

David Spiegelhalter

David Spiegelhalter is Winton Professor for the Public Understanding of Risk at the Statistical Laboratory in the University of Cambridge, and Senior Scientist in the MRC Biostatistics Unit Cambridge. David's work focuses on the use of appropriate methods for dealing with risk and uncertainty in the lives of individuals and society.

David and his team have an educational role in promoting the understanding of risk. He takes his message to a wider audience with frequent talks, school visits, and media appearances including TV with Professor Lesley Regan, and Radio 4 programmes Today, You and Yours, The Investigation, Analysis, and More or Less. He has contributed to The Sun and is a guest columnist in The Times.

Their website <http://understandinguncertainty.org/> features the use and abuse of statistics in everyday life, and makes extensive use of attractive animations to help 'tell the story' of risk.

The Risk and Regulation Advisory Council

The RRAC is an independent advisory group which aims to improve the understanding of public risk and how best to respond to it in making and implementing policy.

The Worrier's Guide to Risk is intended to help everyone make more sense of the seemingly unending series of stories on risk.

The guide offers an insight into the simple sorts of questions David Spiegelhalter asks. It distils many years of experience into a single page. It will not make you a professor of statistics but we hope it will help you to make better informed judgements about the risks that affect you and society.

This guide is a first step – to make it work better for you we will need your feedback. Please feel free to comment on how helpful you find the guide on David Spiegelhalter's website <http://understandinguncertainty.org/rules>. Your comments and suggestions will help improve the guide.

A Worrier's Guide
to Risk

A Worrier's Guide to Risk

Stories about risk can be worrying or even frightening. David Spiegelhalter's ideas can help you understand more and worry less.

Life's uncertain

We don't always know what will happen

- 1. Uncertainty can be fine.** Would you want to know exactly how and when you were going to die? Not many would.
- 2. Stuff happens.** The overall pattern of events can often be predicted surprisingly well but not the detail. We can make a good guess at the number of car fatalities next year, but not who will be involved.
- 3. Rare events are more common than you think.** There are so many possible rare events we know some will happen but not which ones – someone usually wins the lottery.

Evidence can mislead us

We often can't see the full picture

- 4. Jumping to conclusions.** The media reports crimes that make a good story – don't assume the amount and type of crime reported reflects true crime rates.
- 5. Runs of good/bad luck happen.** Reduced accidents at an accident black spot may not be the speed camera but just a change from a run of bad luck.
- 6. One thing may look like another.** It doesn't mean they are the same. Only a small fraction of the women who screen positive for breast cancer actually have the disease – the others are that much larger group of healthy women who just happen to have similar test results.
- 7. The past is past.** Things change, and as the banks always say and the credit crunch has proven, 'past performance is not necessarily a guide to future performance'.

What about me

Should I worry?

- 8. Am I bovvered?** How does the danger relate to my circumstances? Seasonal flu is a serious risk to the elderly and chronically ill but not to healthy young adults.
- 9. Can I do anything about it?**
 - **No?** So don't worry about things you can't change. The asteroid that will destroy the earth may be on its way.
 - **Yes, but...** there's more to life than maybe living a few extra days, weeks or months. "I would rather have the occasional bacon sarnie than be 110 and dribbling into my All-Bran"
- 10. They would say that, wouldn't they?** Check who is making the claim. What is their interest in influencing me – personal, financial, commercial, religious, political, headlines etc?
- 11. What am I not being told?** He may well have got better after he took this wonder treatment, but am I being told about the people who didn't get better?
- 12. Size matters.** A big increase in a very small risk may not be important – twice almost-nothing is still almost-nothing.

The key point is to get the 'balance' right for your life