Reviewer’s report

Title: Anticipating implementation of colorectal cancer screening in The Netherlands: a nation wide survey on endoscopic supply and demand

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Reviewer: John Cullinan

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This paper presents a survey of endoscopic supply and demand in The Netherlands and attempts to answer four central questions:

1. What were endoscopic capacity and endoscopic activity in The Netherlands as of 2009;
2. How did endoscopic capacity and endoscopic activity change since 2004;
3. How will endoscopic capacity and endoscopic activity be impacted by a proposed new CRC screening program; and,
4. How do colonoscopy rates in The Netherlands compare to other European countries.

The authors do a good job of addressing questions 1 and 2, particularly at a geographical level, and the findings should be of interest to those involved in endoscopic resource allocation decisions in The Netherlands. However, more work is needed to adequately address questions 3 and 4.

Major Compulsory Revisions

Abstract

1. Conclusions section of abstract repeats what is presented in Results section – an interpretation of the importance of the authors’ findings is required here.
2. The use of the word ‘capacity’ is misleading/confusing in places and should be carefully defined from the outset.

Background, Methods, Results

3. The paper starts by claiming “The existing shortage of gastroenterologists and endoscopy staff would be compounded by the implementation of a nationwide screening program for colorectal cancer (CRC), as it would lead to a further increase in endoscopic demand.” This ‘shortage’ needs to be clearly and carefully detailed/referenced/explained as it is central to one of the main findings of the paper. Furthermore, the phrase “would be compounded” is a statement of opinion and needs to be backed up. For example, perhaps spare capacity, improvements in operational efficiency and/or technological advancements could help to meet extra demand in the future?
4. Closely related to this, the paper needs to give a better sense as to whether endoscopic units in The Netherlands are currently operating below/at/above
capacity and to what extent there is room for increasing the number of endoscopies through measures other than extra endoscopists e.g. operational efficiencies, economies of scale, increases in support staff, etc. This is a fundamental question in relation to whether there is a need for more endoscopists to deal with the likely future demand discussed in the paper.

5. To address Question 4, “endoscopists associated with the United European Gastroenterology Federation were requested to report solid data on the number of colonoscopies per 100,000 inhabitants, when available”. This would appear to be a very unreliable way in which to gather comparable cross-country data in order to make inferences regarding differences in capacity across countries. For example, what does “solid data” mean? How is it defined? How did these endoscopists derive this “solid data”? If such an approach is valid, instead of the authors going to such an effort to sample every endoscopy unit in The Netherlands, why not just ask an expert in The Netherlands instead? Much more detail regarding this element of the study is required before the findings can be viewed with any confidence.

6. In relation to the number of endoscopists, the authors report: “For gastroenterologists, a 47% increase over 2004 was found, whereas the number of internists and surgeons decreased by 27% and 16%, respectively. In total, a 4.6% increase in the number of endoscopists was found over the past five years.” An important question here concerns whether gastroenterologists, internists and surgeons all spend the same proportion of their time performing endoscopies and/or perform the same number of endoscopies per unit of time. If not, the 4.6% may be an underestimate/overestimate of the true change in the system’s supply/capacity to provide endoscopies and of whether or not the system is under/at/below capacity.

7. The discussion of the likely impact of a future CRC screening programme and its impact across regions is interesting and potentially useful for resource allocation decisions. In this context an additional question worth addressing is whether there are economies of scale in the provision of colonoscopies?

Discussion

8. In the Discussion section, the authors state that “differences might be related to variation in available endoscopists, patient demographics and morbidity patterns”. Further investigation of this would strengthen the paper and should at least be discussed in more detail.

9. The conclusions drawn in the Discussion section concerning cross-country differences in endoscopy rates suffer from the concerns raised above. It is not enough to state “since hardly any of the European data that are presented here are published, they should be interpreted with caution.”

10. “an investment in increasing capacity appears to be mandatory”. The word mandatory is debatable if the current endoscopy system is working below capacity. The authors state that “Due to the substantial increase over the recent years without a considerable increase in manpower, the upper limit of capacity might have been reached already, and a further increase without sufficient investment might result in low quality colonoscopies.” Whether or not “the upper
limit of capacity [has] been reached already” is central to the correct interpretation of the data in this paper, relates to Point 4 above, and needs to be addressed.

Minor Essential Revisions

11. A number of spelling and grammatical errors are evident throughout and should be fixed.

12. There are discrepancies between the numbers reported in Table 5 and the discussion on Page 11: “Geographical distribution of the number of colonoscopies per 100,000 individuals ranged from 913 in Noord-Brabant to 1,620 in Limburg (mean in The Netherlands was 1,164)”

13. The authors report confidence intervals in Table 1 and some subsequent tables. Given that true population values are being reported, are these necessary? Is it because of the response rates?

**Level of interest:** An article whose findings are important to those with closely related research interests

**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.