Reviewer's report

Title: Non-specific complaints in the ambulance; predisposing structural factors.

Version: Date: 12 January 2015

Reviewer: Jeff Clawson

Reviewer's report:

GENERAL COMMENTS

1. Overall, this is a well-written and well-focused paper!
2. Explicit definition of “busy hours” is needed e.g., is it about the overall workload (i.e., all cases) or just incidents of NSCs only during the given time period?
3. Speculations in the discussions section about potential reasons behind the findings weaken the paper. Thus, more convincing arguments should be considered.
4. Consistency is needed in the use of Men vs. Women, and Female vs. Male—the latter is recommended.
5. It's a (statistical) rule of thumb that any p-value that's extremely less than 0.05 (e.g., 0.000000001 etc) should be presented as p<0.001, not p<0.01 as provided in various sections of the paper.

SPECIFIC COMMENTS

Page 3:
- Line 67: In addition to ref#5 already cited, please provide a brief explanation why “there is no specific definition of NSC…” For example, how is an NSC assessment determined at EMCC?
- Line 71: what does “…decreased general condition…” mean?

Page 4:
- Line 86: In the sentence “In total, 498 patients with NCSs were identified…,” were these identified at the ED or EMS or both? Please, clarify.

Page 5:
- Line 98: consider adding the word “initially” after word “priority” and adding “subsequently by” right after the word “and…” in the sentence “….as well as priority set by the EMCC and the EMS…”
- Line 103: Is “…make the emergency call into a dispatch.” The opposite of “not sending”?
- Line 112: age groups seem arbitrary…why? Briefly describe the selection criteria for the age groups #64, 65-79, and #80 years.
- Line 114: justify time intervals for day and night periods. For example, why didn't the authors define day as 6am – 6:59pm, and night as 7pm – 5:59am?
- Line 117: what are the clinical definitions of these priority categories (#1-4)? For example, how are these priority categories assigned? Are they based on a protocol decision-making logic (i.e., computer recommendation) or based on human judgment?

Page 6:
- Line 125-129: it would be informative to mention that similar results were observed in the control group as well.
- Line 145 (minor): STATA 13.1 provides OR (95%CI) for receiving assessment NSC by EMS as 2.13 (1.65-2.75). Consider checking if STATA 9.2 used in the study provides same numbers.

Page 7:
- Line 146 -151: Should this not perhaps be measured as a fraction of the EMCC low priority (5/182=3%) rather than a fraction of the total number. Same goes for the control group and should this not perhaps be measured as a fraction of the EMCC high priority (102/311=33%) rather than a fraction of the total number. Same goes for the control group.
- Line 156: toward end of the sentence, replace “was” with “were”
- Line 157: the busy hours should be defined by the overall workload (i.e., all cases) not by the frequency of NSCs only.
- Line 158: Might note in the discussion that the EMCC might over triage on NSC cases as a fairly large percentage was changed from high to low Priority this might not necessarily reflect poorly on the EMCC as triage in the face to face environment is easier than in the non-visual environment.
- Line 161-166: most of these should be moved to a limitations section—which will need to be created toward the end of the DISCUSSIONS section.

Page 8:
- Line 179: define workload as suggested in previous comments.
- Line 177-184: Given that the study hypothesis was that “NSCs were more common than specific assessments during busy hours or when the EMCC indicated less urgency to the EMS”, speculating that workload may be the reason why NSCs were more frequent during busy hours weakens the study findings. To make the findings more cogent, present workload as all cases—on figure 1—and see the correlations between NCS frequency and workload. The way the argument is presented indicates/suggests that further research is needed, and thus signifies that this study didn’t prove/disapprove the hypothesis. But with workload defined as suggested above, the results may/will be convincing.
- Line 185: add the word “of” between “assessment” and “NSC”.
- Line 189: add “by EMS crews” toward the end of the line right after the word “changed”.
- Line 192-193: the unknown reasons why down-prioritizing of cases would be better if moved to limitations section.

Page 9:
- Line 198: in the middle of the line, replace “in the” with “determined by”
- Line 203: add the word “of” between “assessment” and “NSC” and also add the word “the” before the word “pre-hospital”.
- Line 203-207: title this under “CONCLUSIONS” section…then start the sentence with “The study findings indicate that assessment NSCs…..”
- Line 205: the word “differ” should be replaced with “distinguish the difference”
- Line 207: reference citations not conventional in a conclusions section.

Page 11 (Table 1):
- “NA” p-values: these should be replaced with the actual Chi-square p-values since they’re obtainable in the assessment of association between the concerned measures and study groups (i.e., prehospital NSC/Controls) as 1.000 for sex, 1.000 for age category, and 0.944 for day of the week.
- Other P-values: the p-values of <0.01 should be replaced with <0.001.
- Change in priority:
  (a) To minimize confusions, please explicitly label “To high” as “From low to high” and “To low” as “From high to low”.
  (b) To high 5 (1): Should this percentage not perhaps be measured as a fraction of the EMCC low priority (5/182=3%) rather than as a fraction of the total number (n=493)? Same goes for the control group.
  (c) To low 102 (21): Should this percentage not perhaps be measured as a fraction of the EMCC high priority (102/311=33%) rather than a fraction of the total number (n=493)? Same goes for the control group.
- EMS priority: although the totals for EMS priority match with the totals for EMCC priority, the numbers for EMS “low” and “high” priorities do not match with EMCC and “Change in priority” numbers. For example…although the differences may not have a major impact on the findings:
  (a) For the prehospital NSC
    Low = 182-5+102 = 279 (not 284)
    High = 311-102+5 = 214 (not 209?)
  (b) For control group
    Low = 86-23+128 = 191 (not 192)
    High = 407-128+23 = 302 (not 301?)

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable
**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.