

Preface

- Tim Noakes
- Thanks to organisers, and attendees
- LC Superstars

• Drinking the same Kool Aid – limited difference and challenge

Choice



Swiss Re

- 153 yr old company
- No. 1/2 reinsurer in the world
- P&C and Life&Health
- Truly global
 - 10,000 employees
 - Over 70 offices globally
- Awesome vision

We make the world more resilient.



Why <u>reinsurance?</u>

→ Centre for Global Dialogue

→ Swiss Re Foundation

- Volatility of risk
- Capital requirements
- Unknown outcomes
- Diversity of risk (like gut flora)

Swiss Re and SAP co-innovate for financial reporting

Key topics

- Who benefits with the current status quo
- Who will benefit if the world shifted to LC?
- What is insurance
- Life and living benefits insurance
- We make risk decisions that are locked in for many decades
- Questions the industry will be asking
- How could the life insurance industry benefit?

Status quo...who benefits?

- Producing and Selling the food
- Treating obese and chronic illness
 - drugs
 - medical devices
 - medical doctors
 - pvt hospitals
 - food industry
 - diet industry
- Anyone in longevity risk business
 - (think pension funds, annuities)



Healthy Eating Advice

- . The Government recommends that all individuals should consume a diet that contains:
 - plenty of starchy foods such as rice, bread, pasta and potatoes (choosing wholegrain varieties when possible)
 - plenty of fruit and vegetables; at least 5 portions of a variety of fruit and vegetables a day
 - some protein-rich foods such as meat, fish, eggs, beans and non dairy sources of protein, such as nuts and pulses
 - some milk and dairy, choosing reduced fat versions or eating smaller amounts of full fat versions or eating them less often
 - just a little saturated fat, salt and sugar

The eatwell plate



Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



Bangalore India, 2017

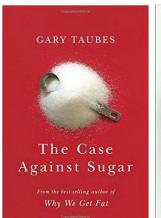


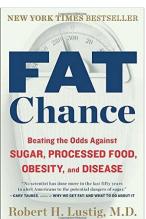


"India's No 1 Diabetes Centre is right here on your left"

Who will benefit if the world shifted to LC?

- Certain food segments
- Many in this room (*should it matter?)
- State health funders
- · Life and health insurance industry
- 7 billion people







NHS faces worst financial crisis in its history

The NHS has announced the largest deficit in its history, amid warnings that hospitals could run out of cash to pay staff within a year























What is insurance?

"A thing providing protection against a possible eventuality"

"An arrangement by which a company or the state undertakes to provide a guarantee of compensation for specified loss, damage, illness, or death in return for payment of a specified premium"

Oxford English Dictionary

http://www.oxforddictionaries.com/definition/english/insurance

Many people pay a small amount for compensation should a big but uncommon risk happen

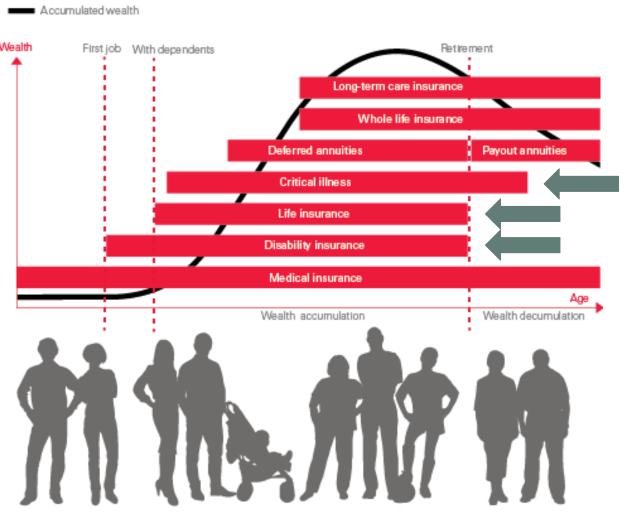




Life and living benefits insurance products: a simplified view

- Bundle of protection for each lifestage
- If claims increase, then premiums increase*
- → not so fast, hold onto your horse(s)...

