Reviewer's report

Title: Expanding Paramedicine in the Community (E.P.I.C): A Randomized Controlled Trial Protocol

Version: 4

Date: 5 August 2014

Reviewer: Janette Turner

Reviewer's report:

This is a well written paper setting out the protocol for an interesting and much needed trial. The authors have acknowledged the challenges in conducting trials in this setting but have addressed these and the pragmatic approach is the right one to adopt. The outcome measures chosen are appropriate although it is a shame the opportunity hasn't been taken to include some patient experience/satisfaction measures which could be collected at the same time as the QoL measures. A measure of the patient, rather than just the health service perspective, view on the new service delivered and the benefits (if any) they think this has produced for them compared to the usual or previous service would provide valuable supporting evidence. I am not a statistician and so cannot comment on the statistical rigour of the planned study. There are a few minor revisions that could be made mainly around providing a bit more clarity about the operationalisation of the trial.

Minor essential revisions

1. There is no indication of how long the planned recruitment period will last (unless I have missed it). How confident is the team they can achieve the required level of recruitment taking in to account the uptake rate described near the end in the trial status section within any planned recruitment period. Did they use this information to decide on a recruitment period? How many community paramedics are going to be trained to provide sufficient resource to conduct the trial?

2. When will data be collected and how will recruited patients be tracked. For example, the authors have described how hospital information will be abstracted - will recruited patient events be monitored on a regular basis and the information on any related events recorded on an ongoing basis or will it all be collected at the endpoint of 1 year.

3. Who will collect the EQ5D information - I am assuming this is the community paramedics in the intervention group (is this correct?), what about the control group?

4. In the cost-effectiveness analysis it states this will be undertaking using mortality and QALY as the outcomes of interest. Deaths during the study should therefore be on the list of outcomes measured.
5. The discussion needs a few references to evidence some of the assumptions made, for example what is the evidence that paramedics have a greater comfort level managing acute illness and a lower threshold for sending the emergency department? Is this proven?

6. Reference is made in the discussion to "a recent systematic review" - this needs referencing. Also in this part it is stated the only other RCT was methodologically flawed. If criticising other research as flawed then the way in which it was flawed needs to be described and how the design of this trial will overcome these flaws.

7. The description of the paramedic education programme would sit better as part of the description of the intervention as this is in effect the intervention. Some more detail on what this entails would be useful although this could be brief in the text and possibly a more comprehensive description as a supplementary file. People interested in this subject area will be very interested to see the range of additional skills used to set up this service.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that i have no competing interests