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Or how to get the results you want from a trial provided you have no scruples at all

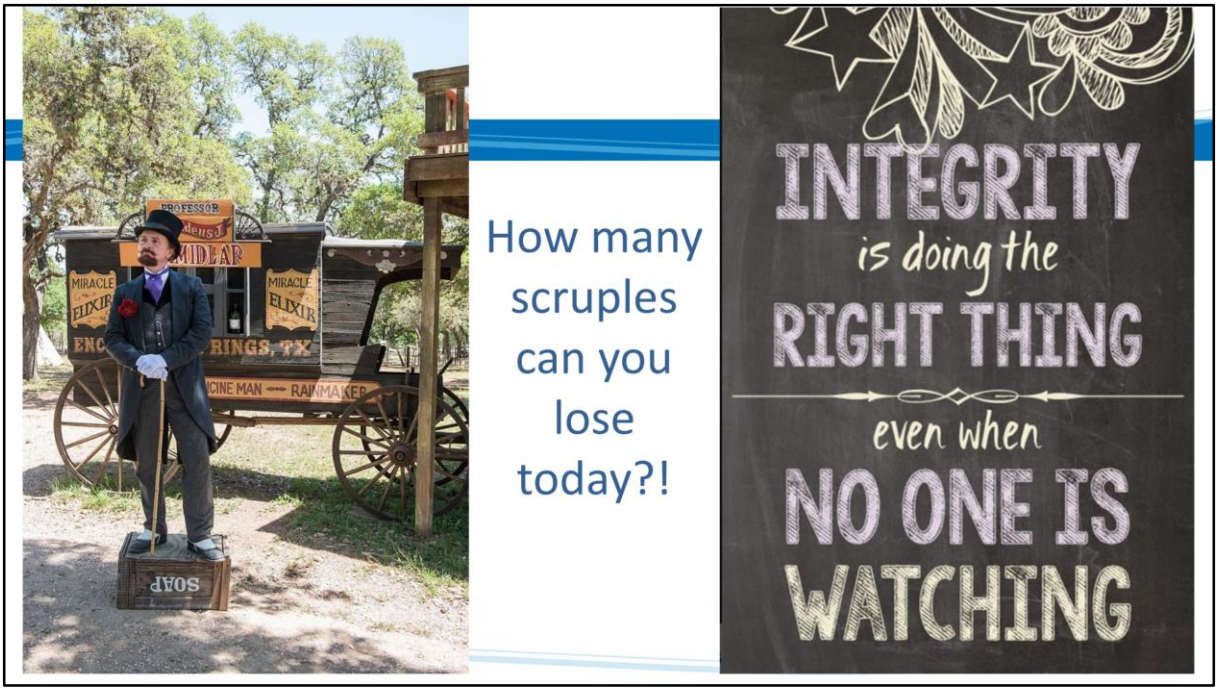
Imagine you work for a pharmaceutical company who has a new drug. It was very expensive to develop, so lots of pressure to show it works & is safe

Step this way to 'encourage' positive results....

Inspired by a blog post on Students4best evidence, https://s4be.cochrane.org/blog/2016/12/09/get-result-want-study/ and the mighty Ben Goldacre

Lundh A, Lexchin J, Mintzes B, Schroll JB, Bero L. Industry sponsorship and research outcome. Cochrane Database of Systematic Reviews 2017, Issue 2. Art. No.: MR000033. DOI: 10.1002/14651858.MR000033.pub3. Accessed 21 June 2023.