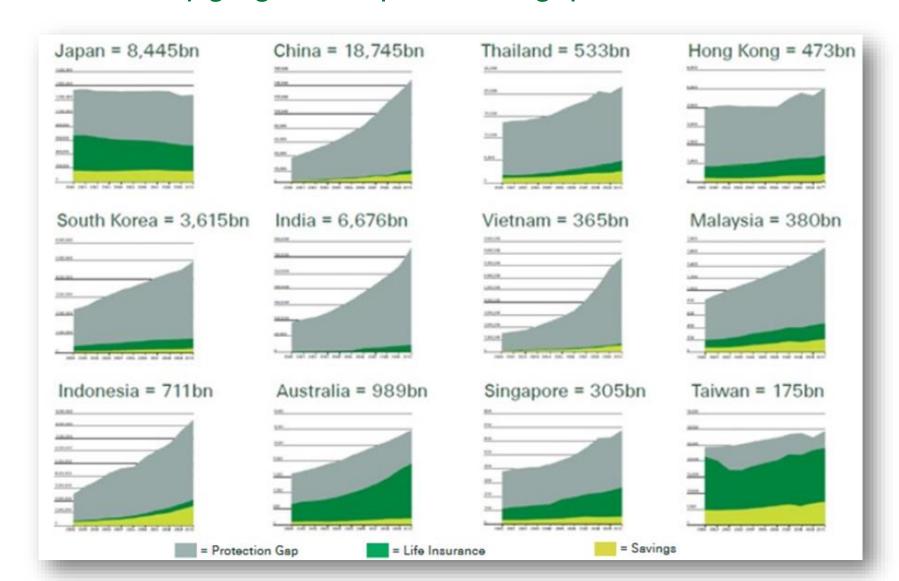








And anyway, increasing premiums will <u>decrease</u> insurance penetration, and increase the already gargantuan protection gap that exists



We look way ahead into the future

- Mortality Projections for Social Security Programs in Canada 2014
- Office of the Superintendent of Financial Institutions

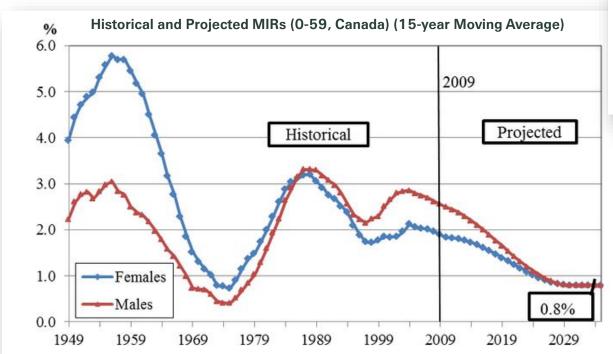
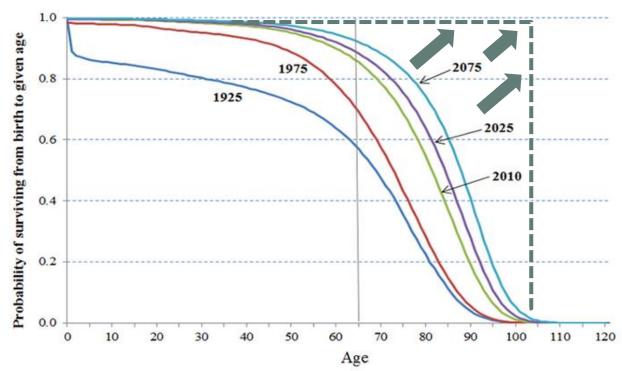
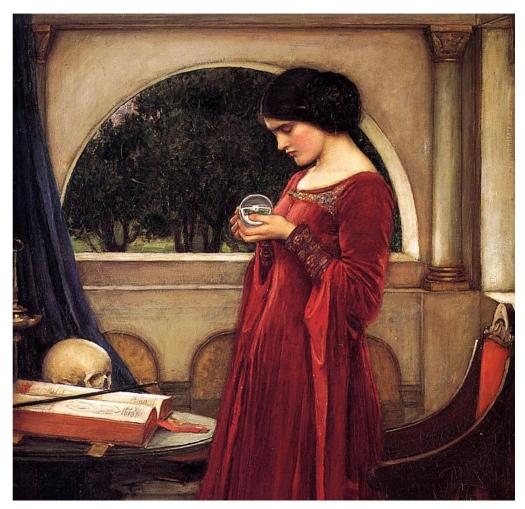


Chart 26: Survival Curves at Birth Males (based on period life tables)

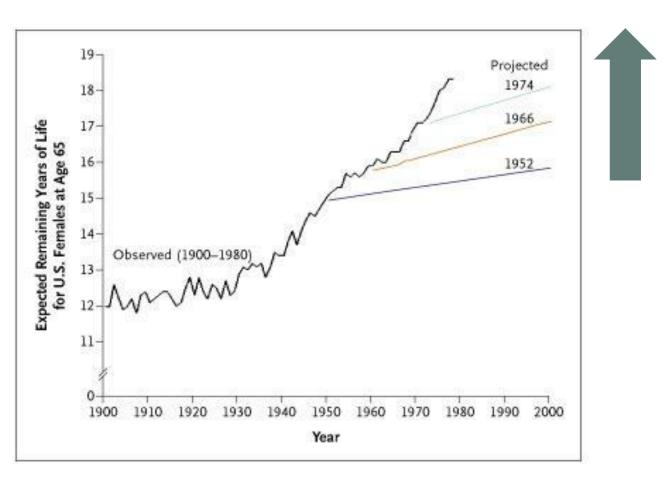


http://www.osfi-bsif.gc.ca/eng/oca-bac/as-ea/pages/mpsspc.aspx

Life expectancy for U.S. females (to 1970)



