

## Peer Review File

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### Reviewer A

#### Comment 1

In a minority of cases, pneumothorax may be the cause of admission for COVID-19 patients. Can this issue be addressed in the patients included in the study?

#### Reply 1

The authors thank the Reviewer for highlighting this point. The authors agree that there is a possibility that pneumothorax may be the cause of admission for COVID-19 patients. Regrettably, such information cannot be deduced from the NIS dataset. Consequently, the precise day of pneumothorax occurrence and its duration cannot be determined. This limitation is duly acknowledged in the limitation section and has been highlighted in red for easy reference – "duration of pneumothorax is not collected."

#### Changes in text

It is discussed in our limitation section on Page 18 and lines 348- 349. The text has been highlighted in red for easy reference.

#### Comment 2

In addition, it would be interesting to see if the same conclusion applies for the following years, i.e., 2021 and 2022, where the epidemiology of the pandemic and the circulating variants changed. The authors may wish to make a comment in the Discussion.

#### Reply 2

The authors thank the reviewers for highlighting this concern. The authors agree that variations in different strains of COVID-19 may have influenced the incidence of pneumothorax in COVID-19 cases. As soon as the relevant data becomes available, comparable studies utilizing the NIS dataset for 2021 and 2022 can be done. We have included this pertinent information in the limitation section.

#### Changes in Text

Pertinent information has been incorporated in the manuscript – “It is plausible that in the subsequent years, various COVID-19 variants, which are recognized for their impact on the disease's severity, may have also contributed to the incidence of pneumothorax” on page 18. Lines 351-353 (track changes). As of now, only the NIS dataset from 2020 is accessible. It is discussed in the limitation section and has

been highlighted in red for quick reference (Page 18, Line 354)

### Comment 3

Figure 1. The authors describe the figure by saying, “Figure 1: Kaplan-Meier Survival Estimates: As the length of stay increased, the probability of survival was lower in patients who developed a pneumothorax.” The phrase “as the length of stay increased” can be omitted. The exact patient numbers of patients surviving with and without pneumothorax at specific time points can be included under the curves. Statistical significance can also be included in the curve.

### Reply 3

The authors express gratitude for the insightful feedback provided by the reviewer. In response to the suggestions, the phrase "as the length of stay increased" has been eliminated from both the manuscript and figure description (track changes). Furthermore, the Kaplan-Meier Curve now incorporates precise counts of patients with and without pneumothorax surviving at specific time points, accompanied by the relevant statistical significance (track changes).

### Changes in Text

As recommended, the previously mentioned text has been excised from the 'Comparison with influenza' section on page 18 and Figure 1 on Page 37. A new Kaplan-Meier Curve has been introduced to reflect these modifications (Figure 1, Page 37), and the precise counts of patients are explicitly noted within the figure. Additionally, the statistical significance ( $P$ -value  $<0.001$ ) is now mentioned below the Figure 1 on page 37.

### Comment 4

In Tables 1 and 2, statistically significant differences can be highlighted by bold letters.

### Reply 4

The authors sincerely appreciate the comments provided by the reviewer. In response to the suggestions, we have marked statistically significant differences in the tables with asterisks (track changes).

### Changes in Text

Tables 1-4 on pages 27-36 have been updated to include asterisks marking statistically significant values.

**Reviewer B**

### Comment 1

In the materials and methods the design of the study should be presented with inclusion and exclusion criteria of the keywords of literature data, the period of analysis and information about international data bases.

### Reply 2

The authors express gratitude to the reviewers for dedicating their time to review the manuscript and provide valuable feedback. In the "Patient Selection and Outcomes" subheading of the study design and methods, revisions have been made to enhance clarity in the inclusion and exclusion criteria (track changes). Additionally, the period of analysis has been incorporated (track changes). The NIS dataset was utilized for this study, and we have incorporated relevant details about this data set under the "Data Source" subheading in the study design and methods section (highlighted in red for quick reference).

### Changes in Text

The inclusion and exclusion criteria and period of analysis have been made more clear by adding the following text – “Our study included adult patients (age 18 years and above) with COVID-19 (ICD-10 code U07.1) and influenza (ICD-10 code J09.X1, J10.00, J10.01, J10.08, J11.00, J11.08) who were hospitalized between January 1st, 2020, and December 31st, 2020. Patients who were transferred to another acute care hospital were excluded” on page 7, lines 122-125.

### Comment 2

The eTable is not clear. This table can be deleted.

### Reply 2

The authors value the feedback offered by the reviewers. As suggested, eTable 2 has been removed from the supplementary files. (Track Changes)

### Changes in Text

eTable 2 has been excluded from the supplementary files. Consequently, eTable 3 and 4 have been re-designated as eTable 2 and 3, respectively. Throughout the manuscript and the supplementary files, the eTables have been renamed to align with these adjustments (modifications are highlighted in red for quick reference).