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Protection, Health & Care in 2050

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“The doctor of the future will give no medicine, but will instruct his patient in the care of the human frame, in diet and in the cause and prevention of disease”

Thomas Edison, 1903

Principle 4 of the NHS states: “It should support individuals to promote and manage their own health”.

Expertise
Sponsorship
Thought leadership
Progress
Community
Sessional Meetings
Education
Working parties
Volunteering
Research
Shaping the future
Networking
Professional support
Enterprise and risk
Learned society
Opportunity
International profile
Journals
Supporting

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Protection, Health & Care in 2050

- Trends in illness
- Developing treatments
- Economics of funding and preventing

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Non-Communicable diseases

Disease	Number of people annually (millions)
Cardiovascular	17.7
Cancer	8.8
Respiratory	3.9
Diabetes	1.6

Responsible for ~ 70% of all deaths globally:

- These account for 80% of premature deaths due to NCDs.



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Diabetes in the UK

- Total cost of diabetes treatment and complications is 10% (£14 billion) of NHS budget
- Absenteeism, early retirement and social benefits will equal this
- Currently 3.5 million people with diabetes
- Projected to be 5 million by 2025, this would be £20 billion in treatment costs
- Impaired Glucose Regulation (pre-diabetes) will add to this, current estimate is that 7 million people in the UK have this

Genetic developments

- Human genome sequencing project completed 2003
- Explosion in treatments since then
 - No longer novel for leukaemia relapses
 - Modification of skin grafts in epidermolysis bullosa
 - First “in body” treatment last year

The potential is huge

- Identify at risk individuals
- Specify drug targets
- Delete faulty genes
- Remove viral DNA
- Insert new genes
- Engineer bacteriophages
- Bioengineering for replacement organs

Review of Long Term Trends Affecting the Health Service – the Wanless review, 2002

- Developed 3 scenarios, with a recommendation for the “Fully Engaged” option:
 - High public engagement
 - High rates of technology uptake, particularly in relation to prevention of illness
 - Health status improves dramatically
 - Life expectancy beyond current forecasts
- “Genetics might have a significant practical impact”
- £154 billion (10.6% GDP) spend in 2022-23

Future NHS funding – plans to 2022-23

Scenario	Funding need (billions)	Proportion of GDP
Current	£128	6.9%
Follow current demand/cost	£141	7.5%
Increase in line with GDP	£137	7.3%

Assumptions:

- Activity increasing by 3% annually
- Efficiency (cost of each unit of care) 1.5%

Data from the Nuffield Trust



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How affordable is this?

- Most optimistic view £154 billion
- Current spending plans £128 billion
- Gap filled by.....
- Private funding and a focus on prevention to meet the Fully Engaged ambition
- Prevention focus needs to engage people
- And needs to be holistic (diet, exercise, sleep, mental health)



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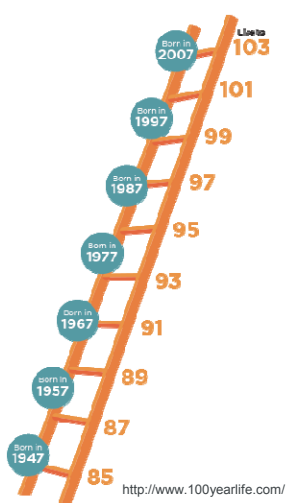
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Protection, Health & Care in 2050

- The Long Life (“The 100 Year Life”)
- Horizon Scanning and the Risk Spectrum
- What should Insurers begin doing now?

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The Long Life - Longevity Projections



- Born late 1960 – 1990, likely to live to mid 90s.
- Greater than 50% chance of living to 103 if born in 2007

Based on projections from
<http://www.mortality.org/>

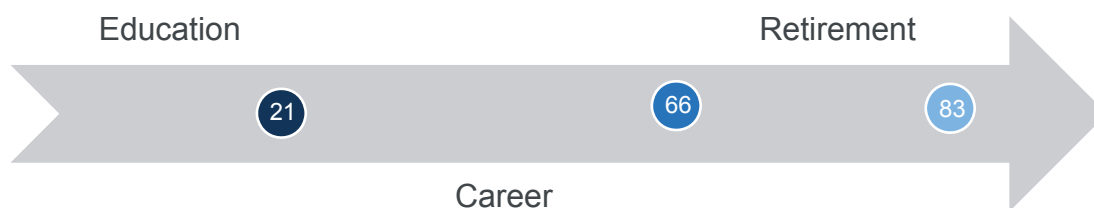


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Different Life Stages - Today

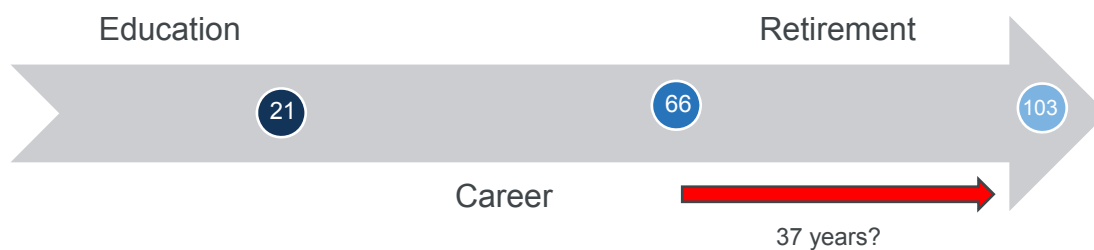


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Different Life Stages – Born since 2007?

