

# Neurology<sup>®</sup> null hypothesis

## A special supplement for negative, inconclusive, or confirmatory studies

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The call for papers for a special supplement, *Neurology*<sup>®</sup> *Null Hypothesis*, is now open. *Neurology Null Hypothesis* is a joint initiative between the American Academy of Neurology (AAN) and its flagship publication *Neurology* and the Center for Biomedical Research Transparency (CBMRT); the goal is to promote the submission of research papers for well-designed yet “negative” or inconclusive studies and replication work. This initiative was launched at the 2018 AAN meeting in Los Angeles.

As clinicians and scientists, we are in many ways indebted to the quality of research that has gone before us—to gain understanding of diseases and therapies, to inspire and inform our own research study design, and most importantly to inform and optimize treatment outcomes for our patients. However, unless we achieve balanced and transparent reporting, we risk an incomplete understanding of the state of our field, of our treatments, and of the scientific evidence-based knowledge we share with research participants and patients.

Publication bias requires action in many fields, including neurology.<sup>1–3</sup> Although the reasons for publication bias are multifactorial,<sup>4</sup> the ultimate outcome is incomplete research reporting, with flow-on effects to research funding, and less information available for clinicians and patients. We aim to address this issue with specific allocation of added publishing space for well-designed studies yielding negative and inconclusive results; the consequence will be, we hope, a shift in research culture towards more enhanced research reporting practices, increased research efficiency, and better informed subsequent research design and patient care.

Many experimental results never see the light of day—particularly when an expected effect is not observed. Yet “negative” and inconclusive results in biomedical research have substantial value to inform future research designs, funding decisions, and to protect study participants from avoidable risks. There is pressure for scientists to publish—including negative data—for career trajectory, ethical reasons, and to comply with legislation and recommendations from major international biomedical institutions and funders. However, publication of negative or inconclusive data can be challenging as that research (1) is competing for publication space in higher-impact journals against new studies with positive results and (2) may be perceived as unattractive or of lesser value for career prospects. Furthermore, investigators may believe that investing in taking the time to write up such studies may only result in publication in a lower impact-factor publication, prompting them to focus on high-impact publication areas, to the detriment of negative/inconclusive result reporting that would promote a more balanced understanding of the field.

The biomedical research publishing environment is a rapidly evolving space, with new technologies and an online news/media environment that are challenging traditional reporting systems. It is vital that biomedical and clinical research reporting is fully and clearly represented, in a timely manner, for the benefit of scientific progress, research efficiency, and ultimately to better inform care for our patients.

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*Neurology Null Hypothesis'* objective is to provide a dedicated high-quality home for peer-reviewed well-conducted negative, inconclusive, or replication studies, aiming for a research reporting culture where hypotheses and study quality can be equally viewed, whether the null hypothesis is rejected or not.

## About CBMRT

CBMRT was founded by Dr. Sandra Petty (neurologist, researcher, and medical educator) and Dr. Hugo Stephenson (clinical trials and IT specialist) in 2016 in New York. CBMRT is a nonprofit organization facilitating publication and increasing visibility of negative, inconclusive, and replication studies through partnerships with major societies and their journals publishing an annual supplement, the *Null Hypothesis (H<sub>0</sub>)*. CBMRT hosts the annual Biomedical Transparency Summit connecting stakeholders across the research funding and output reporting environment to promote and facilitate research reporting for biomedical scientists.

## Disclosure

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