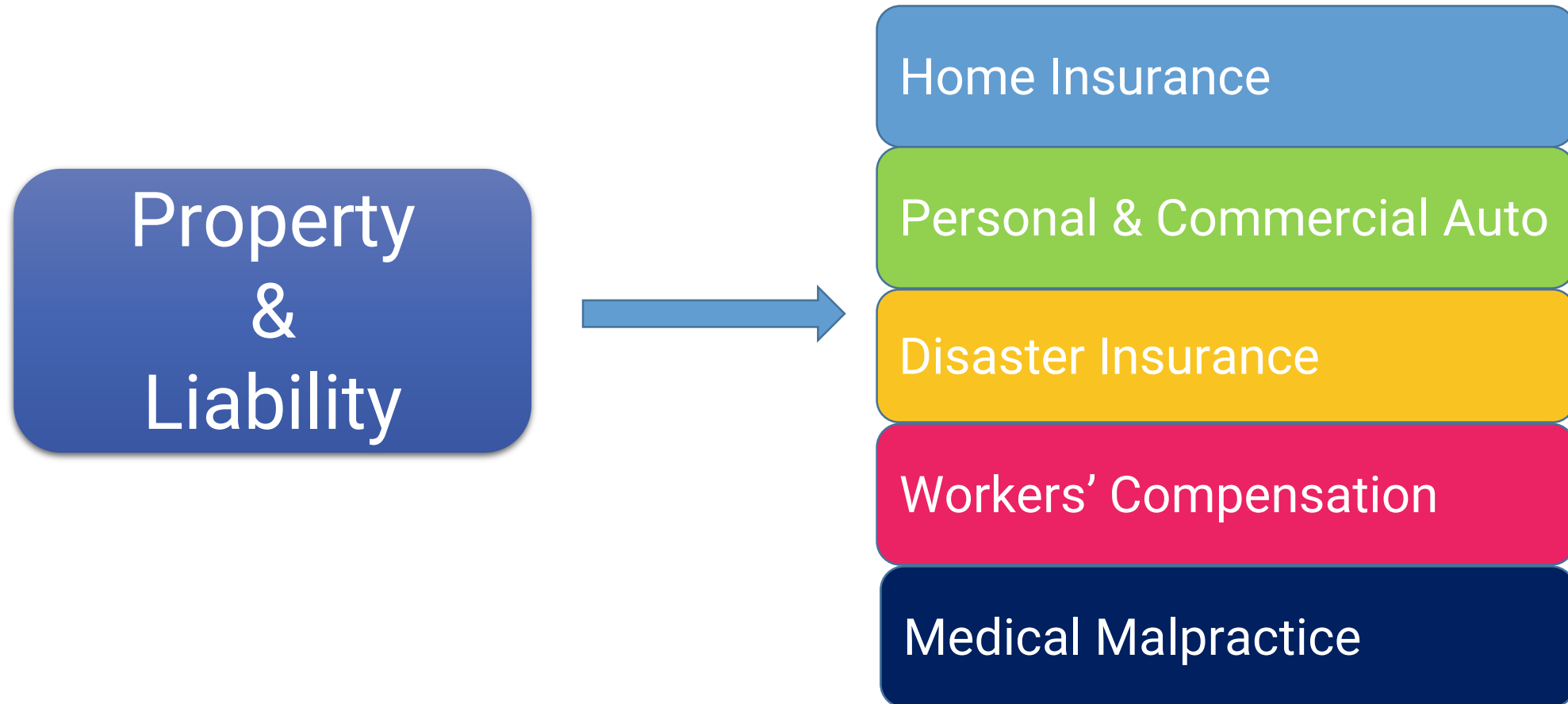


Society of Actuaries





Property & Casualty Insurance





Property & Casualty Insurance

Pricing	Reserving
Ex: How much more does AAA have to charge drivers who have a DUI conviction? How much discount can we give drivers whose cars have more airbags?	Ex: How much cash does Farmers have to keep on-hand to pay claims? How much can it use to invest for profit?

