

The International Society for Pharmacoepidemiology, ISPE, formally endorses the ASA statement (<http://www.tandfonline.com/doi/full/10.1080/00031305.2016.1154108>) on the misuse of p-values and accepts it as an important step forward in the pursuit of reasonable and appropriate interpretation of data.

On March 7, 2016, the American Statistical Association (ASA) issued a policy statement that warned the scientific community about the use P-values and statistical significance for interpretation of reported associations. The policy statement was accompanied by an introduction that characterized the reliance on significance testing as a vicious cycle of teaching significance testing because it was expected, and using it because that was what was taught. The statement and many accompanying commentaries illustrated that p-values were commonly misinterpreted to imply conclusions that they cannot imply. Most notably, “p-values do not measure the probability that the studied hypothesis is true, or the probability that the data were produced by random chance alone.” Also, “a p-value does not provide a good measure of evidence regarding a model or hypothesis.” Furthermore, reliance on p-values for data interpretation has exacerbated the replication problem of scientific work, as replication of a finding is often confused with replicating the statistical significance of a finding, on the erroneous assumption that replication should lead to studies getting similar p-values.

This official statement from the ASA has ramifications for a broad range of disciplines, including pharmacoepidemiology, where use of significance testing and misinterpretation of data based on P-values is still common. ISPE has already adopted a similar stance and incorporated it into our GPP [ref] guidelines. The ASA statement, however, carries weight on this topic that other organizations cannot, and will inevitably lead to changes in journals and classrooms.

Endorsed by the ISPE Board of Directors April 1, 2017