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Objectives and Hypothesis

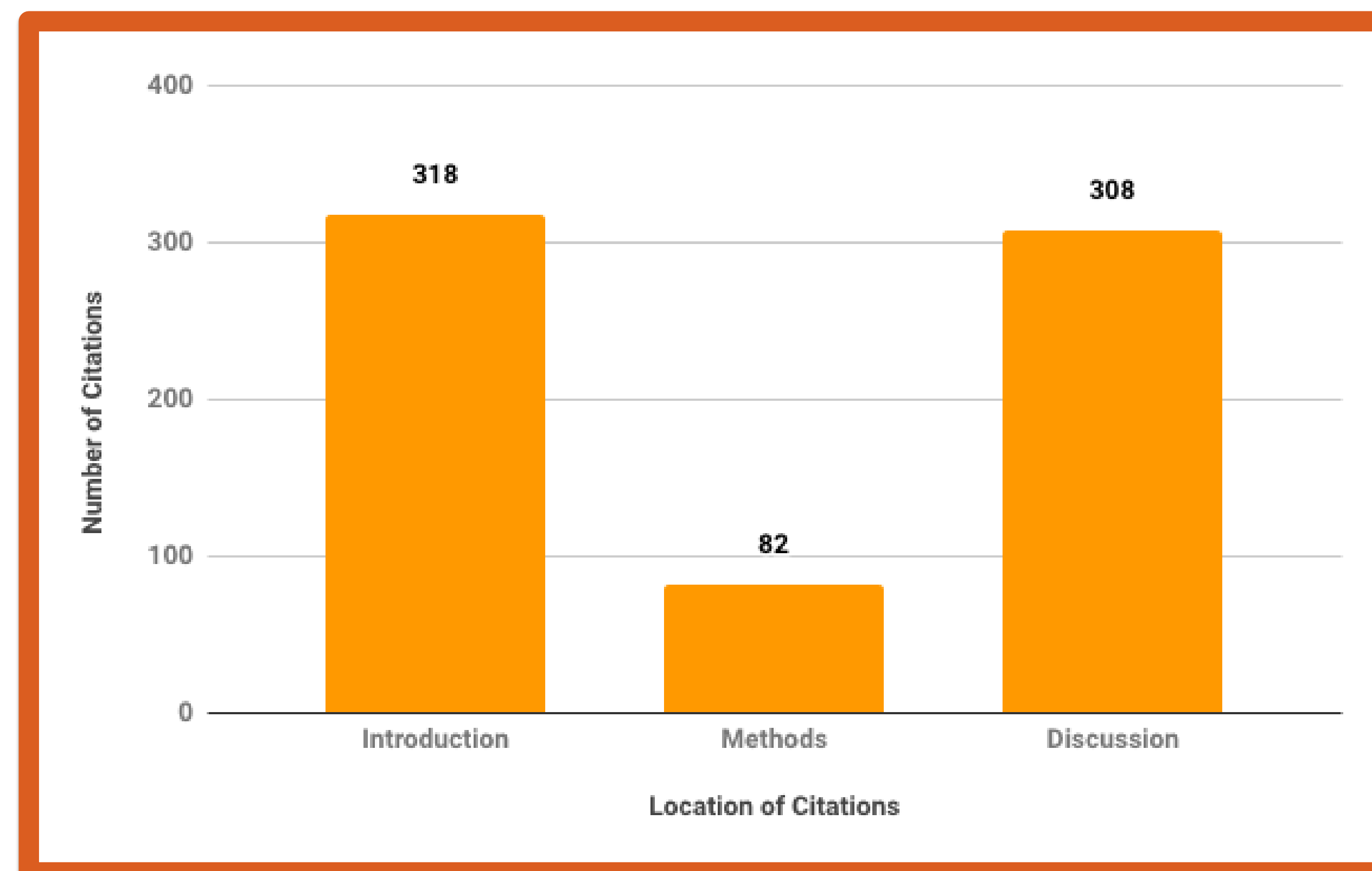
Eighty-five percent of health research may be wasted, resulting in \$170 billion annually in wasteful research spending worldwide.¹ Given the increased use of randomized trials and their influence on medicine, one method to combat research waste is to conduct RCTs only when a systematic review (SR) suggests more data are needed or when no previous systematic reviews are identified. We hypothesize SRs would be rarely cited as justification for conducting RCTs.

METHODS

We analysed RCTs published between 2016 and 2018 in *New England Journal of Medicine*, *Lancet*, and *Journal of the American Medical Association*. We performed duplicate and independent data extraction to ensure the accuracy and validity of our data. For each trial, we extracted whether SRs were cited as justification for conducting the clinical trial.

