Reviewer's report

Title: Canadian Emergency Department Triage and Acuity Scale: Implementation in a Tertiary Care Center in Saudi Arabia

Version: 2 Date: 2 September 2010

Reviewer: Marc Afilalo

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1 - Major Compulsory Revisions

The author must respond to these before a decision on publication can be reached. For example, additional necessary experiments or controls, statistical mistakes, errors in interpretation.

1.1 On page 4, second paragraph, there are two problems:
- To support the need for their study, authors mention that their environment/setting is different than others in terms of lack access to a primary care provider. What having or not a primary care provider has to do with CTAS? Do they want to suggest that not having a primary care provider may contribute to an increase in less and non urgent patients in the ED? And what would be the impact of this and more importantly, what would be the link with CTAS?
- They also mention that their population is unique in terms of culture and language. Again, what is the implication of unique cultural and linguistic feature for CTAS?

1.2. If I understand correctly, in their setting, the registration time is before triage (since it is defined as the “time when the patient approached the ED registration desk to express his or her desire to be treated”). In CTAS, time to be seen by a physician is an important component. One of this study time intervals is “registration to physician assessment”. Why authors decided to use registration time instead of triage time since the delay to be seen is directly related to triage code? At registration (since it happen before triage), they don’t know how long a patient should wait to be seen? If it is a question of reliably of the registration time over the triage time (e.g. if the data entry of registration is more accurate than triage time) then using registration is justified but they have to mention why they choose registration time.

1.3. On page 7, first paragraph, second line, authors mention the range for the delay between registration and physician assessment which varies from 0.0 to 1330 min. Really? Someone has waited more than 22 hours to be seen by a physician? And as for 0.0 minute, since registration happen before triage, this means that patients never went to triage? Would it be appropriate to eliminate the “outliers”?

1.4. On page 8, first paragraph, authors mention that their clientele were coded
CTAS IV and V. How is this compare with other places where CTAS is used?

1.5. In this study, the fractile response rate for CTAS III was low (36%). Authors mention that this low rate “could be due to a variety of causes including space limitations”. OK, that makes sense. The other cause mentioned is the following: “the selective seeking by physicians of non-urgent patients who require less work up and management time”. Here, they are trying to explain why the fractile response rate for CTAS III is low. If there are not enough places to see patients, I understand. But if they are saying that patients with less acute condition are chosen instead of patients more acutely ill because they will require more care, then the philosophy of CTAS is completely denied. CTAS is a tool to prioritize patients according to their level of acuity, not based on the time it would require to treat and/or manage them. The “selective seeking non-urgent patients” needs to be better explained and justified.

1.6. In their conclusion, authors are mentioning “quality of triage”. What do they mean by that? Time to do triage? Accuracy of triage? In their study, they mention four quality indicators which are: time to triage < 10 minutes; duration of triage < 5 minutes; 5-15-30-60 and 120 minutes for the CTAS code I to V; LWBS < 2%.

1.7. On page 6, first paragraph, last sentence, authors mention as one of their quality indicators that LWBS should be < 2%. On page 7, second paragraph, first sentence, they mention that their LWBS rate is 9.8%. In the discussion on page 8, last paragraph, they mention that LWBS rates elsewhere are up to 15%. But they mentioned nothing about the huge discrepancy between their actual rate of 9.8% and their quality indicators that is < 2%.

1.8. There is no limitations section.

2- Minor Essential Revisions

The author can be trusted to make these. For example, missing labels on figures, the wrong use of a term, spelling mistakes.

2.1. On page 3, paragraph 1, last sentence, authors state that non-urgent patients seem to be a problem but there is no reference to support such statement. A reference is required.

2.2. On page 2 and other pages, it is mentioned that the CTAS guidelines have been validated. They have not been validated.

2.3. On page 6, last paragraph, last sentence, authors mention the distribution of their patient population per triage code. Less than 1% were coded CTAS I and II (I=0.2%; II=0.4%). This seems very low for a tertiary care hospital ED?

2.4. Table 2 (page 7) is mentioned in the text before Table 1 (page 8). Should not be like that, should be in sequential order as they appear in the text.

2.5. Titles for figures and tables are presented in “Legends” (page 13) so there are no title on each figure and table.
2.6. In the result section of the abstract, authors mention that time to triage was \(<\ 15 \text{ minutes for } 82\% \text{ of the patients and on page 7, it is } 83\% \ (82.8\%).

2.7. Authors used two acronyms not defined before in the abstract (ED and RTP). If ED is easy to figure it out, it is less obvious for RTP.

3- Discretionary Revisions

These are recommendations for improvement which the author can choose to ignore. For example clarifications, data that would be useful but not essential.

3.1. For the benefit of the reader, objectives should be clearly stated in a distinct paragraph and the end of the background.

3.2. Based on what they mentioned in the background, their system seems to be very unique. It would be interesting, if not essential, to describe a little better their hospital. How many ED visits they have annually? How many ED beds? How many inpatient beds in the hospital? Do they serve both adults and children?

3.3. On page 7 at the end of the first paragraph, they mention that “all category I patients met the set CTAS standard, however, this was not so in the other 4 categories”. More elaboration recommended.

3.4. The manuscript would benefit from being reviewed by someone qualified in the writing of scientific manuscripts in English.

**Level of interest:** An article whose findings are important to those with closely related research interests

**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'