Author's response to reviews

Title: Comparisons of medical utilizations and categorical diagnoses of emergency visits between the elderly with catastrophic illness certificates and those without

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Author's response to reviews: see over
Dear Editorial Office of BMC Health Serv Res:

We have made the necessary changes and re-submit our manuscript. All the revised sentences or tables are remarked by red color in the revised manuscript.

A list of changes to each point is appended below.

**Editor’s comments:**

Background section of abstract is revised and the aims of the present study is added as below: "……As a pilot of a series of studies, focused on emergency department (ED) visits, the present study aimed to compare medical utilization and various diagnostic categories at EDs between the elderly with an identified catastrophic illness and the elderly without." (Seeing P.2)

**Associate Editor’s comments:**

1. The title-page is at the front of our revised manuscript, and e-mail addresses of all authors are added. (Seeing P.1)
2. Acknowledgements section is added. (Seeing P.23)

**Reviewer #1:**

Thanks for the reviewer’s effort and acceptance.

**Reviewer #2:**

1. The objects of this manuscript are described much more clearly. In introduction section: "To understand the effect of catastrophic illness certification on the use of medical services and the sequence of public health in Taiwan, a simple descriptive, sampled population-based survey maybe is valuable and can be processed as a pilot of a series of studies. Designed as a cross-sectional, randomly-sampled study, the present study was focused on emergency department (ED) visits and aimed to compare medical utilization and various diagnostic categories at EDs between the elderly with an identified catastrophic illness and the elderly without." (Seeing P.5, 6) In background section of abstract: "……its effect on the use of medical services and the sequence of public health has not been examined. As a pilot of a series of studies, focused on emergency department (ED) visits, the present study aimed to compare medical utilization and various diagnostic categories at EDs between the elderly with an identified catastrophic illness and the elderly without." (Seeing P.2)
2. The methods of this manuscript are described much more clearly. In method section of abstract: “A cross-sectional study, based on a large-sample nationwide database (one million of the population, randomly sampled from Taiwan’s National Health Insurance Research Database (NHIRD)), was performed in Taiwan. The 2008 insurance records of ambulatory medical services for subjects aged 65 years or more among the above one million of the population were further selected and analyzed……” (Seeing P.2) In “Selection of target population and definition of catastrophic illness” section of methods: “A retrospective fixed cohort population was used as the original study population…… the original claims data of 1,000,000 randomly-sampled beneficiaries from the year 2005 was the original study population of the present study….. In 2008, all the subjects aged 65 years or older were selected from the original study population to be the sampled population for a further analysis…..the 2008 registered catastrophic illness dataset of Taiwan (including 30 categories, presented in the result section) was used to verify the target cases from the sampled population……” (Seeing P.9, 10)

3. The definitions(30 categories) of catastrophic illnesses in Taiwan are added in Table-2(Seeing P.30) and the main text as below: “(Seeing P.10)…the 2008 registered catastrophic illness dataset of Taiwan (including 30 categories, presented in the result section)....” “(Seeing P.12) According to the Taiwan health authority’s classification, there were 30 categories of catastrophic illnesses…(Table 2).”

4. The statistical analysis section is revised and its relevance is described as below: “The independent t-test and 95% confidence interval (95% CI) were used to evaluate the significance of differences between the catastrophic and non-catastrophic illnesses and the psychiatric and non-psychiatric disorders among these catastrophic illnesses.” (Seeing P.10, 11)

5. The limitations are added as below: “Some limitations exist in the present study. First, a certificate of any catastrophic illness was confirmed based on the definitions announced by the Taiwan’s Health authority but according to the patients’ application. A misclassification bias could be happen when analyzing the present data because some lowly socio-ecological leveled or educated people didn’t know and use the welfare of the health insurance system. Second, the resent study was a cross-sectional study merely to describe the differences in EDs utilization and direct medical expenditure between the catastrophic and non-catastrophic illnesses. Much more interesting comparisons between the two groups, such as consequent lifespan, quality of life et al, could not be obtained. That needs other prospective surveys in future.” (Seeing P.21)

6. Background and method sections of the abstract are revised (Seeing P.3)