Reviewer's report

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

Version: 1 Date: 2 August 2012

Reviewer: Brian Godman

Reviewer's report:

A) Overall points

1. Is the question posed by the authors well defined?

The question was well defined. The authors make good points that the current guidance - especially with the need to step down PPU therapy and regularly review patients – is regularly being ignored by practising physicians, and especially in hospital there is appreciably inappropriate use of PPIs. However, there is no real explanation why there is continuing high use of costly PPIs in Ireland vs. for instance northern European countries such as England, Scotland and Sweden, which was already known by 2 of the authors before this analysis and paper was written (below).

2. Are the methods appropriate and well described?

Methods were appropriate certainly for the data collection and analysis. This includes the statistical package used. However (below) the authors give no explanation why they are only collecting data for 2007 to 2008 when data up to 2011 is available.

3. Are the data sound?

Yes – the data reported were sound. However, as stated I would also like to see more recent data analysed, presented and discussed as this is available.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

I believe so – however, a great deal more data/ proposed steps should be added by the authors to enhance the content of the paper (see below) given what is already known and in the public domain (and cited in Pub Med).

5. Are the discussion and conclusions well balanced and adequately supported by the data?

Up to a point – see below

6. Are limitations of the work clearly stated?

Yes
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

Not always – see below

8. Do the title and abstract accurately convey what has been found?

Yes – although gaps in the abstract (below)

9. Is the writing acceptable?

Yes

B) Potential revisions

i) Discretionary Revisions:

None in addition to those stated below.

ii) Minor Essential Revisions:

None in addition to those cited below

iii) Major Compulsory Revisions

I) Introduction

Unfortunately, the authors have ignored 2 publications that 2 of them were involved with that were published in 2011 (Godman B, Shrank W, Andersen M, Berg C, Bishop I, Burkhardt T et al. Comparing policies to enhance prescribing efficiency in Europe through increasing generic utilisation: changes seen and global implications. Expert Rev. Pharmacoeconomics Outcomes Res 2010; 10: 707–22 and Godman B, Shrank W, Andersen M, Berg C, Bishop I, Burkhardt T, Garuoliene K et al. Policies to enhance prescribing efficiency in Europe: findings and future implications. Frontiers Pharmacol. 2011; 1 (141): 1-16 doi: 10.3389/fphar.2010.00141). They both showed that in Ireland (GMS population) between 2001 and 2007, after the launch of generic omeprazole (2002) its utilisation decreased as a % of total PPI utilisation (46% in 2001, 32% in 2006 before increasing) whilst esomeprazole utilisation continued to increase (12% in 2001 and 31% in 2007). As a result, although utilisation increased faster than expenditure in Ireland – in other Northern European countries (England, Scotland and Sweden) expenditure actually decreased between 2001 and 2007, despite utilisation appreciably increasing, through multiple demand side reforms encouraging the prescribing of low cost generic PPIs vs. premium priced patented PPIs (in line with guidance that the lowest cost PPI should be prescribed with all PPIs seen as essentially similar). As a result, expenditure in Sweden (Euro/1000 inhabitants/ year) in 2007 was over 10 times lower than Ireland – although this is for the total population and not a co-morbid population (GMS population). Recent analysis in Scotland (Bennie M, Godman B, Bishop I et al. Multiple initiatives continue to enhance the prescribing efficiency for the proton pump inhibitors and statins in Scotland. Expert Review
Pharmacoeconomics and Outcomes Research 2012; 12: 125-130) again demonstrates that multiple supply- and demand-side measures continued to decrease PPI expenditure (in 2010 56% below 2001 levels) despite growing utilization (3 fold increased) - again through increasing the use of generic PPIs at low prices. These and other studies contradict the comments by the authors that there is a scarcity of economic/ health policy data to inform decision makers (Page 5) on ways to appreciably improve PPI prescribing efficiency and their potential outcomes. The authors need to say why they have ignored these articles in their introduction since they provide a clear and urgent need for the authorities in Ireland to instigate measures to encourage PPI prescribing according to the guidelines – especially given the current financial crisis.

The authors also need to comment what has happened in recent years in Ireland in terms of trying to encourage physicians treating GMS patients to be more economically responsible in their prescribing especially where all products in a class are seen as essentially similar, especially given the ongoing financial crisis in Ireland. If nothing major has happened recently (as seems to be the case in the introduction) then why not (given their insights)?

In addition, the authors need to state why in 2012 they chose only to review 2007 and 2008 data and not data up to 2011 for their research? This is particularly important since it was known some time ago that prescribing efficiency could be appreciably increased in Ireland through adopting a number of the reforms already instigated in other European countries.

The authors also need to discuss the long term consequences of PPIs in the introduction to add weight to the rationale behind the study, i.e. move this from the discussion to the introduction. In addition, include comments on the increased risk of fractures with long term PPIs (this part a minor revision). Katz’s editorial – Failing the acid test’ ARCH INTERN MED/VOL 170 2010; 747-8 contains some additional references to those already quoted that they may wish to consider (discretionary).

2) Discussion

The authors need to state what reforms could be introduced in Ireland to help improve prescribing efficiency especially given ongoing resource pressures, e.g. what initiatives could be introduced to improve Interface management, what could be done to encourage GPs to undertake step down therapy especially given the high % of patients still on maximal doses after 1 year in Ireland (Page 9), and what can be done to encourage the prescribing of generics given the exceptionally low rate of 16% (Page 10) versus successful measures in other European countries. Such topics have been ignored in the article to date.

Addressing these points will add appreciably to the scientific content and health policy value of this paper as we already know that the utilisation of generic PPIs in Ireland is low compared to patent protected PPIs - adding appreciably to their costs versus for instance Sweden and the UK.
**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**
I do not have any competing interests