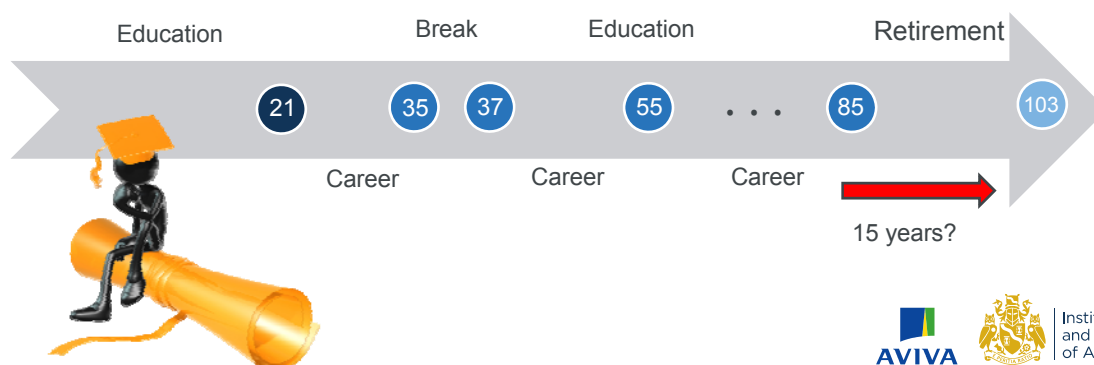


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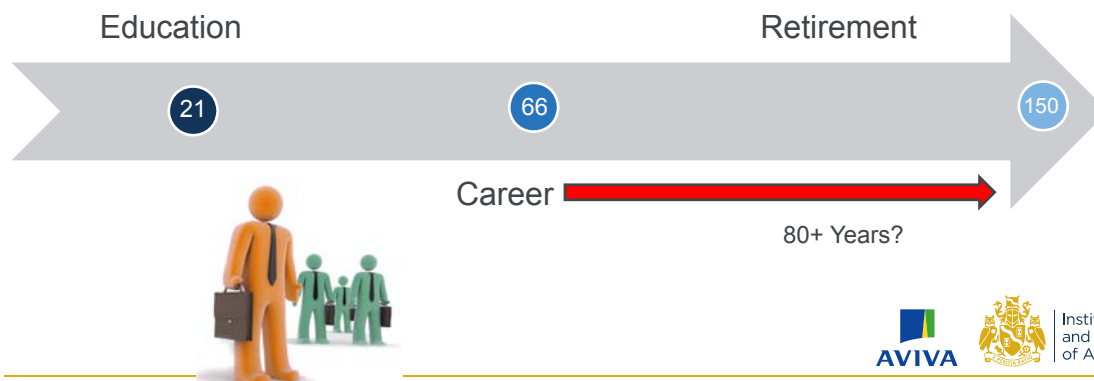
Different Life Stages – Born since 2007?



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Different Life Stages – Future?



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How do we reach this future?

- Preventative Medicine?
 - Immunisations
 - screening
- Regenerative Medicine?
 - Stem cells
 - Anti-Ageing Pharmaceuticals
- Back to Basics with Nutrition, Sleep and Exercise?



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What is required for a Long Life?

- Pension Planning
- Flexible Career Paths (and Breaks)
- Financial Planning
- Relationships
- Social/Economic Relationship
- Insurance??



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Horizon Scanning & The Risk Spectrum

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How do we reach this future?

- How do we Identify these areas?
- Risks & **Opportunities**



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Horizon Scanning

- A wide range of resources:
 - Journals (eg British Medical Journal)
 - Newspaper reports
 - Online medical websites
 - World Economic Forum
 - World Health Organisation
 - Futurists/Universities/Subject Matter Experts
 - Social media
- Wargaming sessions with wide range of staff