The Crystal Ball, John William Waterhouse, 1902



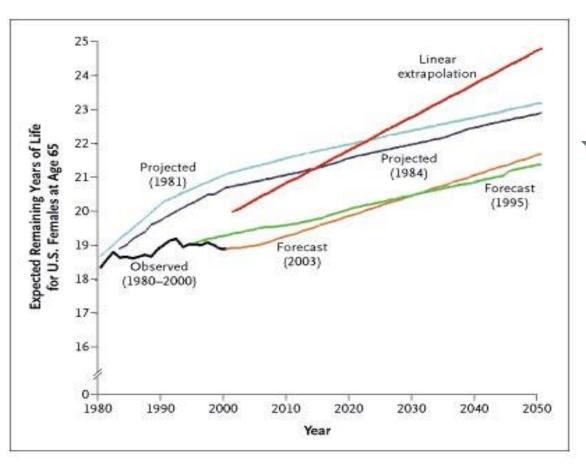
Olshansky, SJ et al, NEJM, March 17,2005;352 (11):1138



Life expectancy for U.S. females (to 2050)



The Crystal Ball, John William Waterhouse, 1902



Olshansky, SJ et al, NEJM, March 17,2005;352 (11):1138



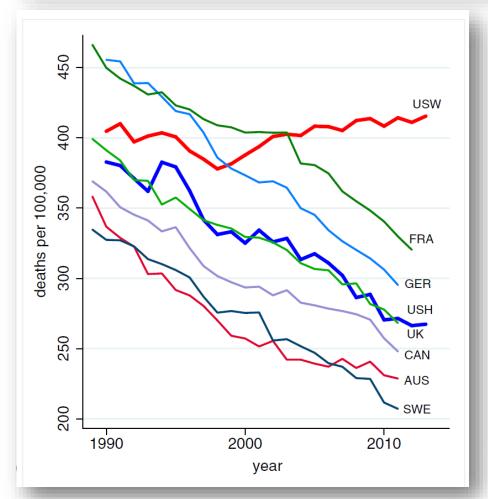
Swiss Re

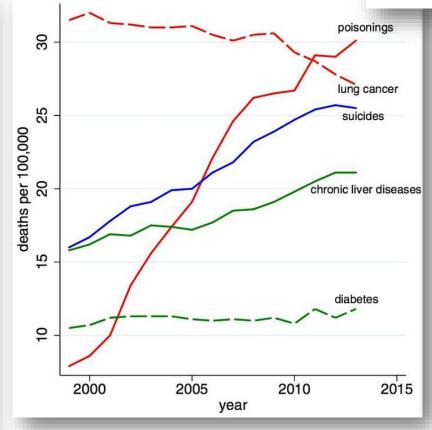
Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century

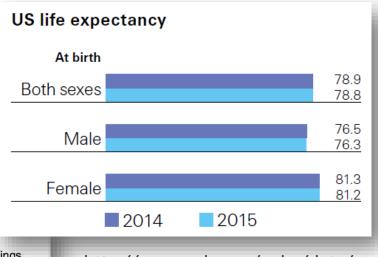
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Contributed by Angus Deaton, September 17, 2015 (sent for review August 22, 2015; reviewed by David Cutler, Jon Skinner, and David Weir)







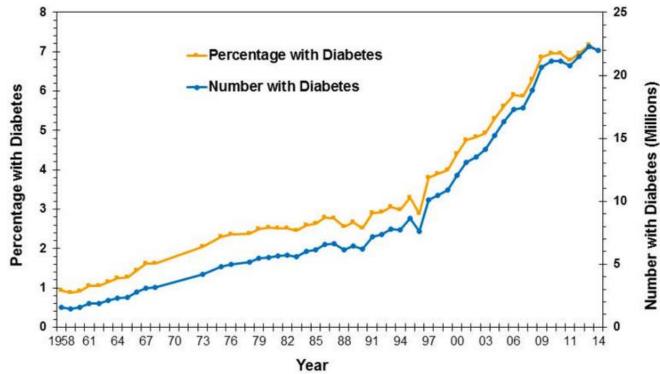
http://www.cdc.gov/nchs/data/databriefs/db267.pdf

Diabetes cause of death

Diabetes may be a major, overlooked reason Americans are now dying earlier

A new study triples the estimate for the death toll from diabetes.

