



The Signal and the Noise!

Gurgaon, 25th August 2015

Six trends disrupting health insurance

- The Chronic disease crisis
- The move to outcomes & value
- M-Health technologies
- The big data revolution
- Customer Centricity in insurance
- Pressures on underwriting

Source: The future of health insurance, E & Y

The Writing on the Wall

- Insurance as we know today has an expiry date!
- Not if, but when
- What is driving this is certainly not linear progression!
- In what ways are the disrupters likely to influence the future state of health insurance?
- Are there any time lines?

Agenda

- Non-core: Are there blind spots stopping us from growing healthcare beyond the current confines. Say, the area of tort?
- Major revolutions in life science
- Research: Plethora of developments around the world including China
- Challenge conventional wisdom and attempt transcend beyond the known mental barriers

Is this a Signal or just another Noise?

“Investigating how we can distinguish a true signal from a universe of noisy ever-increasing data. Many predictions fail, often at great cost to society, because most of us have a poor **understanding of probability and uncertainty**. We are wired to detect a signal, and we mistake more confident predictions for more accurate ones. But **overconfidence is often the reason for failure**. If our appreciation of uncertainty improves, our predictions can get better too. This is the **prediction paradox**: the more humility we have about our ability to make predictions – and the more we are willing to learn from our mistakes – the more we can turn information into knowledge and data into foresight.”

Source: The Signal and the Noise, by Nate Silver

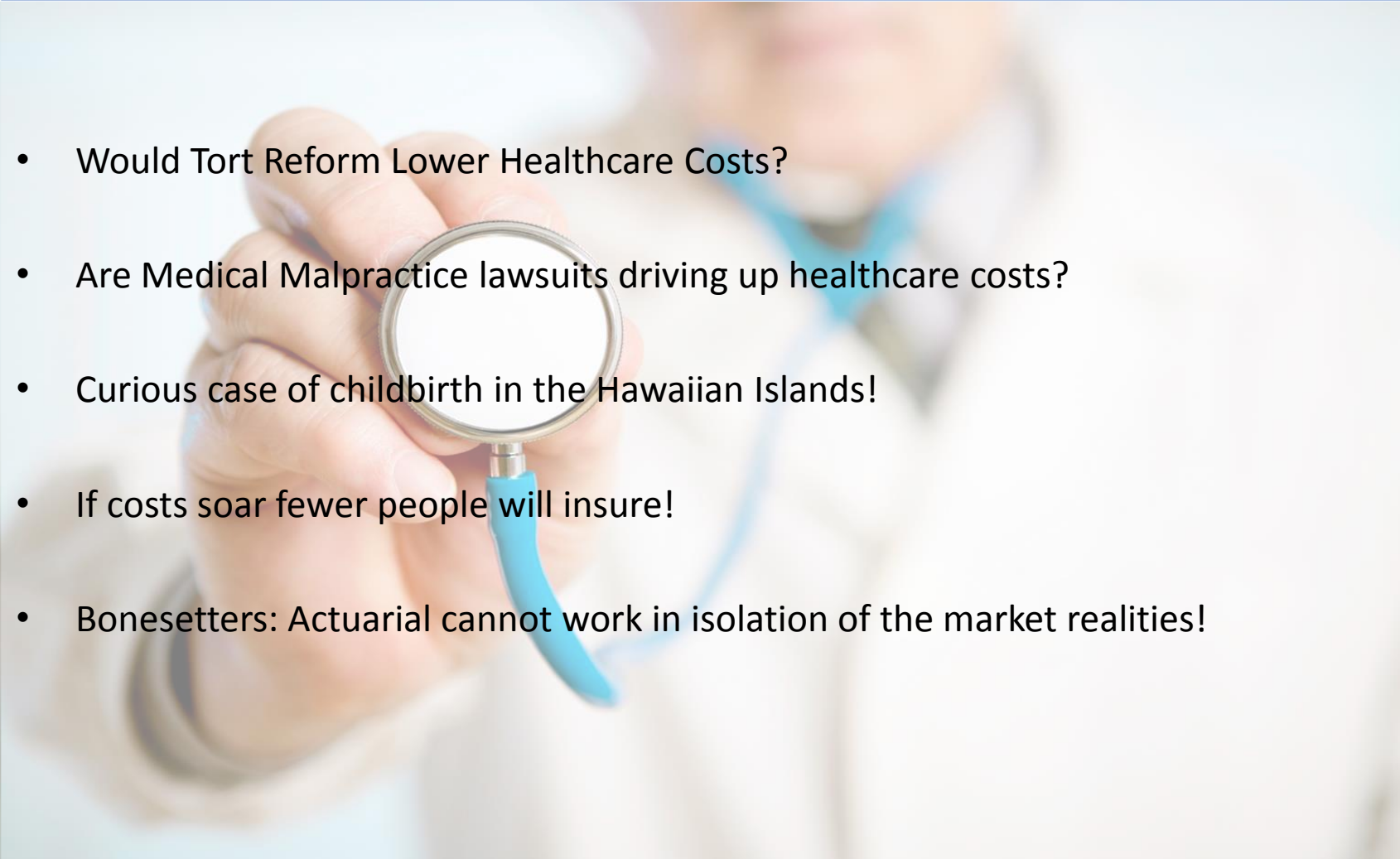
Does that make us a health insurer?

