Reviewer's report

Title: The nature and causes of unintended events reported at ten emergency departments

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Reviewer: Hans Flaatten

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This is a study of unintended events reported in 10 ED in the Netherlands. The reporting was open (ID of reporter and patient) and voluntarily. Personnel in the ED were asked to report all kind of unintended events, no matter how “minor”. They collected 522 unintended events during 8-14 weeks (at each unit). No data are given about the total number of weeks studied. Analysis of the events was performed with a dedicated software tool (PRISMA) (“root-cause analysis) and interviews with reports of events were carried on in a number of the reports. They find that human error was the most frequent cause, and that events connected with Medical examination/tests was the most frequent ones. A consequence for patients was recorded in 45%, most often as Inconvenience and Suboptimal care.

I found the study of great interest, as there are not many similar reports published. However, there are some questions to be raised.

Major Compulsory Revisions

Some sort of denominator should be given, at least the number of weeks (all 10 units taken together) this study was conducted on, or the number of days. If the mean number of weeks were 12, then this means 120 weeks and 840 days as an example). The best would be to have the number of ED admissions during this period (or at least an estimate based on the average number of patients admitted). This way you could do some calculations about the frequency of errors, which probably is rather small (let’s say that 840 days and the average number/day is 100 patients this means 84.000 patients during the study). This equals to 6 events/1000 patients. I hope the authors can go back and retrieve such data which will be of importance for the study.

My other main concern is the lack of outcome definitions. We all agree that outcome of an unintended events is the most important (seen form a patient perspective). Since a large part (56&) was recorded as having a (negative) consequence, this is necessary to define. To use outcome groups as Inconvenience or Suboptimal care needs to be defined or at least clearly defined. (as they are they do not tell me very much).

Minor Essential Revisions

Page 4: Data collection. Why two different forms for reporting, and how often was the more simple one used? (I fail to find that in the result section). Did it matter??

Page 4: Data collection. Was personnel asked also to report vents caused by
others in the ED (if they detected unintended events)?

Page 5. The PRISMA analysis. Is this a commercial available IT solution, if so provide Company name and address. The selected references is nearly impossible to retrieve, please try to add others more available for interested readers.

Page 9: 287 root causes of 845 is 34% not 46%

Table 4. The number under Frequency should read 845 (number of root causes) which corresponds with the numbers below.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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