Comments from SAB Member, Dr. Stanley Young, Relative to CHPAC Letter to the SAB on the Science and Transparency Rule, February 7, 2020

Air Quality and Children

EPA Children's Health Protection Advisory Committee (CHPAC).

Several comments, in no order.

1. Researchers want to do their research without oversight and have their claims become the basis for EPA policy. They are often paid out of the public purse.
2. Researcher without the possibility of oversight is simply not science.
3. The NIH recently proposed a policy where research data must be made public or they will not fund the research, Science 15Nov2020 366, 778*. They are clear, it is up to the researcher how to protect personal identity. Personal identity protection is possible in several ways, but that monkey is on the back of the researcher.
4. There are very many environmental epidemiology studies on air quality and things such as low birth weight, etc. The reliability of such studies has not been examined so far as I know**. Just as air quality/mortality studies are under question, there is no reason to think other health effect studies should not be re-examined.
5. More generally, many areas of science are now aware that many claims that appear in research papers fail to replicate. Estimates are generally over 50% and in some areas the estimates are 90-100%. (Much of this research appeared in the best journals and all was peer reviewed.)

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The U.S. National Institutes of Health (NIH) proposed last week requiring all research grantees to make their data sets available to colleagues, broadening a policy it adopted in 2003. Grant applicants would need to submit a detailed plan for sharing data, including steps to protect research subjects' privacy. NIH program officers would review data sharing plans before awards were made and would follow up; investigators who didn't comply might be denied future funding. Under the 2003 policy, such rules apply only to NIH grantees receiving more than $500,000 in direct costs annually. The agency will collect comments on the proposed policy through 10 January 2020 before finalizing it.

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Young SS. (2009) Bias, multiple modeling and trust me science. Pediatrics. (on line) https://pediatrics.aappublications.org/content/124/2/e195/tab-e-letters#bias-multiple-modeling-and-trust-me-science

Letter to Editor

Bias, Multiple Modeling and Trust Me Science

A paper was published in Pediatrics essentially making the claim that differential prenatal exposure to minute quantities of hydrocarbons resulted in a decrement in IQ of five-year old children, Pediatrics (2009) 124,e195-e202. There is a large potential bias: 256 children of 505 were not available for analysis for one reason or another; the father's IQ was not used to adjust the analysis, etc. The data was subject to multiple statistical analyses. There are 5 demographic confounding variables. There are 9 potential outcome variables. There were 8 chemicals measured. So there are at least 25 x 8 x 9 = 2,304 potential claims/models at issue. Given the multiplicity of modeling options, chance is a more plausible explanation for the claimed effect. In addition, any claim should be considered “Trust Me Science” as the author will not make data and analysis code available, the journal has no policy on data sharing, and the NIEHS, even though the funding is at taxpayer expense, will not honor a FOI request.

Sincerely,

S. Stanley Young National Institute of Statistical Sciences