- We offer Pharma Liability, Clinical Trials Liability and Medical Malpractice covers!
- Is travel insurance health insurance?

www.insurecancer.com

- Death wish: Swimming with dolphins!

What's Tort got to do with Health Insurance?



- Would Tort Reform Lower Healthcare Costs?
- Are Medical Malpractice lawsuits driving up healthcare costs?
- Curious case of childbirth in the Hawaiian Islands!
- If costs soar fewer people will insure!
- Bonesetters: Actuarial cannot work in isolation of the market realities!

UK pulls up the physicians!

In a **major clampdown on unnecessary use of antibiotics**, Britain has now **decided to penalise doctors** who go soft and give in to patient's demands for the wonder drugs that are fast becoming ineffective.

The guideline recommends that prescribers take time to discuss with patients the likely nature of their condition, the benefits and harms of immediate antimicrobial prescribing, alternative options such as watchful waiting and/or delayed prescribing and why prescribing an antimicrobial may not be the best option for them.

Source: Times of India

What would happen if we could all live to 300 years old?

A hand holding a stethoscope with a blue handle and a silver chest piece. A light blue thought bubble with a dark blue outline is positioned to the right of the stethoscope. The thought bubble contains the text "He or she should be amongst us, today!".

*He or she should
be amongst us,
today!*

What would happen if we could all live to 300 years old?

The key risk is our ability to fund an ageing population.

If life expectancies increase in a highly non-linear fashion as a result of a medical breakthrough such as the ability to slow cell ageing, it would turn society upside down. We are not equipped politically, economically or socially to handle the effects.

- If for example, it were possible to live to 300 years old, does that mean that one should?
- Should doctors be obligated to extend life if they have the wherewithal to do so?
- How long should a working life be?
- And what if the ability to live a very long life was determined only by your ability to pay for expensive treatments?
- These may be **theoretical questions at the moment, but for how much longer?**

Source: CURVE BALLS - GLOBAL POLITICAL RISKS IN 2015 AND BEYOND, CII with Cicero

Ray Kurzweil: “By the 2020s, most diseases will go away as NANOBOTS become smarter than current medical technology”.

IATROGENICS

Statins fail in their application the first principle of IATROGENICS (unseen harm); further, **they certainly do lower cholesterol**, but as a human your objective function is not to lower a certain metric to get a grade to pass a school-like test, but get in better health. Further, it is not certain **whether these indicators people try to lower the cause or manifestation that correlate to a condition**-just as muzzling a baby would certainly prevent him from crying but would not remove the cause of the emotions. **Metric-lowering drugs are particularly vicious because of a legal complexity. The doctor has the incentive to prescribe it** because should the patient have a heart attack, he would be sued for negligence; but the error in the opposite direction is not penalized at all, as side effects do not appear at all as being caused by the medicine.

The same problem of naive interpretation mixed with intervention bias **applies to cancer detection**: there is marked bias in favour of treatment, even when it brings more harm, because the **legal system favours intervention**.

