Reviewer's report

Title: Cancer suspicion in general practice, urgent referral and time to diagnosis: A population-based cross-sectional study

Version: 3 Date: 16 July 2014

Reviewer: Suzanne Scott

Reviewer's report:

This is an interesting paper that has the advantage of utilising a large, population-level dataset. Given the importance of a timely diagnosis of cancer, and the need to evaluate initiatives that aim to encourage prompt and accurate referral to cancer specialists, this paper is of importance to its field.

There are a number of points that would improve this manuscript prior to publication:

- Minor Essential Revisions

The major limitation to this research is that a key variable 'GP’s interpretation of symptoms' is obtained at the point of the research study rather than at the time the GP made the assessment of the patient. This opens the data to bias. For instance, given that the GP now knows that patient has now gone on to be diagnosed with cancer, they may, in hindsight look at the recorded presenting symptoms and indicate that they are 'alarm' symptoms suggestive of cancer. Although this appears to be hinted at in the discussion (lines 223-225), this needs to be emphasised in the discussion as a main limitation.

The manuscript varies in referring to the GP’s interpretation of symptoms (the correct expression) and that the patient HAD alarm symptoms/vague symptoms etc (the latter in incorrect given that this variable is the GP’s subjective evaluation (as noted by the authors), what constitutes alarm symptoms will differ). Consistence is needed throughout and should always include reference to GP’s interpretation (e.g. ‘Patients who had symptoms interpreted to be alarm symptoms’ rather than ‘patients who had alarm symptoms’).

Given that GP’s interpretation appeared to be strongly associated with time to diagnosis (acknowledging the limitation of this variable, as specified above) then more attention should be given to this. The authors note that the first symptoms were recorded (line 115) but do not present any data – are there any symptoms that were consistently misinterpreted by GP’s as not suggestive of cancer? This would be useful information for future interventions.

Abstract:
Line 50. Use ‘duration’ rather than ‘length’

Introduction:
The introduction is very brief and would benefit from expansion in places to add more background / clarity to the issues raised. For instance:

Line 61- explain the 2WW system and how ‘low’ was uptake?
Line 61/62 – in what way is length (duration) of time to diagnosis effected?
The setting (currently outlined in the methods – lines 87-97) would be better placed in the introduction
Did the researchers have any hypotheses? What were these and why?

Methods:
Line 102/103 – For those with no GP involvement, how did they enter the system?
Line 115 – Information on symptoms. What was used to gather this information. Given that the study covers all cancers, what symptom list what used and why?
Line 116 – please provide the exact question used regarding GP interpretation
Line 124 – write out in full rather than using abbreviations
Line 140 – Statistics Denmark requires a reference

Results:
Line 176 – what is meant by ‘distant’ tumour? – provide definition; ‘stag’ should be ‘stage’

Given the data presented in Table 3, Table2 seems of limited value and could be removed.
Line 187/186 – include statistics when referring to significant differences
Lines 187-190 – There is no mention of the findings regarding age here yet the Table indicates there might be some differences. If this is the case it might be worth describing them in the text.
Line 193 – ‘Overall median diagnostic interval’ rather than ‘overall diagnostic interval’.

In all Tables ‘symptom interpretation’ should be ‘GP’s symptom interpretation’

The text (Lines 187-190) indicated that there were no significant associations with referral to a CPP (apart from GP’s symptom interpretation) once adjustments were made yet in Table 3 (in which the title notes adjustments have been made) there are significant associations (highlighted in bold) for gender and age.

Tables 5 – ‘Referral mode’ rather than ‘Referral scheme’ to be consistent with other tables
It would aid clarity if the order of the variables in the tables was the same throughout

Discussion:
Lines 244-246: expand on what is meant here

- Discretionary Revisions
Suggest diagnostic interval is not shortened to DI

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**
I declare that I have no competing interests