

Demystify medical data

EVER WANTED to report medical trials but were too worried about the numbers to know where to start? Medical journalist Dr Susan Mayor addressed LFB's May meeting to demystify the discipline and show members how to interpret press releases from drugs companies.

Susan was a post-doctoral researcher before retraining as a journalist. She's a former *British Medical Journal* news editor and managing editor of the *British Journal of Primary Care Nursing*. Her book *Finding the Right Molecule*, tracing the development of the drug Pradaxa, won the Communiqué award.

What hope is there for freelancers who have no scientific training? Quite a lot, Mayor insists. The first known work of medical research was not a high-powered jargon-infested affair. Written up in the Old Testament's *Book of Daniel*, it was a comparative trial of the performance-enhancing properties of the vegetable diet of the prophet Daniel and his students against the rich food eaten by King Nebuchadnezzar II's servants.

Dr Mayor elucidated key terminology for types of trials: controls; placebos; non-inferiority trials (ensuring a new treatment is no worse than existing treatment); randomised trials; blinded trials (participants don't know what they're receiving); double-blinded trials (neither the participants nor the researchers know which is the new treatment and which is the placebo or existing drug); and open label studies (subjects know which treatment they are testing, with the risk of expectations changing the outcome).

When making sense of the numbers, there are three key figures to check. First: how big is the sample? This can be low for trials involving rare diseases – 150 subjects may be acceptable for a study of a rare cancer, 4000 might be expected for a cardiovascular study. Second: how



Dr Susan Mayor explains statistics Photo © Hazel Dunlop

long was the trial run for? Follow-up research may be necessary. Third: the completeness of follow-up and how many subjects dropped out.

There are several key concepts in how the results are calculated.

There's the mean – the normal average value (add all figures and divide by the number of figures). And there's the median: the middle value of an ascending range of numbers. There's also the hazard ratio. This is the chance of the hazard (for example, the recurrence of cancer) in the treatment group, divided by the chance in the control group. A hazard ratio of 0.66 equals a 34 per cent reduction of hazard.

And there's the confidence ratio, to assess how reliable the treatment would be for people outside the trial. How reliable the results of the study are is more typically reflected in the "p-value". This assesses the probability of an observed effect having happened by chance. A result with a p-value of 0.5 is no use: there is a 1 in 2 chance it is just randomness. The p-value must be 0.05 (1 in 20) or lower for the result to be significant.

Absolute risk reduction is the inci-

dence of hazard (for example death) in treated subjects against regular treatment, expressed as the difference between the percentage risks.

Relative risk reduction is the proportion by which an event rate is reduced (a ratio).

To summarise: check the mean and median, hazard ratio, confidence interval and p-value of any study on which you're basing a story.

Dr Mayor offered a checklist for analysing research papers:

- What question is the research asking? Is it useful?
- What were the main findings?
- How meaningful are these findings? (look at the confidence interval and p-value)
- Are the findings credible?
- Who carried out the research? Are they reputable?
- Who funded the research? This is typically disclosed at the end of a study
- Where was the research published? Was it peer-reviewed?

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• The much longer version at www.londonfreelance.org/fl/1506stat.html has more detail.

New members meet – 30/07/15

There's a meeting for new and recently-joined members of NUJ London Freelance Branch on Thursday 30 July. It's a chance to meet other people new to the Branch, and there will also be some more experienced working journalist Branch members on hand with advice and tips. The meeting's from 6pm at the Camera Café, Museum Street, London WC1 (nearest Tube Holborn). These meetings take place on the last Thursday of every third month.



I prefer not to cross picket lines

FREELANCE journalist and NUJ member Martin Lewis of moneysavingexpert.com (he spoke to LFB in 2013, pictured above, see www.londonfreelance.org/fl/1305lewi.html) declined to turn up to do his regular Deals of the Week spot on ITV's *Good Morning Britain* on 14 May, the day of the one-day strike by NUJ and technicians' union Bectu over a two per cent pay offer. Martin tweeted that "As [an] NUJ member I prefer not to cross picket lines."

Photo: Richard Lipman www.lipmanfilms.com

Strikes at Newsquest South London

AS THE *Freelance* was in pageproof on 17 June, National Union of Journalists members at titles in South London owned by Newsquest were about to start a twelve-day strike.

This was due to go on – barring concessions – until midnight on Tuesday 30 June and to be followed by a period of work-to-rule. (See www.londonfreelance.org/fl/1305rule.html for what a work-to-rule is.)

Titles affected include the *Croydon Guardian*, *Sutton Guardian*, *Epsom Guardian*, *Wimbledon Guardian*, *Wand-*

sworth Guardian, *Balham and Tooting Guardian*, *Mitcham and Morden Guardian*, *Kingston Guardian*, *Surrey Comet*, *Elmbridge Comet*, *the Richmond & Twickenham Times* and the *News Shopper* series, which has editions in Dartford, Lewisham, Greenwich, Gravesend, Bexley and Bromley.

London Freelance Branch will, if necessary, consider making a donation to the strike fund at its July meeting (check www.londonfreelance.org/lfb/meetings.html).

As always, in the event that industrial action at Newsquest South con-

tinues, NUJ members at the affected titles would very much appreciate it if any freelancers who are asked to work at these titles on strike days discovered that you were unavailable on those days. Please watch this space and www.nuj.org.uk/news for updates.

Also, on 8 June members took to the streets against Phil Turner, chair of the office union group (known as the Father of Chapel) at the Newsquest *Rotherham Advertiser* being singled out for redundancy. See bit.ly/SupportPhilT for a report.