



Institute  
and Faculty  
of Actuaries

# a makeover for mortality

Michael Blastland, Edinburgh, 2013.



Institute  
and Faculty  
of Actuaries



Institute  
and Faculty  
of Actuaries

The man who had a cough and it's just a cough and he's fine







631,473,986



Institute  
and Faculty  
of Actuaries



## No children killed on the way to school

Not very much has happened lately, according to figures released today by the Office for National Statistics. A spokesperson said that this was a normal seasonal variation and parents should not



### LATEST NEWS

**Rolling Stone:** writer who brought down McChrystal is killed

**Nigeria:** 16 students killed by suspected Boko Haram militants

**Pensions:** Osborne faces £3bn black hole

**Cycling:** MPs to debate how to get Britain on its bike

**Private health:** Bupa and Co face surge in complaints

- No market reaction whatsoever – Bank of England
- PM has nothing to say – Downing Street
- Further reports pages 2-17

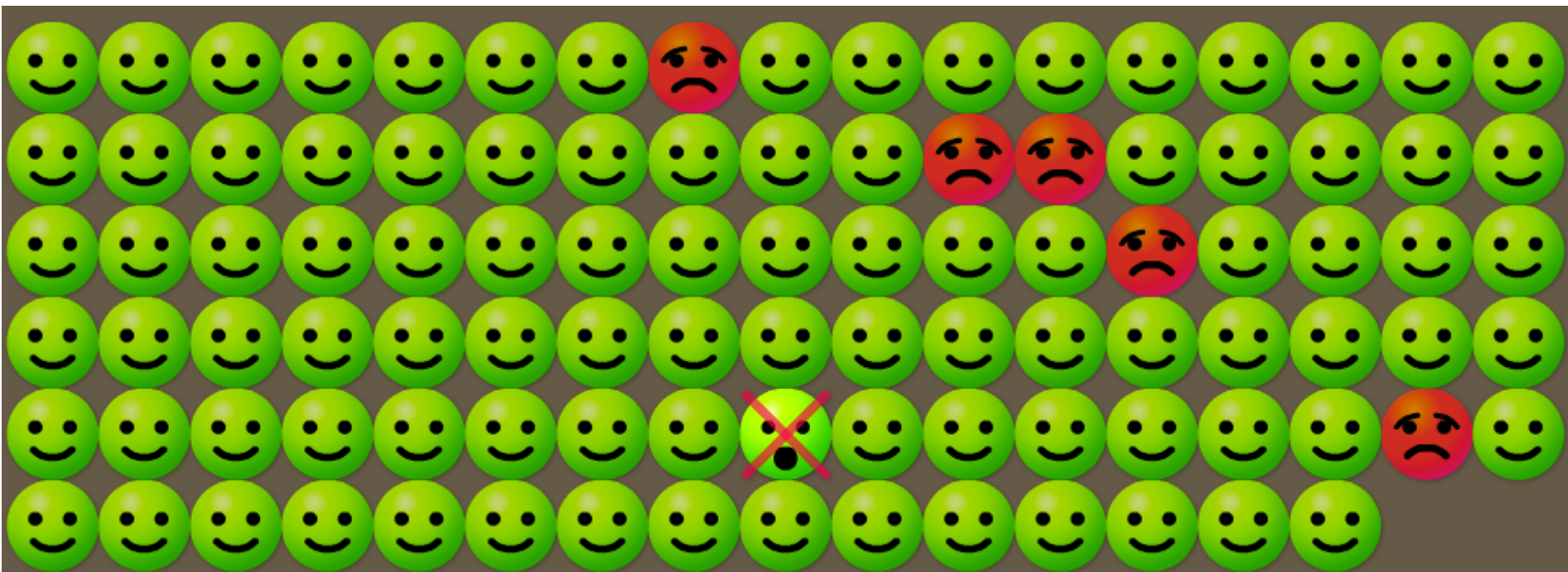


Institute  
and Faculty  
of Actuaries

One must not put a loaded rifle on the stage if  
no one is thinking of firing it.

