Reviewer's report

Title: Childhood asthma and indoor allergens in Native Americans in New York

Version: 1 Date: 28 February 2006

Reviewer: Russell Lopez

Reviewer's report:

General

As you wrote, asthma is one of the greatest health threats to children. It was particularly interesting to review a paper on the results of a study of Native Americans because these children have very high asthma rates and their needs have not been adequately addressed by the scientific community. This paper could have potentially provided an important addition to the literature. However, the small sample size and the lack of statistical power in almost all of the results is difficult to overcome. Only one result of all the various statistics reported passes the 95% CI test. Most problematic are the Der p1 results. Unexplained in the text, why were so few samples collected (in absolute numbers and in relation to the numbers of Fel d 1 samples collected)? Were there sampling problems? Were large numbers refused? Did the study just run out of money? It is difficult for a reader to understand what happened.

Even the Fel d 1 sample numbers are difficult to rely on. While it is important to not overly rely on statistical significance, if the study had found just one more high level sample among the controls and one less among the cases, the percent exposed would have been identical. As it was, the control geometric mean was higher than that of the cases.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

If the lack of sample size was to be overcome and the study was to be publishable, there are a couple of changes that might strengthen the paper. What was the initial sample size? (Number of cases and controls initially approached, number refused to participate, number that did not end up in final sample, etc.)

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

On page 4, you state “there is no evidence of an increase in environmental pollution, occupational exposure or tobacco use for the time period investigated. This raises the possibility that indoor air quality and life-style might have played a role in the asthma development or onset.” Unless you can provide evidence that indoor air quality or life-style changes have influenced changes in asthma prevalence rates, this last sentence needs to be substantially rewritten. It seems to imply that there is some indoor air change that has occurred. This borders on blaming the families of the children with asthma, which I am sure is not what was intended.
Discretionary Revisions (which the author can choose to ignore)

What next?: Reject because scientifically unsound

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.