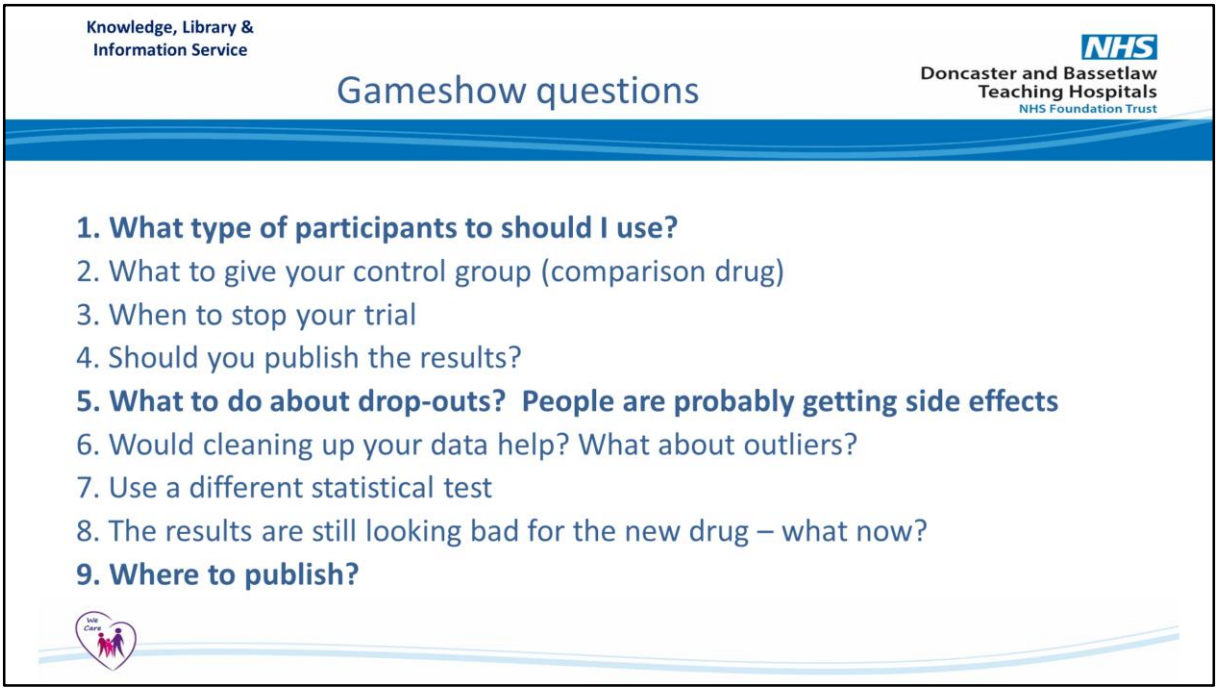
“Sponsorship of drug and device studies by the manufacturing company leads to more favorable efficacy results and conclusions than sponsorship by other sources. Our analyses suggest the existence of an industry bias that cannot be explained by standard 'Risk of bias' assessments.”



Bias is a big problem in research – it can affect the results significantly and make the entire study invalid.
When you're looking at an article, it's important to bear in mind how the outcome could have been influenced by decisions made in the methodology used, either consciously or unconsciously.

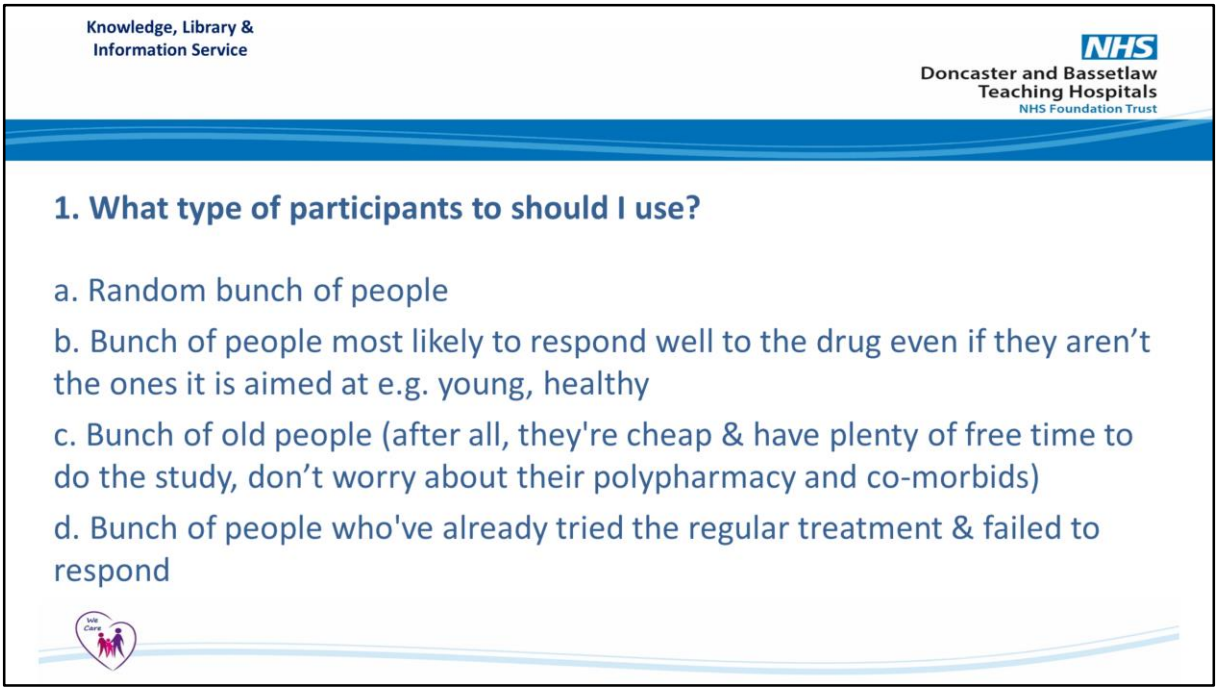
So, as an exercise in spotting bias, what would it be like if you consciously set out to influence the results of your research?