Letter from Anton Chekhov, 1889.





## Spinning risk animation



Institute  
and Faculty  
of Actuaries



‘Supposing a tree fell down, Pooh, when we were underneath it?’

‘Supposing it didn’t,’ said Pooh.

After careful thought, Piglet was comforted by this.



# British Parachuting Association

Type of Jump	20 years, 1991 - 2010		
	Jumps	Fatalities	Fatality Rate (per 100,000 jumps)
<b>Tandem:</b>			
Tandem Instructors	341,608	1	<b>** 0.3</b>
Student Tandem Jumpers	341,608	1	<b>** 0.3</b>
<b>All First Jumps</b>	649,078	7	<b>1.1</b>
<b>All Student Jumps</b>	1,204,029	13	<b>1.1</b>
<b>All Jumpers Combined</b>	4,599,435	48	<b>1.0</b>



Institute  
and Faculty  
of Actuaries

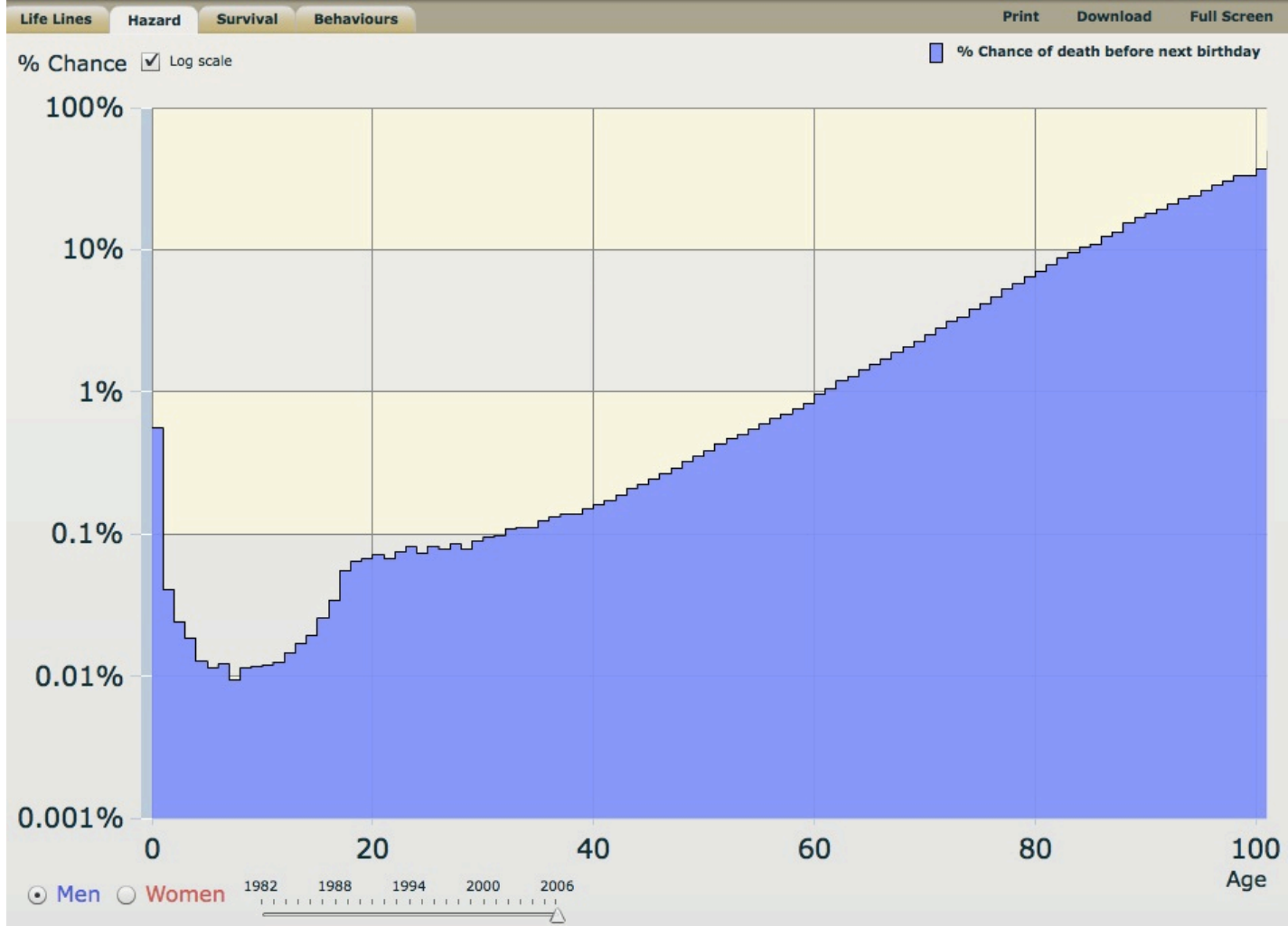
1 micromort = a 1 in a million chance of dying.



