

**METHODS FOR DETECTING DISEASE CLUSTERING,  
WITH CONSIDERATION OF CHILDHOOD LEUKAEMIA**

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**Abstract**

In trying to interpret reports of disease clusters in specific localities, it is valuable to know whether the disease in question has a general tendency to cluster spatially. Methods for investigating localised disease clustering were the subject of a comparative study organised by the International Agency for Research on Cancer some years ago<sup>(1)</sup>. In this presentation I will focus on some further aspects of one of the methods used in this exercise, namely, the Potthoff-Whittinghill (P-W) test. In particular, I will consider methodology for detecting whether one area in particular has an undue influence on the evidence for over-dispersion using the P-W test, the extent to which is possible to detect clustering over regions of differing sizes using a components of variance approach, and how adjustment for over-dispersion might affect tests for raised disease rates in specific locations. I will illustrate these points using data on childhood leukaemia incidence and I will also make reference to ongoing work on the geographical distribution of childhood cancer in Great Britain.

**Reference**

- (1) Alexander, F E and Boyle, P (eds). *Methods for Investigating Localized Clustering of Disease*. IARC Scientific Publications No. 135. Lyon, International Agency for Research on Cancer (1996).