Meet Professor Thaddeus Schmidlap, resident snake oil salesman at the Enchanted Springs Ranch in Boerne, Texas. He'll be your guide to having absolutely no scruples and getting your drug to market by fair means or foul



There is value in debating how bad bad really is – the good option is usually obvious!

Can also do this on quiz platforms like Menti, works well when doing virtual training but then just go for the "worst" for ease.

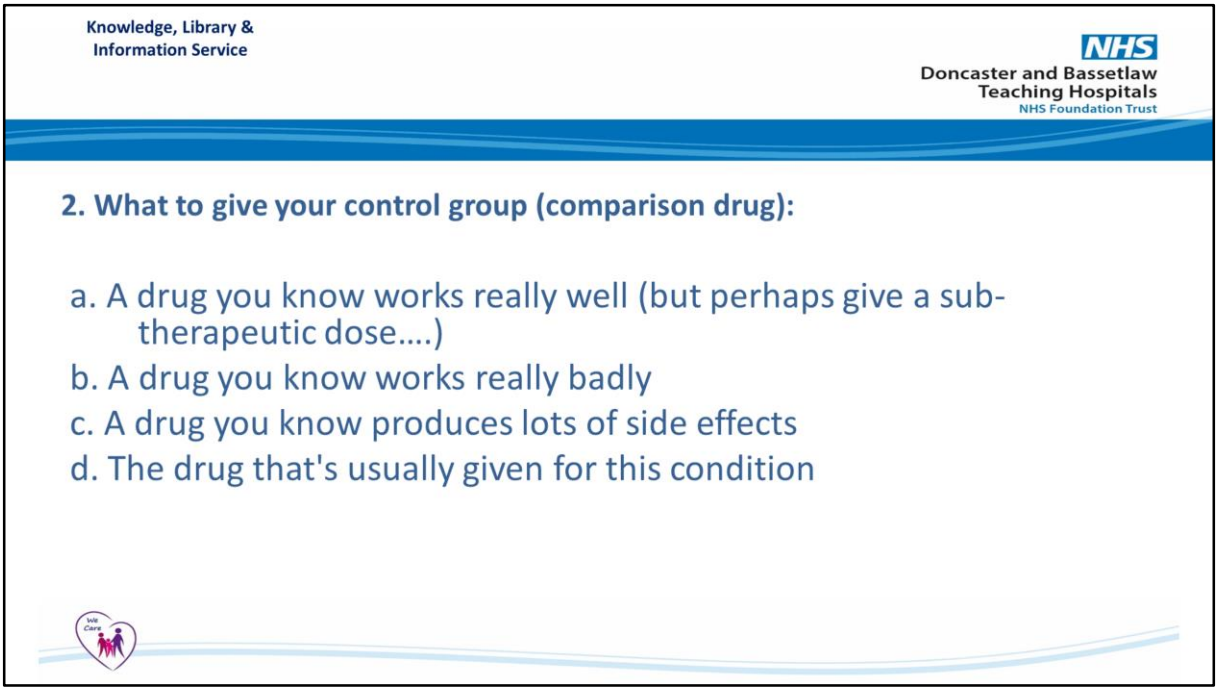


Looking for the way that's likely to put the product in the best light, and also the most ethical one.

