Reviewer's report

Title: The role of general practice in routes to diagnosis of lung cancer in Denmark A population-based study of GP involvement, diagnostic activity and diagnostic intervals

Version: 5  Date: 18 September 2014

Reviewer: Milena Sant

Reviewer's report:

This paper investigates the diagnostic routes followed by Danish GPs for the diagnosis of lung cancer, using interviews to GPs integrated with clinical data available in the NPR and in the Danish population-based Cancer Registry. The results highlight main factors in the GP routes influencing diagnostic and treatment delay. The study is particularly interesting because it could contribute to explain the reasons for the low cancer survival in DK reported by previous studies.

To this purpose, it could be interesting to compare the length of intervals found in this study with those of other studies. Most comparisons reported here are with British studies, however cancer survival is similarly low in UK and DK, whereas it could be interesting to compare intervals in countries with better outcome.

In Table 2 the mean days should be reported, to make easy the comparison with other studies.

Study design. The flow-chart in Figure 1 shows that 971 validated cases were considered (690 GP Resp + 281 GP non-Resp). Of these cases, only patients with data/GP responders were analysed, meaning that 292 cases, without data/non responding, were excluded (i.e., approx 30% of all validated lung cancers). If this is correct, such rather high percentage of excluded cases would make the study not fully representative of the whole incident cases, and would impair the generalisation of results. This limit should be addressed in the discussion. Moreover, the first two-three lines in the “Strengths and weakness” paragraph should be changed accordingly.

Data sources: tumour stage, page 5. Authors affirm that stage at diagnosis was provided using pathological information. However, a large part of lung cancers are only clinically staged and pTNM is available for the smaller part of patients who are operated. If cases with missing stage are not included in the analysis, results could be biased in an unpredictable way, and the extent of this bias depends on the proportion of un-staged cases. The number of un-staged patients should be provided in Table 1, and it should be explained how were these cases considered in the analyses (e.g. included/ excluded/ put in a separate group). In the table, please add the proportion of morphology confirmation and surgery, as well as the % marital status and comorbidity unknown, and explain how these cases with missing information were treated in the analyses.
Page 6, line 11-13. The definition of odds ratio and prevalence ratio is unclear and should be better explained.

The paragraph “Conclusions and implication” focuses on the need for education of GPs and on for better diagnostic tools for lung cancer. However an important result of the study is that diagnostic and care intervals were longer in elderly than younger patients, and in patients with low-socio economic status, indicating major problems in the organisation and delivery of cancer care to elderly and deprived patients. In the conclusions, these aspects should be adequately underlined.

Regarding the factors related to GPs, the long diagnostic intervals seem largely attributable to the need of time to interpret vague or unclear symptoms (especially in presence of comorbidity). A certain delay seems reasonable, because of the complexity of diagnosis in these cases. Thus, it is correct to underline the need of better diagnostic tools, including risk assessment in the primary care setting.