Reviewer’s report

Title: Can a multi-component multidisciplinary implementation package change physicians’ and nurses’ perceptions and practices regarding thrombolysis for acute ischemic stroke? An exploratory analysis of a cluster randomized trial

Version: 1 Date: 23 Jul 2019

Reviewer: Lesli Skolarus

Reviewer's report:

This is a well written paper that aims to validate a provider survey instrument and to use that instrument to assess process measures of a clustered randomized trial to increase tPA. The analysis section is particularly clear and well written.

1. Additional information on how the intervention theory was related to the survey would be helpful. Were the components of the behavior change wheel assessed in the survey?
2. Do you think there was a ceiling effect in your measures? Particularly for personal stroke skills and hospital stroke care policies.
3. While I understand the principal factors method was conducted and final factor structure required it to make conceptual sense. I am wondering how conceptual sense was defined. For example, a factor that addresses personal stroke skills and hospital stroke care policies would seem to have very different strategies for improvement based on whether the barrier was at the personal or hospital level.
4. Likert scales were analyzed linearly. Was their consideration of ordinal regression?
5. The fact that there were only 74 physician responders should be included in the results section. I also think the non-response rates for physicians and nurses should be reported separately. It might be this was the majority of physicians invited to participate given there are fewer physicians than nurses.
6. tPA decision making occurs in the ED rather than the stroke unit. If possible it would be important to assess for changes in the domains by whether provider worked in ED or stroke unit.
   Minor:
7. I am surprised that individual and hospital performance indicators are in the same domain? Are there any theories on why this might be the case?

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