Reviewer's report

Title: Diagnostic Properties of an Electronic Alert Tool for screening Severe Sepsis and Septic Shock in the Emergency Department

Version: 2
Date: 20 February 2014

Reviewer: Vernon Smith

Reviewer's report:

1. The authors state that they used the PDSA cycle. While well understood in the Quality community, this may require some additional reference and a reference for it would be helpful. Such as: Langley GL, Nolan KM, Nolan TW, Norman CL, Provost LP. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance (2nd edition). San Francisco: Jossey-Bass Publishers; 2009.

2. There is limited data to analyze. But to be fair, there are few results other than a Yes or No. It is nice to see a study with simple, clear answers. I was surprised at the accuracy of the alerts. The addition of the fluid blousing appears to have really made a difference.

I would also like to have seen the total number of alerts that were generated in addition to the total number of patients that this applied to.

Finally, I am unclear as to the difference between an alert for Severe Sepsis and Septic Shock. Is there a difference? How many alerts were generated for each? This is possibly a level of disease.

3. Other than the single institution, there are few limitations listed or expected.

4. Good use of literature sources for Sepsis definition and other attempts at automation.

5. It might be a unclear in the Tool Development section for 6. The physician’s response. I am really unclear about the difference between Suspect Severe Sepsis and Septic shock. Possibly this is SIRS and Sepsis. Just needs to be clear.

6. Table 2 needs some formatting work.

7. Study Design: was this a low-risk study, no consent necessary? Age>14? How did they choose that cut off?

In the author list there is no statistician listed. Does this journal require statistician review like Annals?

8. Where is figure 1?

9. 0.4% of their patients had severe sepsis or septic shock?

Level of interest: An article of importance 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 have developed a similar system that is marketed for which I could receive revenue but have not profited from it yet.
I have a similar abstract on the same topic.