Ethical choice is A

Choice most likely to give positive results is B

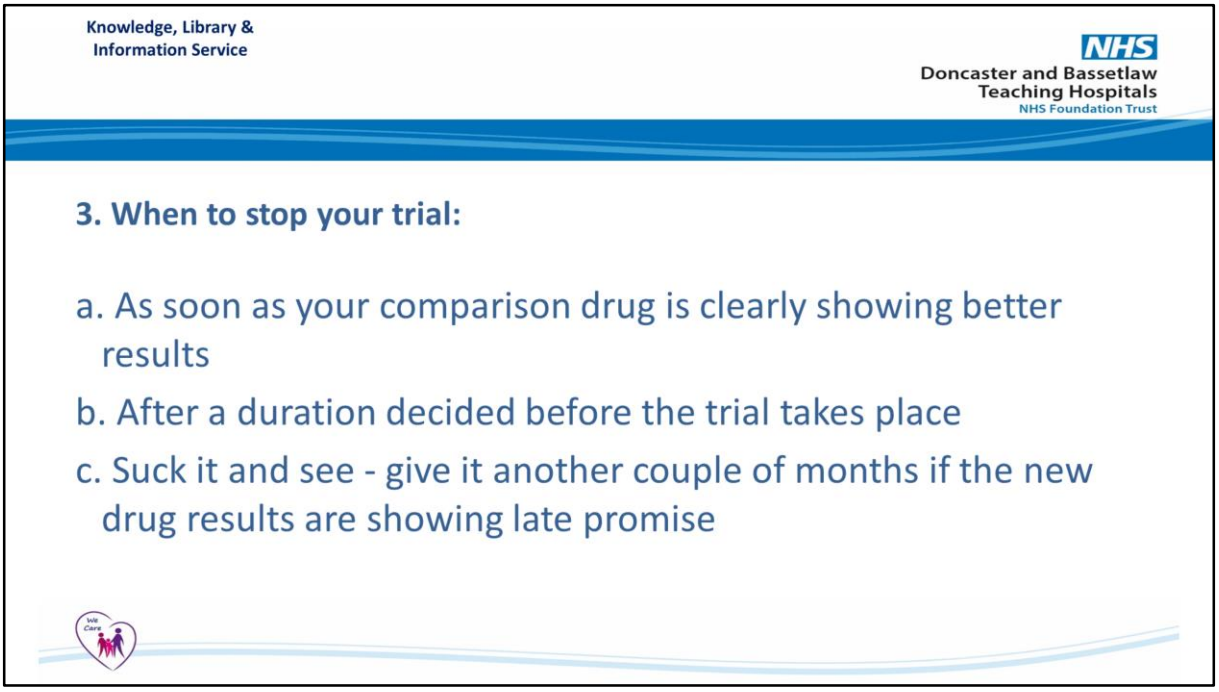
D would be interesting to see if the new treatment works better, but not what we're looking for



Ethical choice is D

Choice most likely to give positive results is B or C – both would be good choices to make the control group look bad

Anyone choose A? Could be very convincing as it looks like you are pitting your drug against a effective one, especially if no-one remembers to check what the standard therapeutic dose ought to be.



Ethical choice is B

Choice most likely to give positive results is definitely C

Anyone chose A? Definitely NOT what we're after here – You're Fired!

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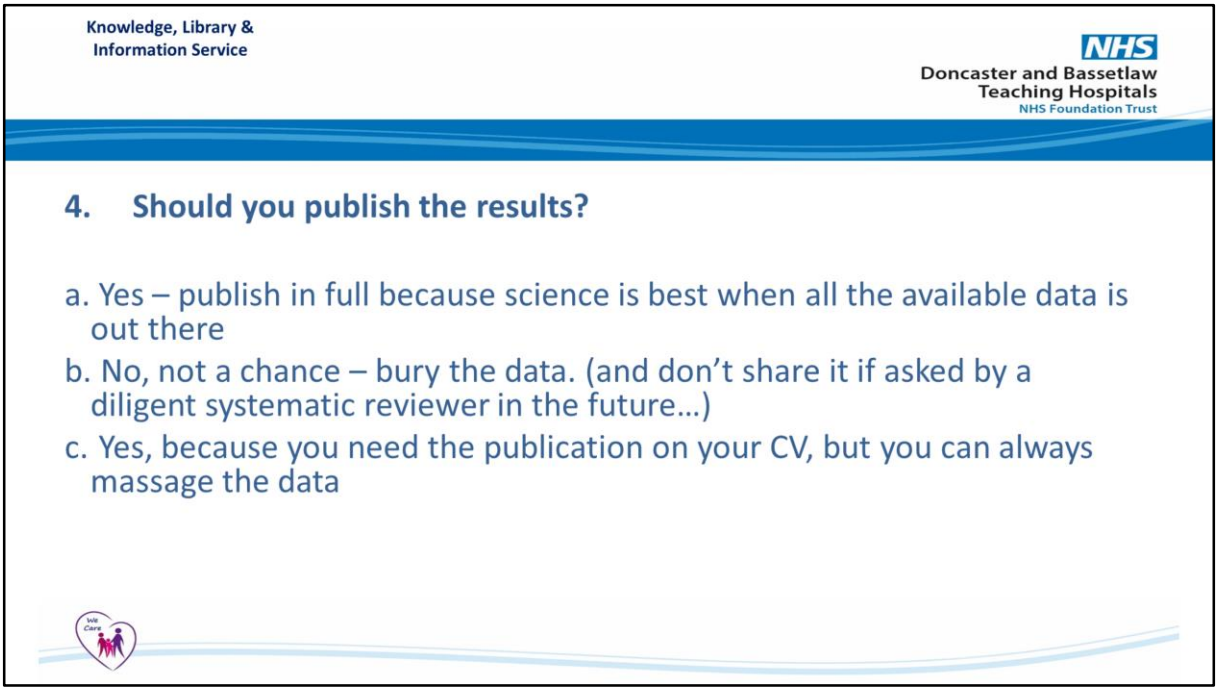
Now the trial is over – results are in.
It's not looking good for the new drug,
but do not despair – there are more tricks to try!