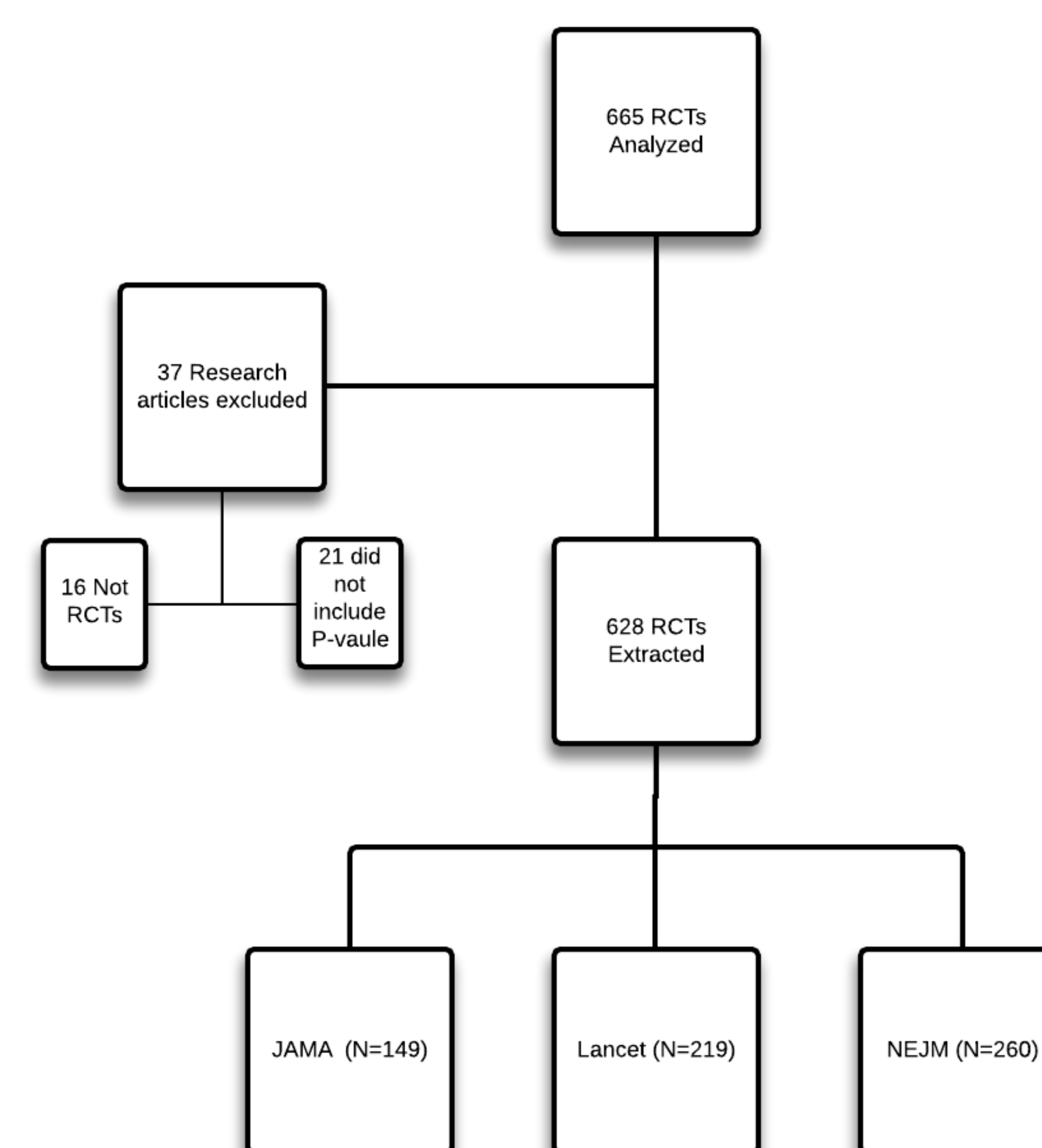
RESULTS

SRs Cited in RCTs



Our search retrieved 665 records, of which 628 were included. Overall, 706 SR's were cited in these 628 RCTs; of which, 318 were referenced in the introduction, 82 in the methods, and 306 in the discussion. 49 SRs were cited verbatim as justification for conducting the trial. RCTs published in *Lancet* were more likely to cite a SR as justification for conducting the trial.