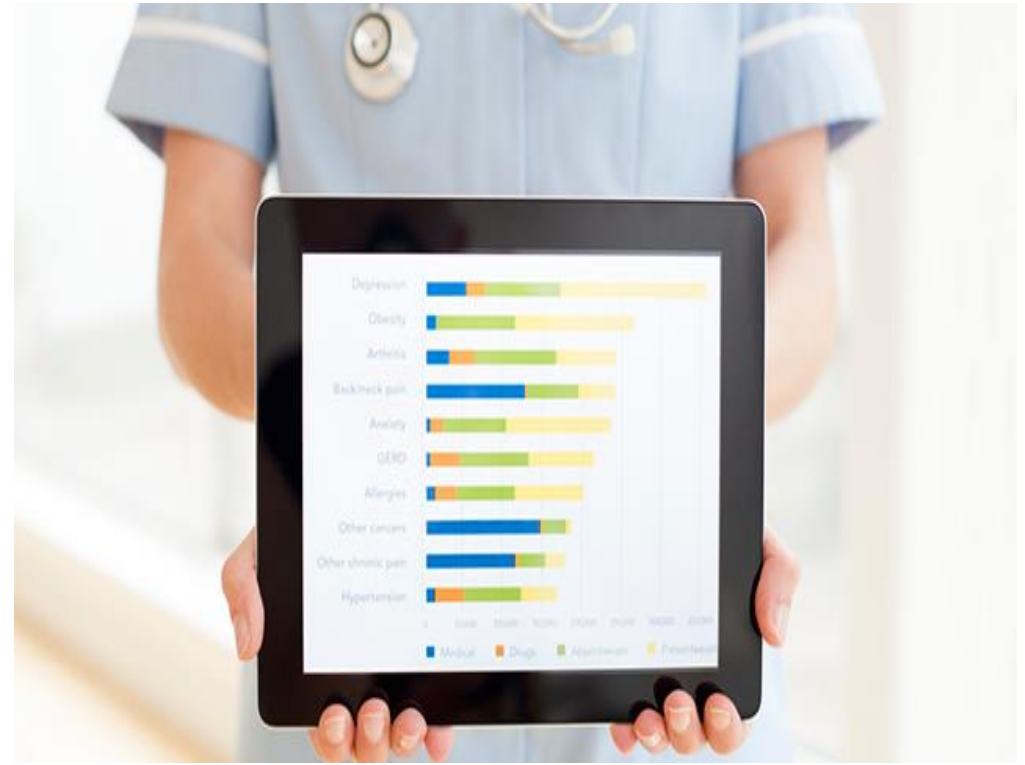
Property & Casualty Insurance Companies





Health Insurance

Health actuaries help draft rates/premiums to cover cost of care for individuals and work with hospitals, medical device manufacturers, doctors, and pharmacists to make the whole health system work more efficiently





Health Insurance



MEDICAL

VISION


DENTAL



Health Insurance

Pricing & Reserving	Healthcare Policy
Ex: How much more do we need to charge smokers to cover their higher risk? By how much can we lower premiums if we invest the premiums we collect?	Ex: What happened to premiums when the Affordable Care Act required all people to buy health insurance? What happens now that the individual mandate has been repealed?

Health Insurance Companies

blue  of california

 United
Healthcare


MOLINA
HEALTHCARE


KAISER PERMANENTE®

Anthem. 
BlueCross

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Life Insurance

- Life insurance actuaries develop annuity and life insurance policies for individuals and groups
 - Risk of diseases
 - General Health Levels
 - Location
 - Occupation





Retirement Insurance

- Retirement actuaries work on companies' **PENSION PLANS** and **401(k) BENEFITS**.
 - Age
 - Time until requirement
 - Mortality risk
 - Interest rate
 - Defined benefit versus defined contribution





Retirement & Life Insurance

Retirement	Life
Ex: Can a company's pension program remain solvent when interest rates are low for a long period?	Ex: What are some of the adjustments to a customer's life insurance if he is a heavy "vaper"?

Life Insurance Companies

American General
Life Companies



Mutual of Omaha



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Retirement Insurance Companies





Actuarial Consulting

- Advising clients on financial and insurance-related decisions for their companies
- Must be great communicators
- More common in Retirement and Health





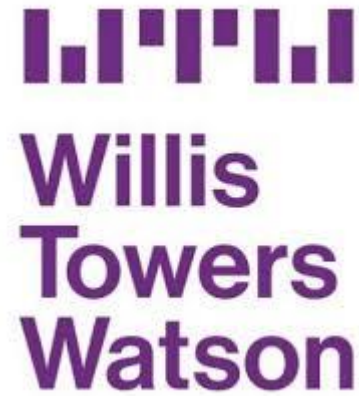
Examples:

Line of business	Typical tasks
Life	Clarify and analyze mortality rates
Health	Advise clients on the best healthcare plans for their company
Retirement	Help craft and price the best pension plan for their clients
P&C	Creating insurance products and providing strategic advice



Insurance	Consulting
More standard hours	Variable hours
Less travel	More travel
Less direct contact with clients	Work directly with clients often
Interact with various departments so you get a good idea of how the company works	Interact with various firms and clients so you get a better view of the industry as a whole

Actuarial Consulting Companies





Non-traditional actuarial roles

- Accounting/Auditing
- Government
- Banking/Finance
- Sports
- Meteorology
- Private corporations
- Teaching
- And many more!

In every industry, there are various risks and ways to maximize efficiency. This is where actuaries can step in!



Specialist Insurance

- Lloyd's of London (insurance market) has insured:
 - Bruce Springsteen's voice
 - David Beckham's legs
 - Egon Ronay's taste buds
 - Alien abduction insurance for ~30,000 policyholders



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Questions?

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