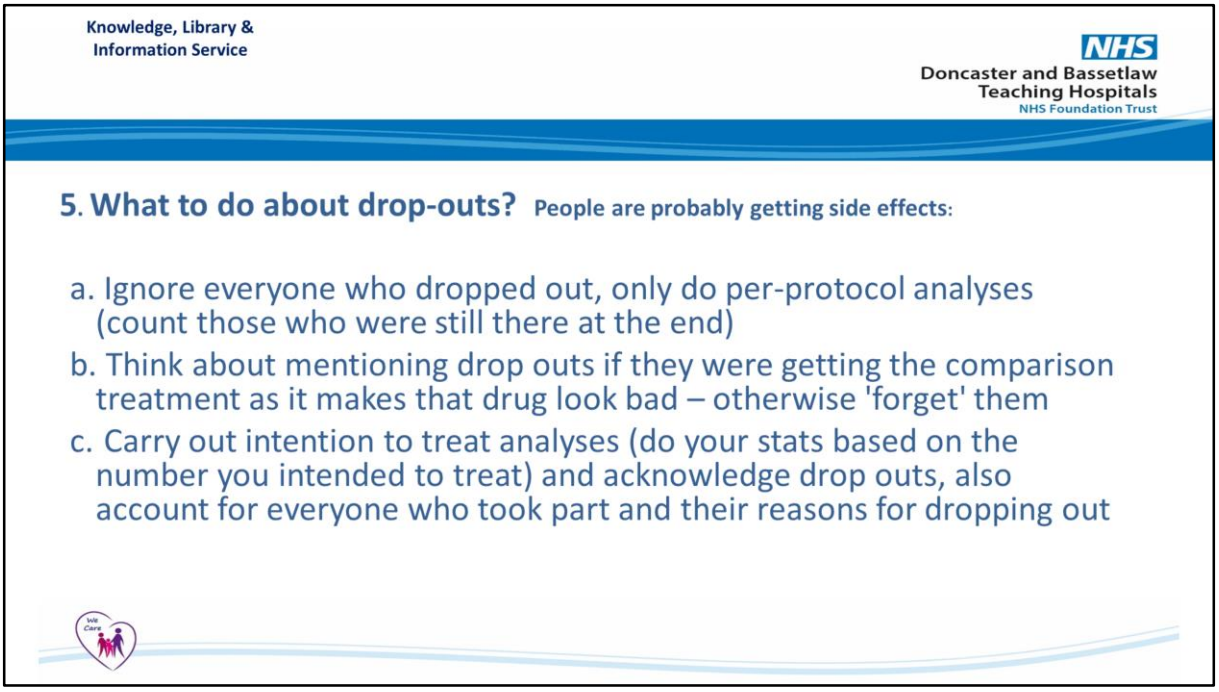
Decisions made during the trial are not the only ways to influence the results, there's a few more decisions to be made yet...



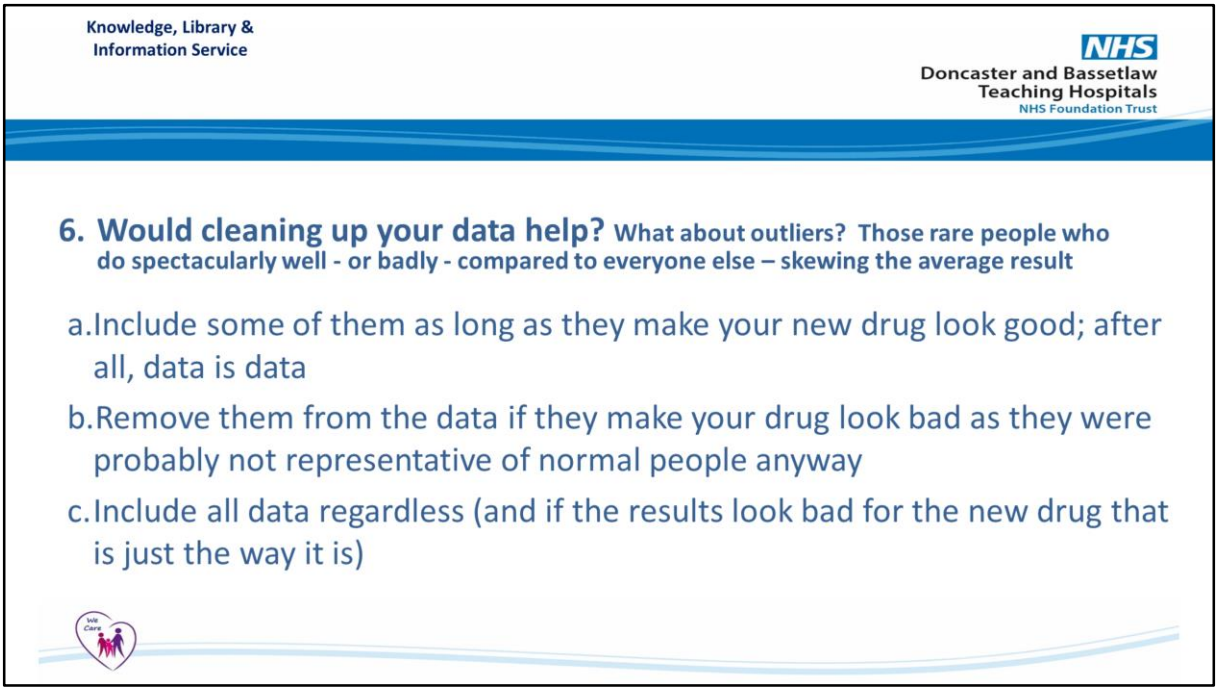
Publication bias is not all about pharmaceutical companies burying data, many publishers only want to publish papers which show interesting results, not dead losses.

