Reviewer's report

Title: Effects of potential determinants for return to work among sickness certified patients in general practice

Version: 1 Date: 31 August 2012

Reviewer: Ulrik Lidwall

Reviewer's report:

Major Compulsory Revisions:
1) The use of terms like "effects" and "determinants" should be avoided. Terms like "predictors" and "associations" are more adequate. (Revise title and search the text for these terms).

2) "Disability pension" (DP) should not be addressed in the Abstract or the Background section. The paper is about RTW and there are other pathways out of the labour market besides DP. The correct addressing of the problem would be that "prolonged sickness absence increases the risk of permanent exit out of the labour market". This and the statement in the Background section, second paragraph "Early detection of patients at risk for long-term sickness absence is essential" should be backed up with references.

3) Explained variance (in percent) in the kind of regression analysis conducted is not as straightforward as is the R2-value in linear regression. To my knowledge the use of such measures are in open debate and should not be used. The size of the hazard ratios should suffice in determining the relative importance of different factors. Should the authors maintain this information in the paper the rationale for this should be clearly stated together with proper references.

4) The Methods section needs revision. The section about the PIN seems unnecessary and if retained it should incorporated with the rest of the methods section.

The text on the Swedish sickness insurance system should be removed from the Methods section and incorporated in the Background section. Hopefully this could give the authors a better chance of a clear statement on the research issue.

"Sickness compensation" refers to Disability pension in the Swedish system. The correct term is sickness (cash) benefit and rehabilitation (cash) benefit. Please correct throughout the paper.

"...sickness compensation for income loss in the case of reduced work capacity, ..." The sentence should be supplemented with "...due to injury or disease."

5) The definition of RTW should be discussed in the Discussion section and addressed as a shortcoming if RTW is the intended outcome. Conclusion or termination of a period with sickness benefit is not the same as going back to work, this needs to be discussed (see for instance different health implications of

6) The variable sex has to be more thoroughly assessed and discussed since the differences in long-term sick leave between women and men are well known. The variable sex being insignificant is not the same thing as there being no gender differences. I would prefer a stratified analysis by sex possibly revealing interesting differences. If there is no differences, that would be an interesting finding as well which also needs to be discussed.


7) For some of the variables the n (use n not N in table 1) is very small leading to loss of power. A straightforward way to address this is to create broader categories. I strongly recommend this for Diagnoses, which could be categorised in four groups musculoskeletal/psychiatric/respiratory/other physical diseases. (No tumours?)

Minor Essential Revisions:

1) In the Abstract/Methods please provide the year the study was conducted and information about the regression technique applied.

2) In the Abstract/Results section please do not give information on negative findings unless they contradict previous research.

3) In the Background section the research problem should be stated more clearly (see above regarding DP!) and the scientific contribution of the paper should be addressed.

4) In the Background section, fourth sentence on definition of "long-term" the reference is incorrect. To my knowledge this has only been addressed in my own dissertation on Long-term sickness absence (Lidwall 2010). Still different time-limits have been used in the sickness insurance legislation. If these are referred to please provide the proper reference.

5) The text on the Swedish sickness insurance system needs some references. The comparison between Swedish county councils and US states is irrelevant and to my knowledge incorrect.

6) the Heading "Setting" is unnecessary.

7) in "Study population" third sentence the concept of "rehabilitation" should be explained and the rationale for exclusion should be declared.

8) The regression technique applied use to be referred to as "cox proportional hazard regression" and I assume the PROC PHREG i SAS was used. The SAS PROC used could be provided in the Methods section.

9) In the Results section the provision of both bivariate and multivariate results seem inappropriate. To my knowledge the bivariate analysis is conducted in order to assess which variables qualify for a multivariate analysis. If no bivariate
association is found the variable should be omitted. Another rationale is the correlation between variables giving spurious relationships, with marital status and age being the most obvious. With the current aim of the study I would prefer a more stepwise introduction of variables with the same character such as demographic variables, health variables and demographic variables. Changes in parameter values between steps could provide valuable information and variables could be omitted if there is a lack of (interpretable) association.

10) In the Discussion section the discussion of the results in relation to previous findings should be moved before strengths/limitations and after summing up the findings.

11) To my knowledge stakeholders in sickness insurance seldom lack information regarding factors influencing RTW or ability to perform in the labour market. Rather underutilization of information is the problem. Do the authors have any comments on such organizational shortcomings?

**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.