Research Articles Analysed



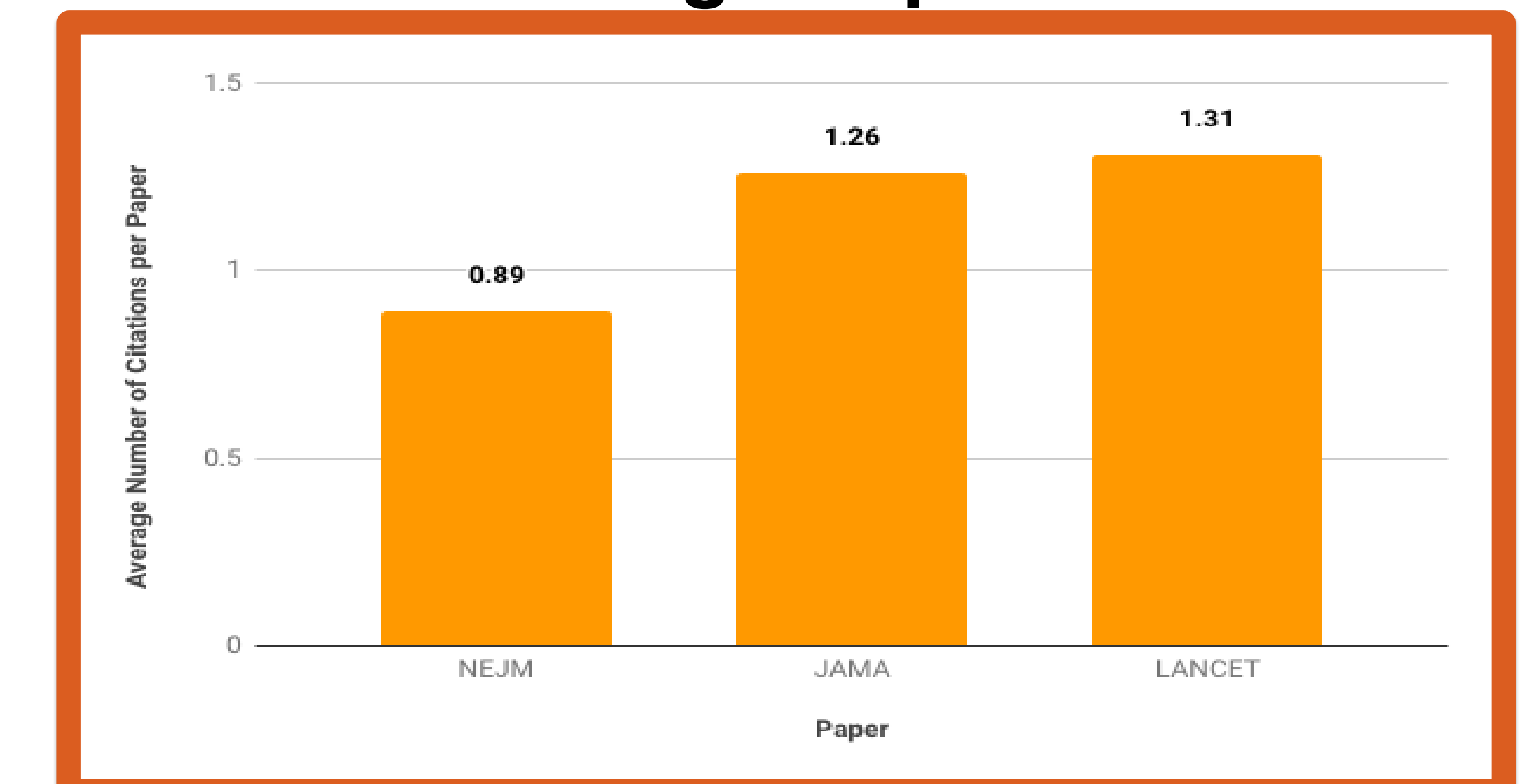
Study Characteristics

Funding source	n (%)
Government	268 (43)
Industry	263 (42)
Non-Profit	55 (9)
Hospital / University	24 (4)
Combined Non-Profit and Industry	12 (2)
Not Reported	5 (0)
Self-Funded	1 (0)
Year Published	
2017	307 (49)
2016	294 (47)
2018	27 (4)
Type of Intervention	
Drug	385 (61)
Other	109 (17)
Procedure	105 (17)
Medical Device	29 (5)
Type of Trial	
Parallel Groups	595 (95)
Cluster Randomized	22 (3)
Crossover	11 (2)
Average Participants	
	Range: 6-1194147; 5943
Efficacy of Results	
Positive	377 (60)
Negative	251 (40)

Summary

Very few clinical trials cite systematic reviews as the basis for undertaking the trial. We believe trialists should be required to present relevant systematic reviews to an ethics or peer review committee demonstrating an unmet need prior to initiating a trial. Eliminating research waste is both a scientific and ethical responsibility.

