Reviewer comments

Comment 1: the title needs to indicate the clinical research design of this study, i.e., a cross-sectional analysis.

Reply 1: We have indicated the clinical research design of this study in the title (highlight in yellow color, see Page 1, line 2).

Comment 2: the abstract needs some revisions, because it is not adequate.

(1) In the background, the authors only indicated the knowledge gaps in the research focus but did not indicate the clinical and health-policy significance of this research focus. Please emphasize direct economic burden in the objective.

Reply: We have emphasized the importance of researching the direct economic burden of CAP in children for health-policy making in the objective (highlight in yellow color, see Page 3, line 53-54).

(2) In the methods, please describe the inclusion of subjects, the assessment of clinical characteristics, the data collection of direct economic expenditures, and data analysis methods.

Reply: We have described that the cost for CAP of hospitalized children aged 28 days to 18 years old in Shanghai, from January 2018 to December 2020, was studied. And the data collection of direct economic expenditures, and data analysis methods were added in the Methods (highlight in yellow color, see Page 3, line 59-61).

(3) In the results, the economic burden of children of different age-groups and severe and non-severe groups should be reported. Because there is no comparison reference, the conclusion on "high economic burden" is not convincing. I suggest the authors to calculate the proportion of the economic burden among the mean annual income in Shanghai residents.

Reply: We have added the accurate cost of different groups in the results (highlight in yellow color, see Page 3, line 73-75; Page 4, 76-77). We have showed that the average direct cost per hospital stay due to pediatric CAP in Shanghai was 4707.83 CNY in 2018, accounting for 7.3% and 16.7% of the per capita disposable income in Shanghai and in China in the same period, respectively. (in the Discussion part, highlight in yellow color, see Page 15, line 352-357, reference 24-25). And added it in the Abstracts (highlight in yellow color, see Page 3, line 71-73).

(4) "Pneumonia-related vaccination might be helpful to reduce the disease burden" is also overstated unless the authors compared the treatment costs between vaccinated and non-vaccinated children with CAP.

Reply: We have deleted the sentence from the conclusion since we didn't compare the treatment costs between vaccinated and non-vaccinated children with CAP. It's a promising therapeutic strategy and would be our further research contents. So we discussed it at the end of the article (highlight in yellow color, see Page 16, line 377-379).

Comment 3: in the introduction of the main text, the authors should cite the CAP mortality data from the China CDC in the age groups from 0-19 years to denote the public health burden of CAP in children. In this part, the authors should have a brief review on factors associated with economic burden of CAP in children. Further, please clarify the clinical and public health significance of the research focus.

Reply 3: (1) We have cited the CAP mortality data from the China CDC in the age groups from 0-19 years to denote the public health burden of CAP in children (highlight in yellow color, see Page 5, line 109-113 and reference 5).

(2) Factors associated with economic burden of CAP in children include length of stay, age, severity and complication, etc. We have added it to the corresponding part (highlight in yellow color, see Page 6, line 126,127 and reference 9[t]-10).

(3) We have added the clinical and public health significance of the research focus (highlight in yellow color, see Page 6, line 127-130).

Comment 4:

(1) in the methodology of the main text, the authors should consider whether it is appropriate to include the 2020 data because of the COVID-19 pandemic. The lockdown and pandemic control measures had substantially changed CAP children's help-seeking behaviors, so the 2020 data are not representative. Please directly indicate the cross-sectional design of this study.

Reply: It's true that the lockdown and pandemic control measures in 2020 had substantially changed CAP children's help-seeking behaviors. The authors think that analysis of costs I 2020 could reflect the impact of public policies on medical behavior to a certain extent. So we kept this part of the content and did the necessary analysis in the discussion section (highlight in yellow color, see Page 12, line 274-279, 296-298).

(2) In statistics, please explain what are "paired data". Most of the statistical analyses are descriptive, the authors should consider multiple linear regression to identify factors associated with the economic burden. Please ensure P<0.05 is two-sided.

Reply: The paired data mean that we aimed to conduct analyses in different groups, e.g., age groups, severe *vs*. non-severe groups, etc. We have deleted the expression.

We have rechecked the data and ensured that P<0.05 is two-sided (highlight in yellow color, see Page 8, line 199). We have also conducted a multiple linear regression to identify the risk factors of the economic burden (highlight in yellow color, see Page 8, line 193-198 in Method and Page 10, line 241-247 in Result, Table 2).

(3) In discussion, please discuss the influence of medical insurance policy on the economic cost in China.

Reply: We have discussed the influence of medical insurance policy on the economic cost in China (highlight in yellow color, see Page 16, line 380-388).