Reviewer's report

Title: Estimation of Hospital Emergency Room Data Using OTC Pharmaceutical Sales and Least Mean Square Filters

Version: 2 Date: 25 February 2004

Reviewer: David Buckeridge

Reviewer's report:

Thank you for the opportunity to review the revised manuscript. In general, the responses provided to my "Major Compulsory Revisions" are satisfactory. The brief discussion of prediction / smoothing / estimating on page 3 of the revised manuscript should be particularly helpful to readers unfamiliar with the authors methodology.

In the spirit of attempting to improve the manuscript I have made three new comments below that the authors may wish to address before the manuscript is published.

Page 1, Abstract - The authors state that they are not aware of any published studies examining the use of OTC as early indicators in public health surveillance. I am aware of at least two recently published studies which the authors may wish to examine / reference:


Page 3, Methods - The authors state that "a useful public health surveillance systems would never be interested in the 'smoothing' problem". This is not true. Smoothing methods play an important role in surveillance systems that are more interested in tracking trends (e.g., smoking prevalence) as opposed to rapidly detecting outbreaks.

Page 5, Conclusions - The authors make the general statement that their results "strengthen the hypothesis that OTC product sales might be used as an early indicator of human disease". Their results provide some support for a temporally lagged relationship between one class of OTC medications and one type of disease. The general assertion that this relationship may hold between all classes of OTC medications and all diseases is a very strong statement with little foundation in their results.

What next?: Accept after discretionary revisions