Reviewer's report

Title: Population-Based Cohort Study of Outpatients with Pneumonia: Rationale, Design and Baseline Characteristics

Version: 2 Date: 12 January 2012

Reviewer: Nathan Dean

Reviewer's report:

Overall comments: This preliminary communication reports an interesting, prospective, observational cohort of over 3000 outpatients with “pneumonia”. The long duration of follow up, and the prospective study design are of interest, as is the focus on an outpatient cohort. In this preliminary communication, only basic demographics and descriptive data are presented, all of which are consistent with prior published observations on outpatients with pneumonia. It is therefore unclear to me the value of this early publication, versus waiting until more interesting, longer term follow up results become available. Overall, I look forward to seeing the data when fully analyzed and available.

I am interested that the IRB allowed telephone contact of patients and collection of data beyond clinical needs without individual informed consent. However, this has been an evolving area and it appears that a dozen years ago this was deemed acceptable. It appears that the lack of individual informed consent makes specific clinical follow up data unavailable to the research team. While this may not be feasible or allowed currently by the IRB, it would strengthen the study if patient consent could now be obtained so that detailed subsequent clinical information could be accessed.

Major compulsory revisions.

Whether treating physician radiographic interpretations are adequate for defining pneumonia is debatable, but researchers have usually required either a radiologist’s interpretation, or interpretation by the study investigators. Using the more strict methodology, only 53% of the study group actually meet the case definition per the 2007 IDSA-ATS guidelines of having a confirmatory radiographic study. As a minimum, suggest that the patients with and without radiologist’s confirmation of disease be compared and contrasted.

While PSI was prospectively scored, it would appear to me that the absence of prospective, specific data acquisition will make it difficult for this study to evaluate CURB-65 or A-DROP severity systems among outpatients. Therefore I am uncertain about the statement that they will be able to investigate severity scoring systems other than the PSI.

The drop out rate among study subjects is not stated here, likely because the investigators do not yet have these data. Presumably, some of the 3000 patients
initially enrolled will have moved away from the Edmonton region during the follow up period. This should be stated more clearly as a limitation in this manuscript, and enumerated in the future report.

Discretionary revisions
Statistical methods – power calculation. In addition to % change and hazards ratios, power calculations depend on the baseline frequency of the outcome, and the number of events observed. For example, if the mortality rate is only 1%, it will hard to validate mortality based severity systems or observe therapy associated differences in mortality. This is addressed in the discussion under limitations. In addition, I worry whether the investigators will “be able to fully examine the impact of an episode of pneumonia on longterm sequelae, health care resources use, and prognostic factors associated with improved or adverse outcomes including recurrent episodes of pneumonia” - this may require matched controls, a methodology not described in this publication.

Minor essential revision:
“need for hospitalization” should be changed to language indicating just that the patients were hospitalized. No data in regards to actual need or necessity of hospitalization is presented.

**Level of interest:** An article whose findings are important to those with closely related research interests

**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'