Ethical choice is A
Choice most likely to give positive results is C with some data massaging

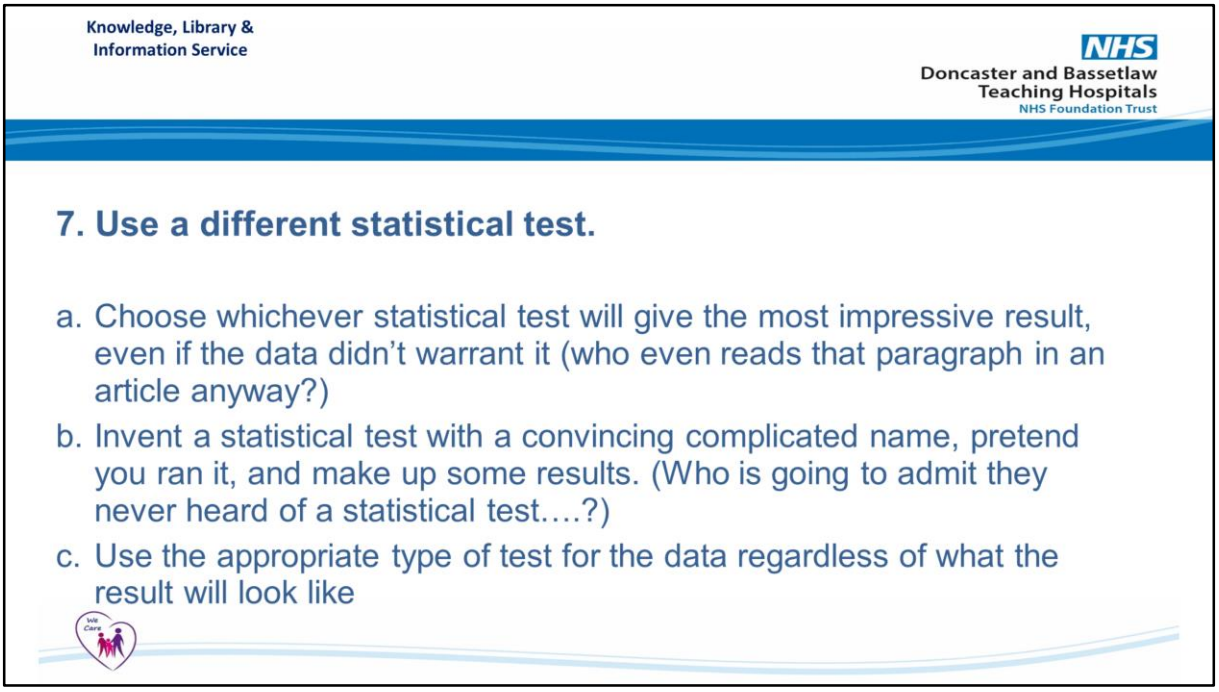
B is also a popular option, but won't help get the drug to market



Ethical choice is C – everyone should be accounted for, and ITT analyses are pragmatic and reflect real world medicine where not everyone takes their prescribed medicine properly or at all.
Choice most likely to give positive results is B
A happens more than you think!

