Reviewer’s report

Title: Formative evaluation of a telemedicine model for delivering clinical neurophysiology services part I: Utility, technical performance and service provider perspective.

Version: 1 Date: 25 May 2010

Reviewer: Rema Raman

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This article reports on a formative evaluation of EEG investigations that was conducted within a teleneurophysiology service. The authors use measures of utility, technical performance and provider satisfaction to report the evaluation.

I read this article with great interest. The manuscript is well written and describes the testing plan adequately. The use of a formative evaluation during the adaptation stage of this project is appropriate. I had the following comments:

Major Compulsory Revisions

1. Was there a pre-system evaluation done within the service? If so, details should be included.

2. The methods section could be expanded to provide more details on the chosen study design. What, if any, was the sampling plan that was used to collect these investigations? Why was the period of 20 weeks chosen? Was the issue of bias considered?

3. A section that provides the details on the hardware and software used would be helpful. What types of computers are used? How does this service deal with issues of patient confidentiality as data are viewed electronically or using a DVD (if the system fails) across locations?

4. The authors report that 33% of the EEG recordings in this study were abnormal. Is this typical of such recordings? Were there differences in performance and satisfaction based on degree of difficulty or severity of disease? Additional discussion would be useful.

5. How transferable is the system? What is the level of technical support and expertise that is needed to build and maintain the system? While a costeffectiveness
analysis is not required at this stage, some measure of cost-benefit would make this article much more compelling.

6. Finally, how does this tie in with long-term outcomes and consequences?

Minor Essential Revisions
7. Results are well described, but additional details are needed to fully understand the variability in the responses. Medians, not means, should be reported in addition to the inter quartile range. Any comparative statements should include inferential statistics (p values, confidence intervals).