Reviewer's report

Title: A Review of Turnaround Time (TAT) Definitions in Clinical Domains

Version: 2 Date: 22 March 2011

Reviewer: Arie Hasman

Reviewer's report:

The question posed by the reviewers - which definitions exist in the literature concerning turn around times - is in itself well defined, although I wonder whether the question will give useful results when not also the related question is answered: for what purpose was the TAT defined in the way it was defined. TATs can be used for benchmarking or for determining whether changes in a process have had positive consequences. That 162 different definitions for turn around time have been found does not have to be a problem. These turn around times were defined for answering certain questions. Of course unique names for specific TATs and identical definitions improve comparability but there will always be a need for specifying TATs that are useful for a certain research purpose. Also I did not get the impression from the literature that authors complained about the fact that there were different definitions. On the contrary some added new definitions for specific (sub)processes.

The literature review was performed adequately.

As will be apparent from the above critique I am of the opinion that the results description is inadequate. It should provide an indication of the purposes for which the various TATs were used. Only then can you say something about the presence of so many definitions. The comment in the Discussion that TAT is not a standardised measure and our results clearly show that there are many different time intervals, which all claim to be a TAT already shows that the authors think that there is only one or as they suggest in the discussion there are only a few relevant TATs. But once more what is relevant depends on the purpose the TAT is used for. The authors refer to different purposes in the Discussion. There they state that an important aspect that arises during the analysis of TAT is to clarify the purpose behind measuring or optimizing process times. They should have done that themselves in the Results part. The authors of course can critique the use of TATs in publications when these TATs are not clearly described, for example referring to difficult to measure time points for example.

The authors state in the conclusion that it is difficult to compare studies because of the many different definitions in use. They do not state whether these different definitions were due to different purposes of the study. That laboratory and radiology studies use comparable TAT definitions can be understood: these ancillary departments provide services based on similar processes. But also here one can be interested in the TATs of certain subprocesses and this will again lead to new TAT definitions.
The authors acknowledge the work upon which they are building in an extended reference list. The title and abstract accurately convey what has been found. As said before, a review of TAT definitions alone is not so worthwhile in my opinion if it is not accompanied by a discussion of the purpose. Different TAT definitions for the same purpose should be discussed to see whether one definition would be better. Different purposes can lead to different TAT definitions that should not be considered as a reason why benchmarking clinical workflows is difficult.

**Level of interest:** An article of insufficient interest to warrant publication in a scientific/medical journal

**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.