Citations in High Impact Journals



Top Three High Impact Journals:

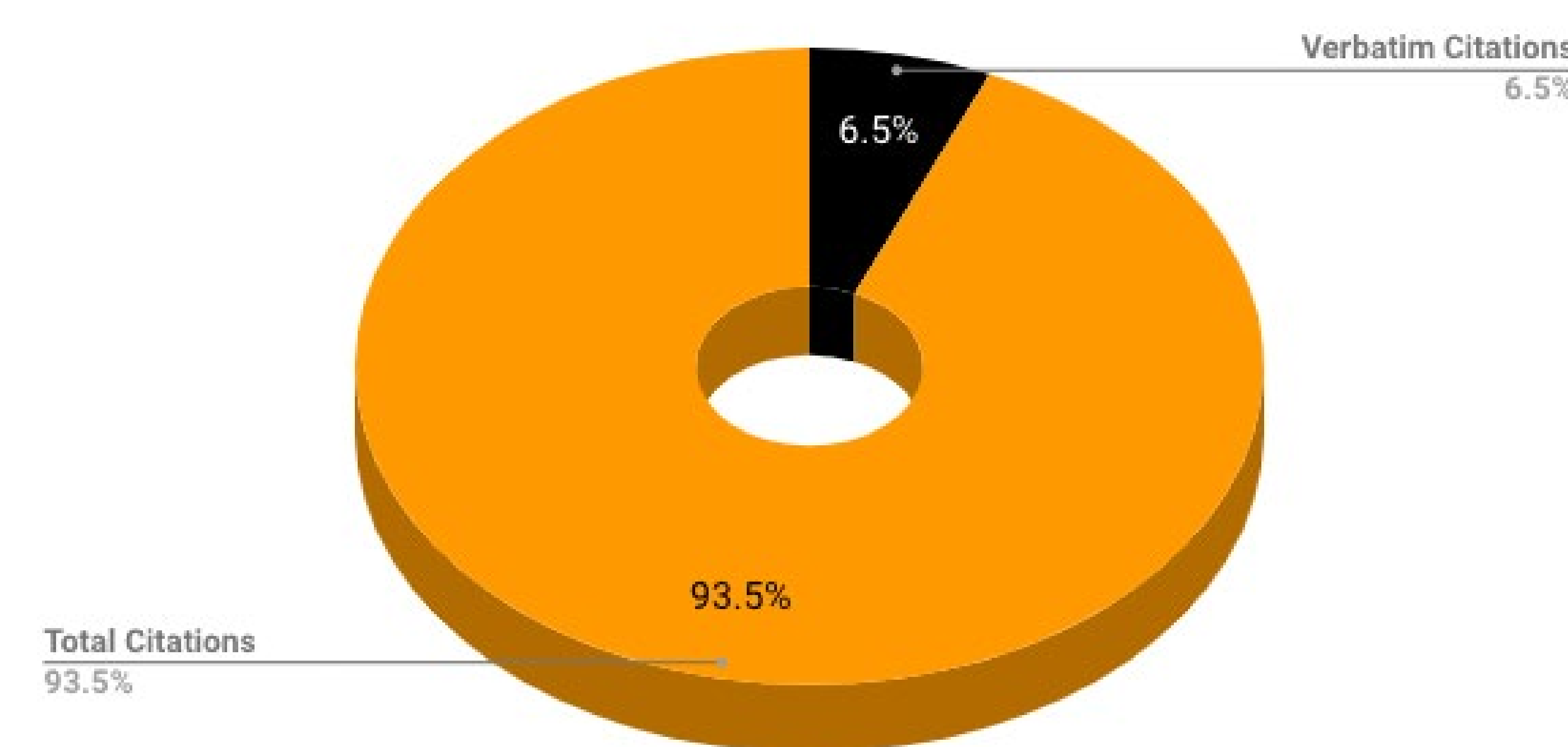


The New England Journal of Medicine

THE LANCET

JAMA The Journal of the American Medical Assoc

SRs used as Justification for Conducting RCT



REFERENCES OR ACKNOWLEDGEMENTS

- Chalmers I, Glasziou P. Avoidable waste in the production and reporting of research evidence. *Lancet*. 2009;374(9683):86-89.