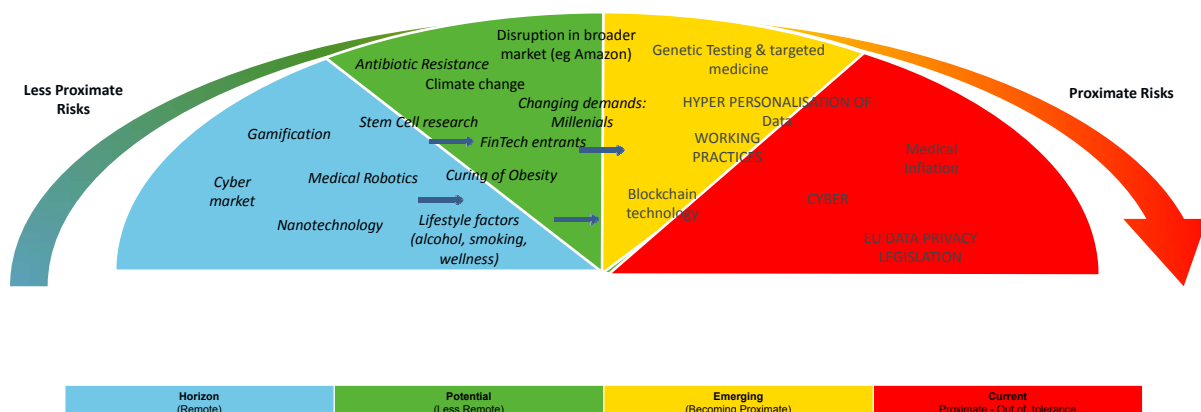


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Emerging Risk Spectrum



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Is this a Realistic view of the future?

Humans will one day live **FOREVER** and only die in accidents, claims scientist who believes **BLOOD transfusions** can keep people perpetually youthful

Cancer CURE? Patient beats terminal diagnosis with breakthrough trial

CANCER symptoms vary depending on what type of tumour it is, and where in the body it's found. One terminal cancer is still alive after a breakthrough treatment that kept his stomach cancer at bay.

By **HEALTH ADVISOR**
 10:00 AM, 10:00 AM, Feb 5, 2017 (UPDATED 10:00 AM, Feb 6, 2017)

How to
Reverse Diabetes
 Type 2

Part 1 with Dr. Jason Fung



Nobel scientist tells us we can live to 150

Advances in molecular science could see average lifespans of 120 years if scientists are to be believed

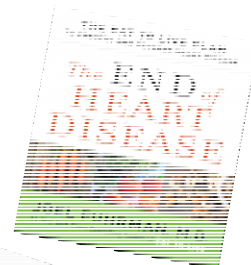
MEDICAL NEWS BULLETIN Find out your Ideal Weight

Can the Ghrelin System Help Cure Obesity and Diabetes?

Pacific Standard

A CALIFORNIA START-UP WANTS TO CURE ALZHEIMER'S WITH YOUTHFUL BLOOD

Alzheimer's is paralyzing patients' brains to see if injecting plasma into Alzheimer's patients can reverse the effects of the disease.



AVIVA



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What should the Insurers do?

Is this the end of Health & Protection Insurance as we know it?

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What can Insurers do now – Wellness Propositions?

- For many PMI products, musculoskeletal disorders (MSK) are around 31% of claims
- Do we have a responsibility to prevent these if we can (in-house physiotherapists?)
- Education on the basics?
 - Sleep/Nutrition/Exercise



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What can Insurers do now – Pricing?

- We have vast amounts of data
- We know the cost of many screening products (often already part of our PMI package, just bundled differently)
- The IFoA encourages actuaries to work in wider fields? (this includes development of existing fields)



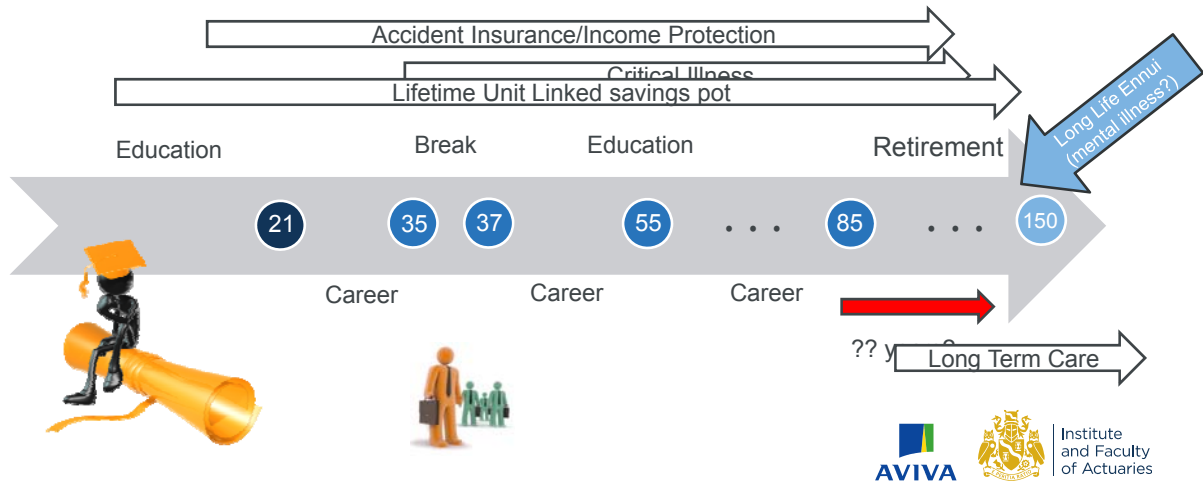
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What can Insurers do now – Products in 2050

- When modern disease is cured, or can be easily...



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Health, Protection & Care in 2050?

- Diseases and Illness will be preventable and curable
- People can live to 150+
- Act now and redefine our future before the tech companies do it for us
- Work with the other industries, not against them, we complement them
- Without imagining the future we can't answer the ethical questions

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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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