 $Updated\ by\ Julia\ Belluz\ |\ @julia of toronto\ |\ julia. belluz @vox media.com\ |\ Jan\ 25,\ 2017,\ 2:00pm\ EST$





RESEARCH ARTICLE

Deaths Attributable to Diabetes in the United States: Comparison of Data Sources and Estimation Approaches

Andrew Stokes , Samuel H. Preston

Published: January 25, 2017 • http://dx.doi.org/10.1371/journal.pone.0170219

- We found a high degree of consistency between data sets and definitions of diabetes in the hazard ratios, estimates of diabetes prevalence, and estimates of the proportion of deaths attributable to diabetes. The proportion of deaths attributable to diabetes was estimated to be 11.5% using self-reports in NHIS, 11.7% using self-reports in NHANES, and 11.8% using HbA1c in NHANES. Among the sub-groups that we examined, the PAF was highest among obese persons at 19.4%.
- The proportion of deaths in which diabetes was assigned as the underlying cause of death (3.3–3.7%) severely understated the contribution of diabetes to mortality in the United States.

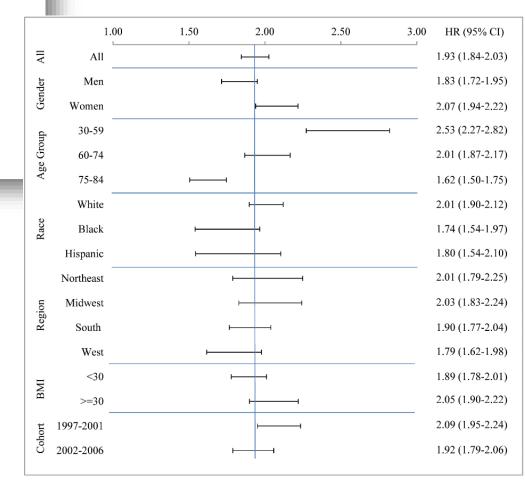


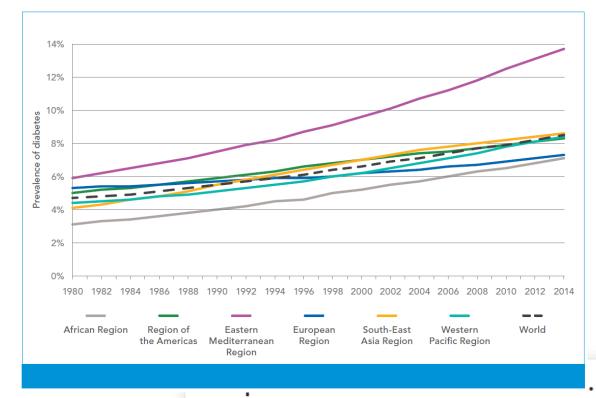
Fig 2. Hazard ratios expressing the association between diabetes status and mortality for all participants and by population subgroup



FIGURE 4B. TRENDS IN PREVALENCE OF DIABETES, 1980-2014, BY WHO REGION

GLOBAL REPORT ON DIABETES





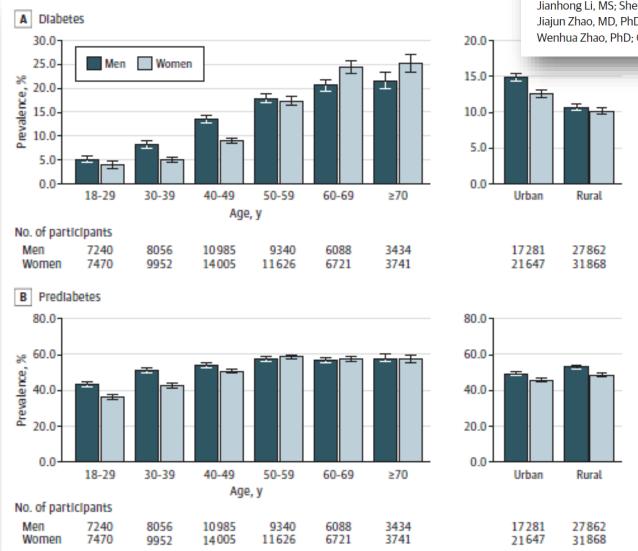
KEY MESSAGES

Diabetes is a chronic, progressive disease characterized by elevated levels of blood glucose.



