Public Comments concerning the "Health-based Maximum Contaminant Level Support Document for perfluoroctanoic acid (PFOA)"

From: Alan Ducatman, MD, MS

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This comment supports the strong work provided by New Jersey regarding the Health-based Maximum Contaminant Level Support Document for perfluoroctanoic acid (PFOA) (in drinking water). I am a clinician-researcher, and I have contributed to the literature concerning PFOA and other related compounds.

This NJ-proposed health-based standard of 14 parts per trillion (14 ppt) in drinking water is lower than the current US Environmental Protection Agency (EPA) recommendation of 70ppt, and is higher than recommendations including zero recommended exposure currently coming out of Europe. The NJ--proposed health based maximum of 14 ppt represents excellent science, and thorough risk assessment; it is scientifically defensible and practically achievable.

Here are some of the specific scientific strengths of the document.

1. The document considers pregnant women and future generations (developing humans) as susceptible populations. It considers exposure to these susceptible populations in terms of the very long half-life of PFOA, and it is alert to the accumulation of PFOA during the entire reproductive cycle. (The exposure of the developing human does not come only from exposure during pregnancy. Due to the lengthy half-life, the exposure to the developing human includes PFOA encountered well before pregnancy. In addition, if normal recommendations to breast feed are followed, exposure also persists after pregnancy, and is further implicit in foods and in water fed to infants. These data are certain, not subject to any doubt.) This is an important consideration and is adherent to the goal and process of risk assessment.

2. The document is cognizant that important human studies show consistent associations several important biomarker outcomes, including but not limited to alterations of total and LDL cholesterol, and markers of immune response. These biomarker studies do not show "thresholds." Instead, the human dose-response curve for cholesterol and LDL cholesterol is asymptotic, meaning that most of the unfortunate "action" is at very low dose. (There are also effects at escalating doses, but there is correspondingly less increment with each log increase in dose, suggesting a possible saturation mechanism). The point is that low doses are likely to be physiologically quite active.

   The importance of this kind of association is underlined by the multiple efforts to find a non-causal reason for consistent association, such as to LDL and total cholesterol. Legitimate and important efforts to find a non-causal reason for the consistent association have been made, and no confounding or non-causal explanation has been found. The association is highly likely to be causal in humans. In addition, animal data now mirror these human findings, and have further suggested that dietary and physiology factors interact with PFOA to elevate cholesterol.

The New Jersey health-based maximum contaminant concentration is consistent with these human and toxicology findings.

3. In addition, a number of toxicology studies, reviewed by the NJ scientists, do suggest reproductive and developmental risks that have not yet been adequately studied in humans.

4. The document also performs the needed task of listing the areas of scientific uncertainty. That is important as it openly assists readers of all perspectives.

New Jersey's leadership is appreciated. The comments I have provided are not intended to be a thorough list of all that is excellent in the New Jersey document. Rather, these comments are intended to provided examples of why I believe the Health Standard document is worthy of support.

In summary, a thorough review of the available science has provided a protective yet realistic target. The proposed standard is science-based, achievable, and in the public interest.

Sincerely,

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Professor of Public Health, Professor of Medicine

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