Reviewer's report

Title: The Swiss Neonatal Quality Cycle, a monitor for clinical performance and tool for quality improvement

Version: 1 Date: 18 August 2013

Reviewer: Prakeshkumar Shah

Reviewer's report:

Background:
1. Good rationale, bit unclear on “how this might work” aspect. (Minor)

Methods:
1. Reference of manual either to website or other document would have been useful. (Minor)
2. Figures need more explanation as foot note and some documentation on the figure direct as to what is 3 SD below or above mean etc. (Major)
3. Would be helpful to see the second part of figure 2. (Major)
4. Would be helpful to indicate what Y axis meant in descriptive terms. (Minor)
5. Does risk adjustment mean only GA groups correction? Then it better be called GA group adjusted rather than risk adjusted. If not, then explain what was adjusted in each model. (Major)
6. Reliability: It is unclear in the format it is explained now. If one understands correctly; e.g. for an indicator such as late onset sepsis the rate is 7% in the network. Meaning thereby out of 2025 VLBW infants there were 140 infants who developed this indicator. Now this means if all nine units contributed equal number of infants over 3 year period approximately 16 neonates per unit developed infection. Division of this in eight quarters means there would be 2 infants per quarter per unit may be eligible for this indicator. With expected degree of natural variation, it is likely that a particular unit may not have any infection during two or more quarters – would this unit be counted as irregular? As one can see that in this example, there are quite marked similarity assumptions and it is not ‘real” life as there would be small and big units in the network and they would not be accounted similarly in the network. – Please explain this more clearly. (Major)

Results:
1. It would have been useful if definitions of each were given for comparative purposes such as Late onset sepsis, BPD, IVH – what denominators were used in both calculation. (Minor)
2. All tables need a footnote for explanation as it is hard to understand some results such as reliability. (Major)
3. One most important aspect lacking is over the three years of study period what
modifications were suggested at the meetings and how it was monitored that these interventions were applied in individual unit. (Major)

4. Are there any interventions which made more positive impact than others? (Minor)

Discussion

1. Discussion can and need to be reduced by 40% to avoid duplication and redundancy. (Major)

Overall:

1. An interesting paper which supports the idea of monitoring based on benchmarking model and some QI efforts for a national network of relatively small size units. The paper would benefit from more explanations, information on actual QI efforts, acknowledging the limitation that QI efforts were not monitored itself and documenting that change has occurred over time (either by comparing their own rated in previous 3 years). - discretionary

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

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