Reviewer's report

Title: Incidence of Viral Respiratory Infections among Outpatient and Hospitalized Children Aged [less than or equal to] 5 Years and Its Associated Cost in Buenos Aires, Argentina

Version: 2
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Reviewer: Lay-Myint Yoshida

Reviewer's report:

Determining the incidence of influenza and other major viruses causing severe respiratory illness and the cost for hospitalization are important information for middle income countries like Argentina since such information will be useful for preventive measures like vaccine implementation and control measures.

However there are several important major points the authors need to revise before considering for acceptance.

Major comments

Major Compulsory Revisions

The authors conducted a prospective cohort study of approximately 1800 children equal or less than 5 years enrolled in CEMIC, a nonprofit health insurance plan. These children were monitored from June 2008 to December 2010.

Social-economic status and background of families enrolling into this insurance program should be elaborated. There must be other insurance plans and people taking different insurance plan may have different social-economic background.

The author mentioned that the children were entitled to assess two hospitals and emergency clinics for treatment.

The names and/or location of the hospitals and the clinics will be important to understand which region in Argentina the study was conducted. Viral distribution may differ based on different geographical location, even in the same country. The authors should elaborate the geographic and social-economic background of the study population.

The author mentioned that a convenience sample of children presenting to an emergency room with acute respiratory sign or symptom were enrolled into the study only because of the insufficient resources for a random selection. Similarly, asymptomatic children were enrolled by convenience sampling.

How many emergency clinics were assessable by the CEMIC insurance holders and which emergency clinic was selected for this study? Which hospital was selected for the asymptomatic children?
During the study period, a total of 89 hospitalization and 8,925 emergency room visit were reported among CEMIC children #5year.

I would like to confirm whether emergency room visit mean visiting an emergency room for severe ARI or respiratory distress or just visiting an outpatient clinic for sign and symptoms of ARI. If 8,925 were emergency visits, how many outpatient clinic visits happened for ARI signs and symptoms among the study population?

Although all 89 hospitalized cases were enrolled to the study, only 269 (3% of total) emergency cases were enrolled. Similarly only 37 asymptomatic children were enrolled as control for viral testing.

Seasonality, age distribution of controls and cases (emergency cases enrollment also) are important points to consider to get representative samples. The authors should describe and discuss how the controls and the emergency cases were enrolled to be representative of the whole.

Another important issue is co-infection of viruses and bacteria among the cases. The role of respiratory bacteria like Streptococcal pneumoniae and Haemophilus influenzae were not discussed in the discussion. What was the pneumococcal vaccination and Hib vaccine coverage in the study population? The authors should add it in discussion.

Table 2 shows the proportion of cases and virus testing results.
To understand better the situation, the author should show both the actual number and percentage of the cases and test results.

Seasonality is important for viral outbreaks especially for RSV and influenza. The incidence for the first year of the study was calculated from June 2008 to December 2008. Therefore the incidence data for each virus in 2008 result may be not representative.

This study used immunofluorescence assays (IFA) instead of PCR technique which is more sensitive and usually used by other studies. Therefore it will be difficult to compare the result with other studies. The authors should describe the background of respiratory virus situation in Argentina and the study area from previous reports if available in introduction or discussion.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**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