

Review of: "Improving the Integration of Epidemiological Data Into Human Health Risk Assessment: What Risk Assessors Told Us They Want"

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Part of the value of publishing in Qeios is that the designers of the journal want the experience to be open and respectful. Yet this article uses language that is not very respectful to epidemiologists. If the authors want to be antagonistic, maybe a different journal would be better?

The authors also seem to be making the argument that the sole reason for epidemiological studies to be done is for the sake of risk assessment, "Thus, epidemiology studies of particular chemical exposure and disease combinations really have just one job..." but that is just not true.

It is also interesting that risk assessors want information that is devoid of noise (the noise of inter-species comparisons, the noise of hypothetical (or at least unquantified) exposure assessment), But isn't this part of the very nature of epidemiology? Epidemiologists can (and often do) deal with fuzzy data to spearhead further investigation. My point here is that this goes directly counter to your previous point that epidemiologists really just have one job. That is oversimplistic.

Later in the manuscript, the authors argue (relative to exposure assessment) that, "The reporting aspect of these concerns is an easily remedied problem." This may not be true and leads to the difference between risk assessment for a risk (car accident) versus risk assessment for an uncertainty (exposure to secondhand smoke). Epidemiological studies can be done regarding secondhand smoke, but the quantitative assessment of exposure may never be known.

Regarding causation, it is not the epidemiologist's job, necessarily, to ensure causation. There is a place in epidemiology for work that raises the "gee, that is an interesting association, I wonder if that is legitimate."

Regarding statistical methods, while epidemiologists are, on one hand, using methods that are understandable and transparent, a second function in epidemiology (I am particularly thinking about geospatial epi) is to champion the use of new tools (GIS, for example).

Regarding this topic, "Think more mechanistically. An understanding of underlying toxicology and using it to create context would help...retrospective analyses considerably."

The individual who made this comment is not recognizing how epidemiologists (in many, but not all, situations) are

trained. The training, in some cases, focuses on statistical (quantitatively) skill and dexterity, rather than on mechanistic thinking. This is a valid concern, but a simple (Oh, for God's sake, be mechanistic!) will only be responded to with (that is not my job!) This brings up a good point, but trench warfare is not going to solve it.

Conclusion: The authors wrote, ““It is apparent from our survey results that risk assessors (at least those at the level of sophistication in our sample population) can identify various ways in which epidemiology can and should be done better to contribute to their work.” Yes, this is true, but the obvious pushback would be “yes, but that is not my job!”

This was an interesting read. I think that a follow-up paper that detailed a series of conversations between epidemiologists and risk assessors would be highly insightful, as this treatise approached the issue only from one side.