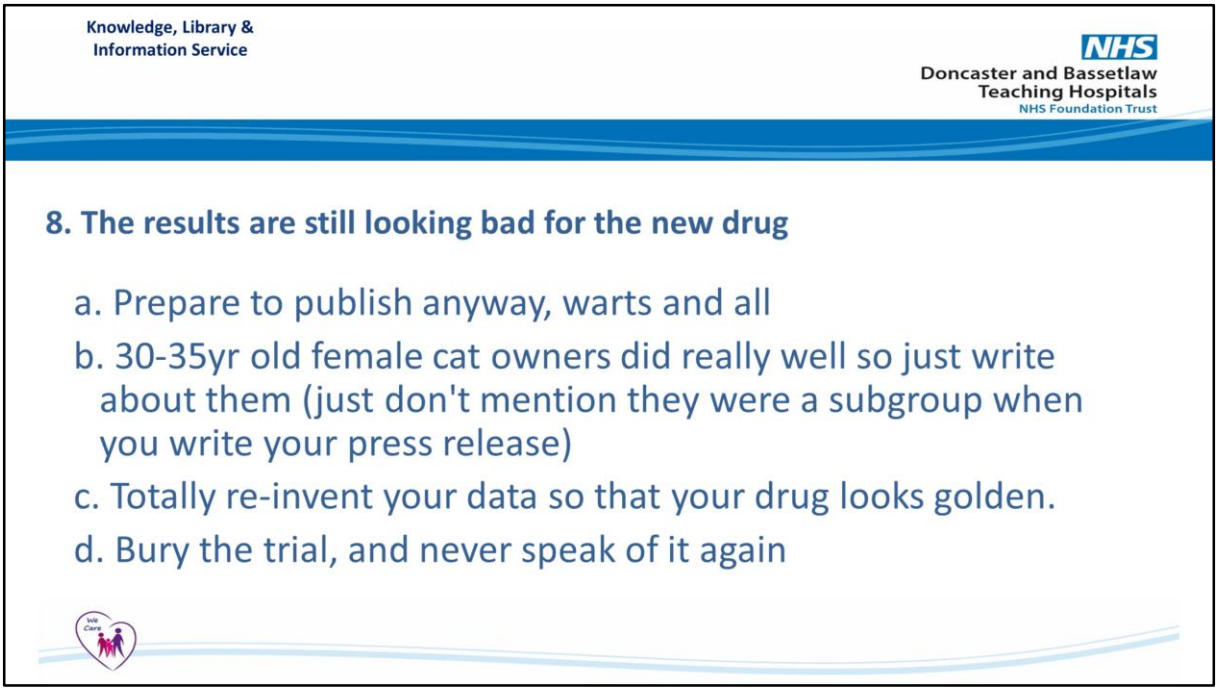


Ethical choice is C
Choice most likely to give positive results is A or B

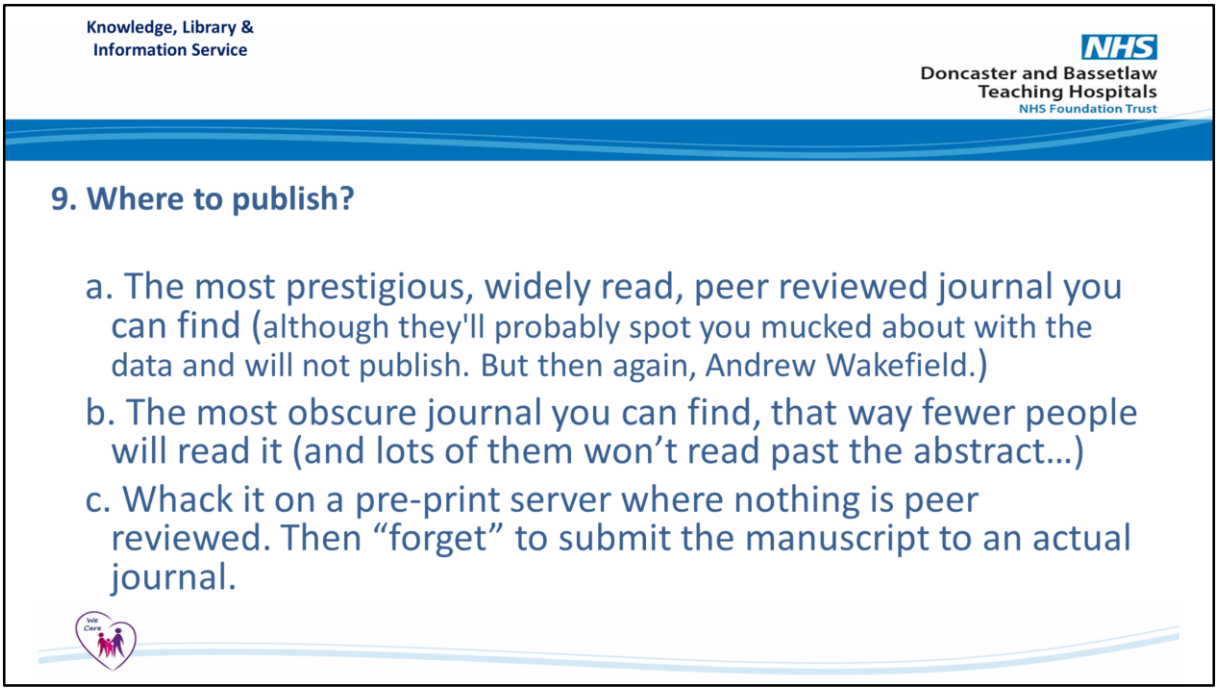


Some statistical tests shouldn't be used if your data doesn't meet certain assumptions. But who cares about using an inappropriate statistical test if it means you get the result you want!

