Author’s response to reviews

Title: PET-CT in the sub-arctic region of Norway 2010-2013. At the edge of what is possible?

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Author’s response to reviews: see over
Mr Diorelle Gato and Miss Clare Partridge
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PET-CT in the sub-arctic region of Norway…

The reviewers comments have been received and considered. The point-by-point response to their concerns are as follows.

Reviewer 1:

• We appreciate the comment on the importance of equal availability of PET services regardless of geography and socio-economics.
  o We have now strengthened this in the last sentence in the “background” section.

• We agree that the data have not been sufficiently discussed.
  o We have therefore added more details and information from other papers/data.
  o The frequency of PET-CT exams in the rest of Norway has been added. Similarly Danish, European and Canadian data have been implemented.

• The reviewer suggests we add more clinical data. I.e. a discrimination between NSLC and SCLC, staging etc. Similarly also for malignant melanoma.
  o As mentioned by the reviewer, this study was not intended as a clinical paper on diagnostic performance and we have not recorded such data. The paper has focused on demographics and we have expected that the clinicians would follow national guidelines for referral to PET exams.
  o We have searched for national PET data on malignant melanoma, but no such data have been revealed. Unreported data from 2007 from the Southeastern regional has been added, but they are of limited value as they are from 2007.

• For colorectal cancer, differences may be due to less general accessibility and less availability to early diagnostics.
  o We have checked and included national quality data on colon cancer. They do not indicate such an explanation and this fact is added in the discussion.

• No numbers are given on efficacy of PET-CT in unknown primary is given for the population.
  o The numbers (unknown primary) are low (54 patients) and we therefore decided to only focus on the four major groups when comparing counties. This has now been stated.

• A possible learning curve (see figure 3) was mentioned.
  o The possible learning curve has been added in the discussion.

• The data lack incidence numbers and disease stages at diagnosis compared to the rest of Norway.
We have added information about the incidence of the main cancers in our region (more lung cancer, less malignant melanomas). Details are shown in Figure 4.

Minor revisions
- In the background section, statement on the use of PET in lung cancer has been deleted.
- The information on extra costs due to scanner failure has been deleted.
- Cheson criteria has been deleted, SUVmax, MTV and TLG described in more details.
- Figure 1 has been upgraded with information about the localization of the other cities (Bergen and Oslo) with PET-CT scanners. The borders between the counties have also been marked.
- More proof reading has been done.
- Distances have not changed and the word “are” has been used.
- The sentence including “published a future need” has been rewritten.
- “The distance” has been rewritten to “the differences in distance”.
- “In example” has been altered to “for example”.
- “The potential prognostic...” has been changed to “A report on the potential impact...”
- The airline company is important! It is the only commercial airline flying both passengers and radioactive substances together in Scandinavia and probably in Europe.
- A0 and A1 has been deleted.
- Figure 2 has been deleted.

Reviewer 2:
- Abstract, background. The abbreviation for PET has been introduced.
- The words “have been challenging” has been included
- “The glucose analogue tracer fluorine-18 fluorodeoxyglucose (FDG)” has been included.
- …recorded: gender, age… has been altered as suggested.
- The reviewer suggested a check up of the figure 461 PET-CT exams per million inhabitants on average. The figure is correct. The first patient was included in May 2010. Time period 2010-2014 was actually 3.67 years. (Calculation: 796 exams/3.67 years/0.470 million = 461). The exact time period (3.67 years) has been stated in the methods section.
- P-value p<0.03 has been altered to p = 0.03 as this is correct when only two decimals is used.
- Median figure (313 km...) has been added.
- In abstract, the abbreviation “FDG” has been used alone.
- “Studies have shown” has been used instead of the words: studies have showed.
- In background the abbreviation “PET” has been used alone.
- It is correct that decision makers have ordered in total six HTAs to clarify the need for PET/CT scanners. This has now been rewritten to explain it more clearly.
- “…in Norway, it became clear from the early evaluations that the..” has been rewritten according to suggestion.
- “Bergen 1,809” has been corrected.
- Colon deleted as suggested.
- “…were recorded: gender, age…” rewritten as suggested.
- “In case of alternatives, the…” rewritten as suggested.
- “…these early problems were solved.” Rewritten as suggested.
- The figure 461 has been checked, se above.
• The requested data on ratios are shown in Table 3, last line (all exams).

Best regards

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