Source: Antifragile by Nassim Nicholas Taleb

Defensive Medicine

“As a case study, consider mammograms. It has been shown that administering them to women over forty on an annual basis does not lead to an increase in life expectancy (as best; it could even lead to a decrease). **While female mortality from breast cancer decreases for the cohort subjected to mammograms, the death from other causes increases markedly.** We can spot here simple measurable iatrogenics. The doctor, seeing the tumor, cannot avoid doing something harmful, like surgery followed by radiation, chemotherapy, or both – that is, more harmful than the tumor. **There is a break-even point that is easily crossed by panicked doctors and patients:** treating the tumor that will not kill you shortens your life-chemotherapy is toxic. We have built up so much paranoia against cancer, looking at the chain backward, an error of logic called affirming the consequent. **If all of those dying prematurely from cancer had a malignant tumor, that does not mean that all malignant tumors lead to death from cancer.”**

Source: Antifragile by Nassim Nicholas Taleb

Research: The China Way

Conference Schedule of China International Conference on Insurance and Risk Management 2015 2015 中国保险与风险管理国际年会日程

July 15-18, 2015 Hangzhou, China
2015年7月15日-18日 中国·杭州



Research – The China Way

Parallel Oral Session III-D: Life and Health Insurance (in Chinese)

(Liyi Meeting Room (A), the fourth floor of Sanli New Century Grand Hotel Zhejiang)

Moderator: ZHANG Daijun, Professor, Zhejiang University of Finance and Economics, China

- **16:20-16:50 Optimizing of Loss Distribution Fitting and Pricing for Critical Illness Insurance in China: Using Extreme Value Theory and Real Option Pricing Model**

Authors: ZHANG Ying*, Assistant Professor, Southeast University, China

LIU Jin, Warwick Business School, UK

Discussant: CHEN Lulu, Zhejiang University of Finance and Economics, China

- **16:50-17:20 Empirical Analysis on the Demand of Commercial Health Insurance in Zhejiang**

Authors: CHEN Lulu*, Zhejiang University of Finance and Economics, China

YE Xiaolin, Associate Professor, Zhejiang University of Finance and Economics, China Discussant: HE Yujia, Tsinghua University, China

- **17:20-17:50 Dynamic Optimized Asset Liability Management the Participating Life Policy Case in China**

Authors: HE Yujia*, Tsinghua University, China

Discussant: YANG Xin, Beijing Technology and Business University, China

- **17:50-18:20 New Cooperative Medical Insurance's Effect on Rural Residents' Medical Treatment Selection**

Authors: XU Minmin, Associate Professor, Beijing Technology and Business University, China

YANG Xin*, Beijing Technology and Business University, China

Discussant: ZHANG Ying, Assistant Professor, Southeast University, China

Research – The China Way

Parallel Oral Session II-C: Pension and Social Security (II) (in Chinese)

(Liye Meeting Room, the fourth floor of Sanli New Century Grand Hotel Zhejiang)

Moderator: **LIU Suchun**, Professor, Shandong University of Finance and Economics, China

- **14:00-14:30 Raising Retirement Age: the Effects on Financial Sustainability of Old-age Insurance In China**

Authors: WANG Xiaojun, Professor, Renmin University of China, China

SHAN Ge*, Renmin University of China, China

Discussant: WANG Shuheng, Beijing Technology and Business University, China

- **14:30-15:00 Supplement of House-for-pension Scheme to Old-age Security in China**

Authors: XU Minmin, Associate Professor, Beijing Technology and Business University, China

WANG Shuheng*, Beijing Technology and Business University, China

Discussant: WANG Wen, Lecturer, Beijing Technology and Business University, China

- **15:00-15:30 Analysis on National Pooling of Basic Old-age Social Insurance**

Authors: WANG Wen *, Lecturer, Beijing Technology and Business University, China

Discussant: YANG Fuyi, Zhejiang branch, China insurance company, China

- **15:30-16:00 Studies on Long-Term Care Insurance Pricing Based on Multiple State Markov Model**

Authors: ZHOU Haizhen, Associate Professor, Zhejiang university of Finance & Economics, China

YANG Fuyi*, Zhejiang branch, China insurance company, China

Discussant: SHAN Ge, Renmin University of China, China

So, let's talk HEALTH INSURANCE...

NOW!

Road map to the future:

- Recognizing the risk inherent in standing still
- Use the right metrics : “What gets measured gets done”
- Experiment using pilots: Allow companies to experiment on a smaller scale and get to proof of concept
- Build a learning map

Source : The future of health insurance , E & Y

Thank you