One study estimates that losses in GDP worldwide from 2011 to 2030, including both the direct and indirect costs of diabetes, will total US\$ 1.7 trillion, comprising US\$ 900 billion for high-income countries and US\$ 800 billion for low- and middle-income countries (32).

Its not only Western countries



Original Investigation

Prevalence and Control of Diabetes in Chinese Adults

Yu Xu, PhD; Limin Wang, PhD; Jiang He, MD, PhD; Yufang Bi, MD, PhD; Mian Li, PhD; Tiange Wang, PhD; Linhong Wang, PhD; Yong Jiang, MS; Meng Dai, BS; Jieli Lu, MD, PhD; Min Xu, PhD; Yichong Li, MS; Nan Hu, MS; Jianhong Li, MS; Shengquan Mi, PhD; Chung-Shiuan Chen, MS; Guangwei Li, MD, PhD; Yiming Mu, MD, PhD; Jiajun Zhao, MD, PhD; Lingzhi Kong, MD; Jialun Chen, MD; Shenghan Lai, MD, MPH; Weiqing Wang, MD, PhD; Wenhua Zhao, PhD; Guang Ning, MD, PhD; for the 2010 China Noncommunicable Disease Surveillance Group

JAMA. 2013;310(9):948-958

Questions the industry is and will be asking

- FAD (sorry Jimmy) → unbelievable noise in this space, including that it always has a personal experience bias
- 40 yrs of being brainwashed we all have experience of showing what we think is clear (and incontrovertible) evidence to bright and curious colleagues, with little effect
- long term outcome is not known
- persistency/drop out question
- affordability of this new diet
- impossible for some cultures to drop carbohydrate rice, breads
- do we really know the mortality impact? (cf. functional medicine concept)

What could happen if those at risk switch and reduce carbohydrates?

Low carbohydrate diet to achieve weight loss and improve HbA1c in type 2 diabetes and pre-diabetes: experience from one general practice

Life	ADB	TPD	WOP	CI	DI	Cancer
50%	Std	100%	100%	75%	100%	50%

Table 1. Clinical characteristics	prior to and following	ig a low-carbohydr	rate intervention f	or an average of 13 months.

	n	Pre-intervention (95% CI)	Post-intervention (95% CI)	Change between pre- and post-intervention (95% CI)	<i>P</i> value
Sex (male/female)	68	33/35	_	_	_
Age (years)	68	58.3	_	-	-
Weight (kg)	64	97.8 (93.6, 101.9)	89.0 (84.9, 93.1)	-8.8 (-10.0, -7.5)	< 0.001
SBP (mmHg)	27	144 (136, 152)	135 (130, 140)	-9 (4, 15)	0.002
DBP (mmHg)	27	85 (80, 89)	79 (75, 83)	-6 (2, 10)	0.005
GGT (iu/L)	65	76.9 (58.3, 95.6)	41.8 (33.0, 50.3)	-29.9 (-43.7, -16.2)	<0.001
HbA _{1c} * (mmol/mol)	38	52.4 (48.0, 56.9)	42.4 (39.7, 45.0)	-10.0 (-13.9, -6.2)	< 0.001
Total cholesterol (mmol/L)	58	5.7 (5.4, 6.0)	5.3 (5.0, 5.7)	-0.3 (-0.5, -0.1)	<0.001
Cholesterol:HDL-cholesterol ratio	57	4.3 (3.9, 4.6)	3.8 (3.5, 4.1)	-0.4 (-0.8, -0.1)	<0.001

(illustrative only)

before

intervention

after intervention (illustrative only)

DBP=diastolic blood pressure; GGT=gamma-glutamyl transpeptidase; SBP=systolic blood pressure; n=number of people; 95% CI=95% confidence interval.

Practical Diabetes 2014; 31(2): 76-79

Life	ADB	TPD	WOP	CI	DI	Cancer
Std	Std	Std	Std	Std	25%	Std



Life: $+50 \rightarrow std$

CI: $+75 \rightarrow std$

DI: $+100 \rightarrow +25$

^{*}HbA_{1c} levels were only followed up in those cases where the baseline was >41 mmol/mol (5.9%).

How could the life insurance industry benefit?

- Globally change nutritional guidelines
 - (health) fat ok, sugar not, limit carbs (especially refined)
- Changing the health of obese & (pre) diabetic policyholders by shifting their dietary intake
- Offer incentives for new insurance applicants who are obese and (pre) diabetic to shift to a lower carb, healthy fat embracing lifestyle
- → reduction in disability may be the hidden gem in all this less inflammation, chronic disease, psychiatric ailments, musculoskeletal complaints etc may all lead seismic reductions in disability claims, pricing and increase penetration of what is one of the most important long term health protection products.



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