Ethical choice is C
Choice most likely to give positive results is A or B



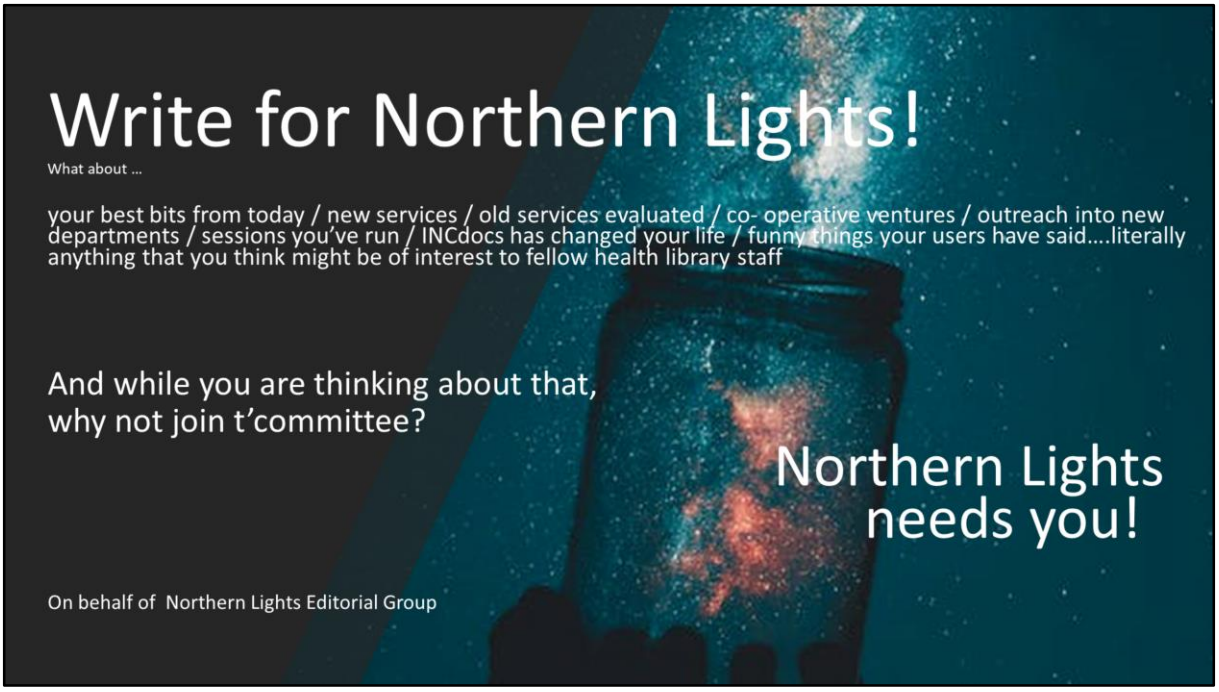
Ethical choice is A
Choice most likely to give positive results is B
C would never happen – or would it? That's why replication is really important
D makes other people's systematic reviews less valuable, even dangerously so. That's why systematic reviewers are meant to go to quite some lengths to get hold of unpublished data.



Choice most likely to give positive results is C, although B looks better on your CV

Ethical choice is A
Be aware – A didn't catch out Andrew Wakefield – his study linking autism to MMR vaccines was originally published in the Lancet, then retracted. Wakefield had highly selected his patients, fixed results and manipulated patient data, failed to get ethical approval for invasive tests on children, and lots more, including holding a patent for a single vaccine at the time he said combined vaccines were dangerous. The BMA struck off Wakefield. Check out *Lancet* MMR autism fraud on Wikipedia for the gory details.

"Preprints" are preliminary versions of scientific manuscripts that researchers share by posting to online platforms known as preprint servers before peer-review and publication in an academic journal. Preprint servers are publicly available online archives that host preprints and their associated data.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What about …
your best bits from today / new services / old services evaluated / co- operative ventures / outreach into new departments / sessions you've run / INCdocs has changed your life / funny things your users have said….literally anything that you think might be of interest to fellow health library staff
And while you are thinking about that, why not join t'committee?
Northern Lights needs you!
On behalf of Northern Lights Editorial Group

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