**Summary:** *Andrew Vickers, PhD (*[*https://www.mskcc.org/profile/andrew-vickers*](https://www.mskcc.org/profile/andrew-vickers)*) published an article in 2006 (*Whose data set is it anyway? Sharing raw data from randomized trials; see reference below) that argued “data sharing should come to be seen as an inherent part of conducting a randomized trial…” As part of the article, he released the data set from an acupuncture trial on which he was PI (data is open and still available to download in Excel format – link below). This data set combined with the original primary report of that randomized trial and protocol paper for the trial provide a rich, real data example that can be used to create a variety of different classroom exercises. Some ideas:

* Composition of datasets, best practices for data documentation and sharing
* Descriptive statistics and table/figure creation
* Basic inference (confidence intervals, p-values)
* ANCOVA (*primary analysis used in RCT*) and related issues (ANCOVA vs ANOVA, etc)
* Handling of missing data
* Power and sample size
* Design issues (selection of comparison group, blinding, etc)

References to the articles in question as well as several related/supplementary articles are provided below.

**Key Articles**

* *Primary report of Acupucture RCT (publicly avaialable):*  
  Vickers, A. J., Rees, R. W., Zollman, C. E., McCarney, R., Smith, C. M., Ellis, N., … Van Haselen, R. (2004). Acupuncture for chronic headache in primary care: large, pragmatic, randomised trial. *BMJ (Clinical Research Ed.)*, *328*(7442), 744. PMCID: [PMC381326](http://www.ncbi.nlm.nih.gov/pubmed/15023828)  
  *Note that the main paper has an e-appendix that provides sensitivity analysis results for missing data which was substantial*
* *Design Paper for RCT (requires personal or institutional subscription):*Vickers, A., Rees, R., Zollman, C., Smith, C., & Ellis, N. (1999). Acupuncture for migraine and headache in primary care: A protocol for a pragmatic, randomized trial. *Complementary Therapies in Medicine*, *7*(1), 3–18. PMID: [10361566](http://www.ncbi.nlm.nih.gov/pubmed/10361566)  
    
  Available through ScienceDirect: <http://www.sciencedirect.com/science/article/pii/S0965229999800533>
* Project Report submitted to Funding Agency (NHS R&D Health Technology Assessment Programme; *Publicly available report*) 🡪 *This report contains much more detail than the primary publication about study details*  
  <http://www.journalslibrary.nihr.ac.uk/__data/assets/pdf_file/0008/64943/FullReport-hta8480.pdf>
* *Data from RCT (publicly available):*  
  Vickers, A. J. (2006). Whose data set is it anyway? Sharing raw data from randomized trials. *Trials*, *7*, 15. PMCID: [PMC1489946](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1489946/)

**Supplementary/Relevant Articles:**

Vickers, A. J. (2004). Statistical reanalysis of four recent randomized trials of acupuncture for pain using analysis of covariance. *Clin J Pain*, *20*(5), 319–323. PMID: [15322438](http://www.ncbi.nlm.nih.gov/pubmed/15322438)

Vickers, a. J., & Altman, D. G. (2001). Statistics Notes: Analysing controlled trials with baseline and follow up measurements. *Bmj*, *323*(7321), 1123–1124. PMCID: [PMC1121605](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1121605/)

Vickers, A. (2003). How many repeated measures in repeated measures designs? Statistical issues for comparative trials. *BMC Medical Research Methodology*, *3*(1), 22. PMCID: [PMC280679](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC280679/)

Vickers, A. J. (2001). The use of percentage change from baseline as an outcome in a controlled trial is statistically inefficient: a simulation study. *BMC Med Res Methodol*, *1*, 6. PMCID: [PMC34605](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC34605/)

Vickers, A. J. (2002). Placebo controls in randomized trials of acupuncture. *Eval Health Prof*, *25*(4), 421–435. PMID: [12449085](http://www.ncbi.nlm.nih.gov/pubmed/12449085)

Hrynaszkiewicz, I., Norton, M. L., Vickers, A. J., & Altman, D. G. (2010). Preparing raw clinical data for publication: guidance for journal editors, authors, and peer reviewers. *Trials*, *11*, 9. PMCID: [PMC2825513](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2825513/)

Hrynaszkiewicz, I., & Altman, D. G. (2009). Towards agreement on best practice for publishing raw clinical trial data. *Trials*, *10*, 17. PMCID: [PMC2662833](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662833/)