Reviewer's report

**Title:** Pre-arrest predictors of survival after resuscitation from out-of-hospital cardiac arrest in older people - a systematic review

**Version:** 2  **Date:** 3 April 2013

**Reviewer:** Wilco Achterberg

**Reviewer's report:**

Pre-arrest predictors of survival....

This is a well written paper, on an important issue: the chance of success of resuscitation in out-of-hospital cardiac arrest in the elderly. I have two major, and several minor, discretionary, issues.

Major Compulsory Revisions

**Aim of the study**

The authors aim was (I cite from the abstract) to provide elderly with information to enable them to make decisions about the appropriateness of CPR (clearly stated in the abstract). I therefore find it disappointing that in the conclusion (page 14), they are not willing to give any information that can be used to inform physicians and elderly about the realistic, poor chances of survival. As I understood the evidence they have gathered, the chances of survival for the elderly are 4% maximum (this is probably overestimating the chances) and it is decreasing with comorbidity and nursing home residency.

The last sentence of the introduction however is much more obscure, and hard to follow: “This could inform decision-making when a do-not-attempt-resuscitation order is discussed.” Decision making can not be informed. This sentence touches the aim of the manuscript, and should be in line with aim as is discussed in the abstract. May be better: ‘To provide the decision making process with information on the actual chances of (good) survival in patients with advanced age, comorbidity and/or nursing home residency’. I find it very important that a review like this (very much driven by a clinical critical question) tries not only to summarize previous findings, but synthesize these into conclusions and recommendations. Bridging the gap between theory and practice was the major reason for conducting this review, in the discussion and conclusions therefore I feel that more efforts should be done to close this bridge a little bit more.

**In depth discussion of studies**

I find the length and depth of the results section disappointing, and to make things worse, some parts of the result section are more eligible for the discussion section.

The subheading survival for instance is one of the most crucial section, but presentation of the effects of comorbidity and nursing home residency for
instance is not discussed in the results section. The authors should try to do a better job in reviewing the results on age, comorbidity and nursing home residency.

Discretionary Revisions

Page 2, second line: predictive value OF pre-arrest factors

Page 3, last sentence abstract: “...these factors should be evaluated too.” Do the authors wish to express that physicians evaluate these factors in practice, or that these factors should be evaluated in future studies?

Page 4: what could be the background of the lack of improvement of survival in the last 30 years (line 4)?

Page 4, line 5: is the risk of morbidity and disability increasing with increasing age, or the prevalence?

Page 4, last sentence: “…between prearrest variables and the probability…” maybe characteristics is better than variables, because we are talking about a clinical situation, not a research setting?

Page 6; why only search the medline database? Especially because the number of studies included are relatively limited, extension to EMBASE, CINAHL, PSYCHINFO etc could have provided more information. This also holds for the inclusion criteria ONLY ENGLISH

PAGE 7: line 4: the protocols have been changed in the last years- is there no effect on survival of the new resuscitation guidelines?

Page 10, line 7: “....adjustment for by response time....” This is not clear to me

Page 13, line 17 “.....should be reported too.” I would like to add: in future studies, or is that not what the authors try to say?

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