Author's response to reviews

Title: Proton pump inhibitors: potential cost reductions by applying prescribing guidelines

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Author's response to reviews: see over
Dear Dr Emily Crow,

Re: MS-2850500963564597
Proton pump inhibitors: potential cost reductions by applying prescribing guidelines
Caitriona Cahir, Tom Fahey, Lesley Tilson, Conor Teljeur and Kathleen Bennett

Thank you for giving my co-authors and I the opportunity to prepare a revised version of the manuscript entitled “Proton pump inhibitors: potential cost reductions by applying prescribing guidelines”. This version of the manuscript addresses the referees’ specific comments and the alterations made to the manuscript are specified below.
Referee 1:

1. Minor Essential Revisions
   a. Scenario 1 is essentially the same as scenario 2. Scenario 1 is based on the initiation of PPI therapy and the patient is placed on a cheaper brand/generic equivalent from the start of their therapy for a one year period. In scenario 2 the patient is switched to a cheaper/brand generic equivalent after 3 months, for a one year period.
   b. The grammatical error has been corrected. In the Results section, PPI prescribing by age group, pg.10 the word “at” in the sentence ‘at PPIs at maximum therapeutic dosage’ has been removed.

Referee 2:

1. Major Revisions
   a) The publications that were published in 2011 have been reviewed and added to the introduction section. The comment that there is a scarcity of economic/health policy data to inform decisions makers has been amended and a brief summary of the recent publications has been included (Background section, pg.5 and 6, final paragraph).
   b) In recent years there have been no significant changes in Ireland in terms of trying to encourage physicians treating general medical scheme (GMS) patients to be more economically responsible in their prescribing. However, the government are planning to introduce a reference price system in the coming months and new pricing agreements have also recently been implemented between the government and manufactures. These upcoming changes have been added to the discussion section (Discussion section, policy implications, pg. 15 and 16, final paragraph).
   c) The authors chose to review 2007 and 2008 data as the analysis for this study was undertaken in 2010 and the manuscript was submitted for publication in 2011. The HSE-PCRS data is generally made available for research purposes to academic institutions one year prior to the current year (data is collated from pharmacies, compiled, cleaned etc). At the time of commencement of the analysis we did not have a complete years worth
of data for all GMS scheme patients in 2009 and the analysis was based on a one-year follow up for every patient within the scheme (2007 and 2008). Given that there have been no significant changes in Ireland in terms of policies to increase generic prescribing or implementation of PPI prescribing guidelines the trends in PPI prescribing in this study are unlikely to have changed significantly between 2008 and 2011 (see Discussion section, conclusion, pg. 16). The HRB Centre for Primary Care Research is currently piloting the effectiveness and acceptability of PPI dose reduction and/or OTC alternative in primary care patients in a multicentre randomised controlled trial across 22 practices (Study Protocol- Optimizing Prescribing for Older People in Primary Care, a cluster randomized controlled trial: protocol and pilot study (OPTI-SCRIPT study)) and results of this study will be published in due course. With the upcoming introduction of reference pricing and new pricing agreements between the government and manufacturers, there should be changes to PPI and other drugs prescribing patterns and use of generics in the future and an analysis of the implementation of the reference pricing system is planned in the coming years.

d) The paragraph on the long term consequences of PPIs has been moved from the Discussion section to the Background section (Background section, pg.5, 2nd paragraph). The association between PPIs and risk of fractures has also been referenced (Background section, pg.5, 2nd paragraph).

e) The Discussion section has been expanded to include a more detailed discussion of possible reforms that could be introduced in Ireland to improve prescribing efficiency for PPIs. The reforms and initiatives include the introduction of prescription software systems to generate patient-specific assessments and prescribing advice and support which enable practitioners to adequately monitor dose and duration of treatment (Discussion section, future research, pg.14). The use of academic detailing, educational interventions, prescribing targets and financial incentives to educate and motivate physicians to adopt the guidelines (Discussion section, policy implications, pg.15). Reforms also include the introduction of a reference pricing system and new drug pricing agreements between
the manufacturers and the government (Discussion section, policy implications, pg.16).

Editor’s comments:

1) Revisions
   a) No ethical approval or permissions were required to use the HSE-PCRS pharmacy claims database. A statement to this effect has been added to the Methods section of the manuscript (Methods sections, study population, pg. 7, 2nd paragraph).
   b) The two figures in this manuscript have been uploaded separately with the legend and title provided after the reference list.
   c) The tables have also been reformatted in line with the journal guidelines.

I hope that the revised version of the manuscript and the aforementioned changes have addressed the comments of the referees and editor. Thank you very much for taking time to reconsider this manuscript. I look forward to hearing from you in the near future.

Yours sincerely,

Caitriona Cahir