Reviewer’s report

Title: Historical Trends in Survival of Hospitalized Heart Failure Patients: 2000 versus 1995

Version: 1 Date: 13 September 2006

Reviewer: Cornelia HM Van Jaarsveld

Reviewer’s report:

General
Very well written paper. Clear presentation of results.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
none

Discretionary Revisions (which the author can choose to ignore)

My main comment is on the interpretation of the data in women. The authors conclude that there is a survival improvement in male patients, and a similar (but weak) trend in female patients. The latter conclusion is not supported by the presented data, rather results indicate no favourable trend at all in women (see below).

The abstract states: “In various Cox regression models the average year effect (2000 vs. 1995) was around 0.75 for men and 0.95 to 1.00 for women.” These reported average year effects in the abstract are arbitrary and should be chosen carefully. The models in Table 2 show effects of 0.75 to 0.82 for men and 0.93 to 1.13 in women. To report these figures seems more appropriate. These also clearly show that mortality has dropped in men, but that this favourable trend is not (not even weakly) observed for women. The conclusion of the paper that survival has improved in men is correct, and adds to the current epidemiological data on survival of hospitalized heart failure patients. But the conclusion that “The trend in women is followed in the same direction but was weak” seems to overstate the findings (statements like this are made throughout the paper, and might need rephrasing). The statement on page 7 (Results) also overstates the effect in women “Again, the secular trend was clear in men, though modest, and not so clear in women.” None of the year effects shown in Table 2 are significant in women, effects are not even approaching significance. The absence of this favourable trend in women could be emphasized more, and could be discussed in more detail in the Discussion. The observation that mortality rates in women did not drop over the 5 year period, is interesting and is worth elaborating on. One of the obvious explanations relates to the introduction of new medications, which might have benefited men more than women. However, the increase in beta blockers and spironolactone was observed in similar rates in men and women and the effect of beta blockers and ACE inhibitors on mortality was similar for men and women in the present study. Although, interpretation of treatment effects in observational data is limited because of bias (i.e. more severe HF patients, with increased mortality risk, are prescribed certain medications). Additional analyses including adjustment for disease severity (i.e. LEVF) could be added to Table 2, or are numbers becoming too small due to missing data? It is interesting to note that the hazard ratio of spironolactone on mortality was 1.02 in men and approaching a significant beneficial effect in women (0.70).

What next?: Accept after discretionary revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No
Declaration of competing interests:

I declare that I have no competing interests.