Author's response to reviews

Title: Can we use the pharmacy data to estimate the prevalence of chronic conditions? An attempt to compare different information sources

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Version: 3 Date: 8 March 2011

Author's response to reviews: see over
Dear Editor,

We would like to submit the original manuscript entitled: “Can we use pharmacy data to estimate the prevalence of chronic conditions? An attempt to compare different information sources” for your consideration for publication in BMC Public Health.

The authors are: Francesco Chini, Patrizio Pezzotti, Letizia Orzella, Piero Borgia and Gabriella Guasticchi.

This study reports prevalence estimates of some chronic conditions using the pharmacy data, in Lazio region of central Italy that includes Rome. The prevalence estimates were comparable and in agreement with those obtained by using other health databases and with those reported in the survey performed by the Italian Bureau of Census (ISTAT).

A previous version of the manuscript was submitted to another BMC journal (i.e., Population Health Metrics) but unfortunately was not accepted. It is of note that rejection was not related to particular methodological issues but it seems to be an editorial decision that considered our study not reaching the high priority for publication. The editor of that journal (see attached e-mail) suggested to submit to other BMC journals included BMC Public Health. We are submitting a new version that takes into account of the comments of the three reviewers of Population Health Metrics (see attached comments).

Please note that:

• All authors declare that there are no competing interests.
• All of the authors listed concur with the content of this paper and its submission to your journal. The final version of the manuscript has been read and approved by all authors.
• Neither the article, nor any part of it, is under consideration for publication in any journal.
• The study design did not require an approval by an Ethical Committee. The Agency for Public health is the mandatory collector of all the data used in this paper.

On behalf of the authors
Francesco Chini
e-mail:

Dear Dr. Chini,

Thank you for your inquiry. You are welcome to submit your manuscript to any other BioMed Central journal. As you may know, BioMed publishes a number of other titles you may want to consider, all of which offer open access to research articles and some of which may consider a wider variety of manuscripts than Population Health Metrics. You may wish to consider:

- BMC Public Health
- Emerging Themes in Epidemiology
- Epidemiologic Perspectives and Innovations

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The Editorial Boards of the journals will have the responsibility for whether or not to consider your manuscript. If you would like to submit your manuscript to another BioMed journal, we would be happy to do so on your behalf. Please contact editorial@biomedcentral.com and confirm which title you would like to submit to.

We wish you every success in submitting your manuscript elsewhere.

Best wishes,

Jolayne Houtz
Co-Managing Editor
Population Health Metrics
Tel: +1-206-897-2881
Reviewer's report
Title: Can we use pharmacy data to estimate the prevalence of chronic conditions? An attempt to compare different information sources
Version: 1 Date: 17 December 2010
Reviewer: stefania maggi

Major Compulsory Revisions
1. Background: “Prevalence surveys are regularly conducted in several countries to provide estimates for several CCs. These surveys have the advantage of not being particularly expensive but they are criticized for being based on self-reports…”
Authors should cite, also in the discussion, prevalence data from population studies such as the Italian Longitudinal Study on Aging-ILSA, PROVA, etc. These studies reported prevalence rates based on clinical evaluations, and not only self-reported information from subjects. Furthermore, these surveys were performed on samples designed to be representative of the Italian population, also applying age and sex specific weights.
2. Discussion “One possible explanation for this discrepancy between pharmacy data and ISTAT survey data was based on self-report. Several studies have suggested that the accuracy of self-reporting can be low for some CCs. For example, subjects over-report rheumatologic conditions in survey where the diagnosis is self-reported”: authors should also consider that for some diseases, such as osteoporosis or diabetes, the pharmacological treatment is not given, mainly because of under-diagnosis of the conditions
3. Methodology: Did the authors try to consider the methodology capture-recapture?

Minor Essential Revisions
1. Methods: authors wrote a paragraph to explain how they identify individuals with CCs through pharmacy data and HIS, but they did not describe the methodology considered for REP, at least as time reference.
2. Tables, etc: results were presented for 30 CCs and not for 31 as declared.

Discretionary Revisions
1. Abstract, background: “..using the drug prescription database and to compare these estimates with those obtained using health administrative databases”. Also the drug prescription database is an administrative databases; I suggest to add “..using other health administrative databases”.
2. Methods, “Identifying individuals with CCs in the HIS”: Why did the authors consider the period 2002-2006 to identify diseases through hospital discharges? For drugs 2006 was considered. Authors could explain this aspect.

Minor issues not for publication
1. Methods, Setting: “…5,300,00…” It should be 5,300,000
2. Table 3: “Estimates of prevalence for …”. Authors should add “per 1000”
3. Limitations: what do “presc” and “ibed” mean?

Level of interest: An article whose findings are important to those with closely related research interests
Reviewer's report
Title: Can we use pharmacy data to estimate the prevalence of chronic conditions? An attempt to compare different information sources
Version: 1 Date: 6 December 2010
Reviewer: Ronald Cossman
Reviewer's report:
Major Compulsory Revisions
1. How do you reconcile the differences between prescription drug usage, which is applied to the entire population to determine a rate, versus the hospital discharge and registry of exempts, which is limited to those seeking attention by a medical professional and/or medical facility? In other words, the denominator is not the same. Either adjust such that you can compare to Rx rates or drop the comparison entirely.
2. The authors would do well to review a similar article, “Correlating pharmaceutical data with a national health survey as a proxy for estimating rural population health,” particularly the extended discussion of possible limitations of this methodology. See: http://www.pophealthmetrics.com/content/8/1/25
3. One methodological issue that is not addressed is the difference between actual prevalence rates and the rate of those who have been diagnosed and are being treated with a drug regimen. See: http://www.pophealthmetrics.com/content/7/1/16 as a starting point.
Minor Essential Revisions
1. Abstract, Methods, first reference to ATC codes, Define ATC codes.
2. Methods, Setting. Should that be 5,300,000?
3. The manuscript could be improved and polished by a line edit for word choice and construction.
Discretionary Revisions
1. I would prefer to send the equations/process by which the Rx calculations were made.
2. I would like to see a discussion of the applicability of these rates to the general public and/or limitations to this methodology.
3. Are there other sources of Rx other than the pharmacy?
4. How do these rates compare to published rates (regardless of data source) in other regions of Italy?
Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Needs some language corrections before being published
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.
Reviewer's report

Title: Can we use pharmacy data to estimate the prevalence of chronic conditions? An attempt to compare different information sources
Version: 1 Date: 30 November 2010
Reviewer: Theo Vos

Reviewer's report:
The approach to try and derive estimates of prevalence of disease from drug dispensing data is fraught with problems. In your particular example I flag the following major methodological problems:

a. some of your categories for prevalence are too broad to have any meaning: e.g all CVD, chronic respiratory, malignancies, psychiatric disorders
b. for other conditions the coverage of drug treatment is low (and hence a poor proxy for prevalence): anticholinesterase agents for dementia, drug Rx BPH, interferons chronic hep B; drugs listed for CKD/cirrhosis, malignancies
c. some of the drugs listed are used across different disease categories: e.g, some anti-convulsants as mood stabilizers in bipolar
d. you cannot link use of gastric drugs to gastric 'disease' as these are very often used as 'prevention' of side effects from analgesics rather than gastric disease
e. some of your categories not disease categories: pain, transplantation, hyperlipidaemia

Level of interest: Reject as not of sufficient priority to merit publishing in this journal

Quality of written English: Needs some language corrections before being published
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