Reviewer's report

Title: Effect of a chemical manufacturing plant on community cancer rates

Version: 2  Date: 18 January 2005

Reviewer: W J Blot

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General
This is a very well written and interesting paper on community cancer rates around a chemical manufacturing plant that released dioxin into the environment. Appropriate epidemiological methods were used and the conclusions are well balanced and supported by the data. Strengths include establishment of well-defined study and controls areas, accumulation of data over a 30-year period, and the ascertainment of all deaths in the study and control areas during the study period. The authors have also included a well considered discussion of the limitations of their study. I have only a few minor points which the authors may wish to consider.

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

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

1. Page 6. Paragraph 2. The authors state that addresses for cancer cases that were unmatched or not located were excluded. How many addresses were excluded?

2. Page 6. Paragraph 3. Line 6-7. How similar are the control areas of Ryde and Concord that were not part of the study area to the study areas? Do the authors have any population information on this group, such as age, SES, etc.?

3. Page 7. Paragraph 2. The authors state that they adjusted the estimated resident population (ERP) for the hospital population. Is the hospital population included as part of the ERP? If so, the authors should state it.

4. Page 8. Paragraph 2. Line 2-3. The authors state that the study area wasn’t consistent over the whole study period and that some cases or deaths were not enumerated on the same basis as the population for all study periods. I’m not sure what they mean by this.

5. Page 9. Paragraph 2. The authors should consider including the 95% confidence intervals along with the SMR’s and SIR’s.

6. Page 9. Paragraph 2. Line 10. The authors should delete the reference to Table 3 in this sentence I think they are referring to Table 1.

7. Is it possible to state the type and frequencies of the different cancers found in the study population?

8 Page 10. Paragraph 2. Line 4. Why did the authors calculate SIRs and SMRs for the individual CDs for 25 year averages and not 30 year averages? Why was only NSW used as the comparison when all the other analyses used both comparison groups?
9 Page 10. Paragraph 2. It’s not clear from the paragraph or from table 2 what the distances the individual CDs were from the site. Perhaps the authors could include the distances for each CD in Table 2?

10 Page 10. Paragraph 3. The authors combined haematopoietic cancers (e.g. leukemia, non Hodgkin’s lymphoma, Hodgkin’s lymphoma) into one group and conducted analyses for this group as a whole. Is it possible to conduct separate analyses for the cancers in this group? If not, the authors, at a minimum, should state in the text and tables exactly how many of the different types of cancers are found in this group.

11 Tables 1, 2, and 3. The authors should also include the number of observed cases and deaths in the study CDs in the tables.

Discretionary Revisions (which the author can choose to ignore)

None.

I would encourage the editors to accept this manuscript after minor essential revisions. I don’t feel that the level of interest warrants consideration of this manuscript in a more selective journal. The quality of written English for this manuscript is acceptable. It is not essential that this manuscript is seen by an expert statistician. I have no competing interests.