Reviewer’s report

Title: Understanding the influences on successful quality improvement in emergency general surgery: learning from the RCS Chole-QuIC project

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Reviewer: Krishna Moorthy

Reviewer's report:

It is always challenging to conduct a large-scale quality improvement such as this project and more importantly be able to conduct a research project allied to this.

This is an important research, as it would inform further surgical multi-site QI projects.

It was a challenge to review this manuscript without any data on the quantitative results of the study, as that study is still not in the public domain. Thus some data is essential to enable the reader to see the differences between the 'successful' and 'challenging' units. The other alternative is to wait till the quantitative study is published before submitting this for review.

While it is extensively acknowledged that context plays a key role in the implementation of a multi-site quality improvement effort, I could see little evidence of this in the Results. It is highly probable that the details of the various units is a part of the other manuscript, but some details on the profile of the successful and challenged units would be important to understand the context. It is possible that there were some units in which complex surgery is prioritised over relatively straight-forward 'routine' clinical conditions such as gall bladder disease and this could also have impacted on the success of the programme. Hospital size and complexity of their surgical workload could have impacted on this project in two disparate ways. On one hand, smaller district general hospitals that focus primarily on general surgery could have been the successful units as their surgeons, with support from their managers, could have focussed on improving 'routine' surgery. However, on the other hand, 'complex' units could already have a culture of continuous improvement, and transferring this culture to another area of improvement would have been easier. It would have been really interesting to know which hypothesis was proven in such a project or if there were any such phenomena at play.

I would also request the authors to clarify the following issues:

From a methodological angle, I would be interested to if this was an independent evaluation of the project? This is important as bias can easily creep into qualitative research.

Just as there is quantitative data to validate the qualitative findings in terms of Q2- what impacted success, it would important and interesting to know how the qualitative data for Q1-
collaborative success is supported by data. For example the level of engagement of the individual sites at a collaborative level. While the qualitative findings are quite positive I get the impression that the level of engagement could have been better. Just 5 focus groups across 12 sites when the intention was to conduct 2 focus groups per site seems quite low. Similarly 17 site visits across 12 sites over 2 years again seems quite low. What was the participation at the collaborative meetings? The findings are given as 1-6. What was the median number of people who attended from each site? I would request that subjective terms such as 'good' are replaced with data. How many site calls were planned and how many were attended? 

The qualitative data for Q1 also seems quite meager. There has been so much published on the effectiveness of collaboratives to deliver improvement. This exhaustive literature review needs to be integrated into the current research. For example, it would be interesting and important to know how the collaborative methodology contributed to the improvements? How did discussions and cross-pollination of ideas help? Did sites form partnerships within the collaborative? Was there a sense of competition within the collaborative that contributed to the improvements? I am assuming some of this must have emerged during the data collection but has not been presented.

One key aspect of both the Chole-Quic Theory of Change and thus the resultant emergent themes is the absence of any organizational support for change. Though organizational support or the lack thereof is evident in most of the themes, I am surprised that this did not emerge as a significant theme. For example, not being able to integrate this project with individual job plans and lack of management support for resource allocation are largely reflective of the organizational challenges that clinicians face while desiring to implement micro-system changes. This makes me wonder if the whole improvement effort was to focus on clinical leadership in the absence of organizational ownership of the project. This also leads me ask if there was a high level of agreement in the thematic coding between the 3 data analysts. Was the coding done independently or was it done in a group?

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