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Letter to the Editor

## Response to Acquavella J, conflict of interest: a hazard for epidemiology

Although we agree with Acquavella's [1] statement that "Historically, private industry has been on the wrong side of many public health issues ...," we are concerned that he largely dismisses the financial disclosure requirements that journals impose as having the undesirable consequence of unfairly predisposing the reader against industry-sponsored studies.

We respond that accurate disclosure of research sponsorship and any financial conflict is considered necessary (but not sufficient) for study evaluation because overwhelming evidence across sectors has shown that industry-sponsored studies are more likely to report an outcome favorable to its sponsors. And, importantly, the public may be harmed by such inaccurate information precisely because—as Acquavella notes—private industry has so often been on the wrong side of public health. Three well-referenced primary sources substantiate our claim [2–4]. The influence of financial interests on study outcome is so widely recognized that some systematic review frameworks include funding bias in their "risk of bias" analysis [5].

We caution against downplaying the enormity of the imbalance between nonfinancial (often individual) interests compared with financial conflicts driven by powerful moneyed interests. The latter, with their deep pockets, attract and command the services of individuals to bring their influence to the table. This influence was brought to attention by Clayson and Halpern in 1983; they recognized that "Industry's offensive against the regulation of health and safety hazards uses academics to downplay or deny the seriousness of the hazards" [6]. Indeed, it was Judge Miles Lord who, in 1982, had noted that "Corporations create 80% of our GNP. They, of all entities working, have the most potential for good or evil in our society" [7].

In support of Acquavella's acknowledgment that "... private industry has been on the wrong side of many public health issues ...," we would have appreciated references that implicate financial interests specifically as being the major driver of grave public health harms through their influence on policy and public health. We provide a few examples of the influence of specific industries in fomenting uncertainty as empirical evidence of grave harms resulting from industry influence in science and health policy: the relationship between smoking and cancer [8]; the link between air pollutants and adverse health outcomes including asthma, neurodevelopmental impacts, and premature death [9–11]; the impact of sugar-sweetened beverages on dental health [12]; promoting the continued "safe-use" of chrysotile asbestos; developmental neurotoxicity and pesticides [13]; and promoting e-cigarettes as a safe alternative to cigarette smoking [14].

The research reports referenced previously include epidemiology, case studies, medical reports, evidence in texts, articles,

and cinematic documentaries and docudramas. This literature derives from, among others, events that have been exposed and revealed through expert testimony under discovery in legal actions. Other case-related materials, internally suppressed by polluting industries, have been exposed under oath and accessed through Freedom of Information legislation. These influences—often hidden and therefore more subversive of scientific integrity—are far more powerful in delaying and, indeed, derailing health policy than what personal biases on the part of individual researchers have been. The distinction that needs to be made is between "individual bias" and "corporate influence"; the latter is far more damaging to both science and public health.

We are concerned that shifting focus to nonfinancial interests minimizes financial interests as being primarily responsible for the derailment of science, policy delays, and injustice in tort actions, all resulting in grave social and environmental harms through a preventable burden of morbidity, premature mortality, and environmental degradation. Focusing attention on nonfinancial interests serves to detract from the impacts of financial interests and can lead to the exclusion of those with no financial conflict from science and debate. One of us (L.B.) [15] has proposed a framework for evaluating potential interests that could be used to avoid excluding those with interests that do not produce conflict. This framework provides a constructive way to achieve the goal of recognizing the interests that scientists may have, but only excluding, or managing in some other way, those with a conflict of interests.

Furthermore, as scientists concerned about the role of financial conflict of interest in delaying needed policy, we rely on the evidence referenced herein that points to the increased industry capture of regulatory agencies. We refer, for instance, to the egregious Monsanto capture of the United States, European Union (EU) and Canadian regulatory processes on glyphosate, documented by internal industry documents made public through the courts [16].

Another example of malfeasance is the concealing of scientific misconduct to protect industry interests by permitting increased corporate influence over universities and research agendas [17]. One current example is in the EU where corporations and their scientific allies are seizing an opportunity to water down EU pesticide regulations [18].

Although we agree with Acquavella's point that a range of expertise and perspectives on advisory boards is desirable, we caution against the involvement of those with financial ties to the field/product of concern because such roles have had a corrupting influence in discussions and decisions despite conflict of interest declarations.

An invited commentary to serve as a counterpoint to that of Acquavella may be warranted.

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