## MicroMort simulation



Institute  
and Faculty  
of Actuaries





Daily habit	$h$ = hazard ratio	
2 hours watching TV	1.09	
Daily sausage / bacon sandwich	1.10	
5 fruit and veg a day	0.66	
1 <sup>st</sup> 20 minutes moderate activity	0.81	
Next 40 minutes activity	0.94	
Being male	1.50	



Daily habit	$h$ = hazard ratio	$t$ = years older/ younger
2 hours watching TV	1.09	+ 1
Daily sausage / bacon sandwich	1.10	+ 1
5 fruit and veg a day	0.66	- 4
1 <sup>st</sup> 20 minutes moderate activity	0.81	- 2
Next 40 minutes activity	0.94	- 1
Being male	1.50	+ 4



Life expectancy reduced by one year =

30 minutes off your life expectancy for each day with the habit.

We call this: 1 Microlife.



Institute  
and Faculty  
of Actuaries

On average, it's  
as if you are

- \* 1 year older
- \* lose 1 microlife  
per day

for each daily  
habit of...



Institute  
and Faculty  
of Actuaries

Exposure to ionising radiation	<i>Micro-lives</i>	<i>Cigarette equivalents</i>
Being 2.4 km from Hiroshima explosion	150	300
Whole body CT scan	150	300
Flight to New York	1	2
Chest X-ray	0.5	1
Bag of Brazil nuts	0.1	0.2





## Animated mortality/lifestyle simulation



Institute  
and Faculty  
of Actuaries

## The surgeons whose patients were up to 30 times likelier to die: NHS to publish death rates of doctors for the first time

Thursday, Sep



- The figures will be released today on the NHS Choices website
- Its publication could be halted by legal challenges from some hospitals
- Fears that figures could stop surgeons operating on those most at risk

By SOPHIE BORLAND

PUBLISHED: 00:28, 28 June 2013 | UPDATED: 01:14, 28 June 2013

[f](#) Share [t](#) Tweet [g+](#) +1 [s](#) Share | **338** shares

Patients in life-saving operations could be up to 30 times more likely to die than others depending on their surgeon.

For the first time the NHS is to publish the death rates of doctors performing operations to repair major blood vessels and prevent strokes.

The figures are in a report due to be released today on the NHS Choices website. But last night there was speculation that its publication could be halted by legal challenges from some hospitals.



Simon Payne, (left) who is based at Portsmouth Hospitals, has a 31 per cent mortality rate while Irfan Akhtar, right, has a mortality rate of 22 per cent

Previously experts have warned that publishing death rates will discourage surgeons from carrying out operations on patients most at risk of dying – such as the elderly.

Over the next few weeks, however, officials intend to release the mortality rates of surgeons

Home |

Health News

### NHS Patients more than

- Clinics
- Britons
- NHS

By SOPHIE

PUBLISHED

[f](#) Share

Death rates yesterday  
British patients  
America.

Health News

WE

NHS

[t](#) Tweet

NHS Choices

igs see TV listings

Explore Ne



Catch Up

Watch from the last 7 days

nds

ACDONALD  
Correspondent



revealed by  
er cent more likely

## Hospital mortality simulation



Institute  
and Faculty  
of Actuaries

