Reviewer’s report

Title: Smart Pumps and Random Safety Audits in a Neonatal Intensive Care Unit: a new challenge for patient safety

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Reviewer: Michael Posencheg

Reviewer’s report:

Overall, I have concerns about the design of the study. This seems to be a pre and post intervention study of the implementation of new pump software and training to accompany it. However, the authors claim that the improvement seen is a result of Random Safety Audits (RSA). I believe that RSAs can be used to identify quality problems and implement change resulting in improvement, however, it seems the authors used them to take a measurement of the pre and post-implementation phase of a project. This is not in the spirit of how RSAs are intended to be used. Furthermore, for this to be a quality improvement publication, the data presentation should be such to see improvement over time (run charts or control charts). In my opinion, the authors should consider rewriting this paper to decide if they are doing a pre/post analysis of one intervention (which is legitimate but not in the spirit of RSAs and therefore can use the current type of analysis) or continue to track data over time and use the RSAs as originally intended to show continuous improvement and express their data over time with weekly/monthly measurements.

In this way, I believe further review of the specific details of this manuscript can be postponed until the authors resolve the design issue above.

Level of interest: An article of limited interest

Quality of written English: Not suitable for publication unless extensively edited

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