

Michelle Lavigne
Bureau of Toxic Substances Assessment
Flanigan Square Room 230
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10/11/10

Dear Ms. Lavigne,

I have read the Draft of the New York Mold Task Force. I wrote you previously on 9/17/10. I remain concerned that the report is at best too narrow in focus. What we see in water-damaged buildings (WDB) is far more than just molds and mycotoxins. Any assessment of human health effects from exposure to the interior of WDB must acknowledge the importance of additional biologically active compounds found in WDB. These data were well known before your group started meeting in 2007 and should have played a prominent role in discussion of assessment.

The Draft supplies so little data on actual health effects that this draft can not be considered to be a finished document. The trivial discussion on health effects found on page 11 is cursory at best.

While I am pleased that the report from the World Health Organization from 7/09 made it into your report, despite its publication just as your last meeting was being held, the opinions from the WHO don't appear in your report. The thrust of the WHO was to (1) demonstrate that illness causation from exposure to the interior environment of WDB is multi-factorial; (2) that *immunologic* conditions dominate the abnormalities seen in affected patients and (3) that multiple health symptoms are readily seen in those with exposure. None of these points are made in your report; none are discussed in your executive summary or elsewhere other than in the "fine print" buried on page 67 and 143.

I am concerned that you don't reference the paper from the CDC that appeared in *Applied and Environmental Microbiology*, March 2007, for which Dr. Chew, one of your panel members, was a co-author. This paper documented that elevated levels of mycotoxins, endotoxins and beta glucans, each adequate to cause human illness, were found in WDB in Katrina-damaged homes. Dr. Chew is cited eight times total in the Draft but not in the single paper that represents a fundamental shift of public CDC opinion on WDB.

You don't mention the report from the 9/08 US GAO that is (1) critical in establishment of a case definition; (2) emphasizes the importance of immunologic effects and (3) health effects that are contained in one of the cited reviews from Dr. Gray and his group. The GAO listed Federal efforts in establishing a governmental agency appearance in the issue of health effects acquired from WDB, listing many different symptoms, far more than respiratory effects.

I searched for discussion of cytokines in your report. None. Even the long-out of date IOM report mentioned cytokines and their role in human health effects eleven times. I searched for genetics and found only one mention as opposed to the attempt of the IOM to provide guidance for clinicians in which genetics are mentioned thirteen times. Even the 2006 opinion from the American Academy of Pediatrics comments on association of HLA DR with human illness.

We know from the excellent work of Drs Gorny and Cho that the source of 99.8% of the toxin and inflammatory burden found inside WDB is carried by fragments of fungi, yet their work is never cited and fragments are not discussed in any detail (five cites). Any remediation attempts must deal with fine bioaerosols and particulates. It is impossible to discuss "fixing" buildings without an awareness of fragments, yet your report has nothing on this vitally important aspect of WDB.

You mention endotoxins only once, as if the vast literature on these vitally important compounds found universally in WDB didn't exist. There is no mention at all on beta glucans or mannans either. To fail to discuss these three basic entities, well-defined by a significant literature, in my opinion exposes your Draft to criticism that the Draft not thorough, not rigorous and not informed.

I did not see any discussion of the role of microbial VOC (mVOC) as a marker for exposure or an indicator of the potential for adverse human health effects. I note that your group is the only consensus panel I know of that overlooks mVOC.

I am further concerned that your Draft omits all discussion of split products of complement activation as an indicator of human health effects. These compounds are not new to the world of health assessment of patients sickened by WDB.

I can understand similarly that you do not include discussion of the role of transforming growth factor beta-1 (TGF beta-1) in asthma as factor stimulating re-modeling, yet I feel it likely that your medical consultant, a pediatric researcher, does. Where is the discussion of remodeling as fundamental factor in pathogenesis of asthma? The EPA study on asthma and WDB (Fisk and Mudarri, 2008) discusses exposure to WDB as causing 21% of all asthma in the US. This paper was well received in peer reviewed literature before your panel stopped meeting.

Was there some reason we didn't see any mention of Actinomyces or mycobacteria as organisms of interest inside WDB? The literature on these organisms is quite extensive. Please help me understand how is it the concept of synergistic effects of microbes found routinely inside WDB is never mentioned in the Draft. We simply cannot ignore the role of Stachybotrys and endotoxin in combination causing direct neurotoxicity as Dr. Pestka's lab has published in a series of papers.

I note that there was some discussion about cognitive effects in your piece, with twelve citations, all having to do essentially with Dr. Gordon's work. May I suggest that this attempt to discuss cognition does not reflect due diligence?

As an exposure detection device, use of ERMI testing is widely applied throughout the US and the world. I expected to see some discussion of

detection of fungal DNA by use of ERMI in risk assessment or building investigation. Can you explain why it was left out?

To say that this report is disappointing is an under-statement. I can only observe the dense failure to review elements of importance to human health assessment and speculate as to why so much of vital importance is left out. In my opinion, the above deficiencies in this report preclude consideration for publication.

Please ask your panel to re-visit the Draft with an eye towards documenting what we know about WDB. Readers must have evidence of rigor and thoroughness. The paper I sent you earlier from Policyholders of America has extensive citations that may help answer some of my criticisms.

Sincerely,

Ritchie C. Shoemaker MD
Pocomoke, Md.