Reviewer's report

Title: Methodological Issues in Detecting Gene-Gene Interactions in Breast Cancer Susceptibility: A Population-Based Study in Ontario

Version: 2 Date: 4 June 2007

Reviewer: Marylyn Ritchie

Reviewer's report:

General

This is an excellent paper. It is very well written. The explanation of the results is very well done, especially considering how many there are.

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

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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)

1. Page two, in the results section, there is a sentence with two periods at the end.

2. Page 10, in the section on logistic regression. One could do an exhaustive logistic regression followed by a permutation test. You could mention that when you describe the stepwise selection procedure that you used. An exhaustive search procedure is another option.

3. Page 13, Figure1 needs to have a space between Figure and 1. The first line of the "Strategy" section needs to have the word "to" in between applied and our.

4. Page 21, the word "do" should be "does" in the sentence about the second approach.

5. What is meant by "use test statistic" in MDR? I am not sure what "test statistic" the authors are referring to.

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Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

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

Declaration of competing interests:

I declare that I have no competing interests.