

Dear Reviewers,

Thank you for the opportunity to revise our manuscript. Your insightful comments have strengthened both the quality of the manuscript and its message. Please see our point-by-point response to your comments below.

Sincerely,

Courtney Rowan.

Reviewer No 503689

well designed study and important recommendations. However the cost of training and work time expenses for the NP. Further home support is usually needed for the parents. Will this be performed by a visiting NP or will they repoprt to the hospital later on?

- They follow up in Home Vent Clinic and receive nursing support arranged before discharge from the unit.

Reviewer No 742209

General The authors used room charge as an index of cost savings in this study, but this approach is limited because it is an indirect assessment of the actual or overall costs attributed to the patient's hospital stay during the study period. This reviewer suggests the authors relate the cost saving from the decreased length of stay to a practical item, such as the cost of the NP, which would suggest cost effectiveness. Does the cost saving from the decreased annual length of stay per patient offset the annual cost of the NP program? This reviewer suggests the authors include information on the number of new or different vs. same patients admitted to the chronic ventilator unit per year during the study period. If this retrospective analysis can demonstrate that NPs increased the number new patients admitted to the unit by decreasing their length of stay, this information will have more meaning to the healthcare community than just a decrease in length of stay per patient. If the same patient has frequent annual admissions to the unit despite a low length of stay per admission, the overall healthcare cost for this patient per year can increase because the variable cost (hospital admission) would also increase.

- This was added to the methods: The vast majority of patients that have home ventilation and return to the hospital for any reason are admitted to the general PICU service and not the chronic ventilation unit.

Methods Please include location of the study

- Added to the methods: This study was done at a large quaternary care pediatric hospital

How was cost-effectiveness assessed in the study?

- Add to the methods: Cost-effectiveness was determined by comparing room charges pre and post implementation of an NP.

Consider using the median instead of the mean as the central estimate in this study because the data were likely not normally distributed (see average room charge, para 6, results).

- As we were reporting results and not comparing groups we felt that reporting means would be acceptable for this particular results section.

Results Table 1. Clarify Median length of stay per patient in the column. Consider using median (IQR) annual patient days in column.

- updated

Figure 1. Clarify length of stay per patient

- Length of stay in this figure is represented as median days.

Figure 2. Clarify in the legend “the median length of stay per patient based on ...” Suggest including the sample size of patients for each category.

- This figure was removed per the suggestion of another reviewer

Table 2. Clarify median (IQR) for length of stay per patient in the heading.

- updated

Note. Typo for “13.0” for deaths.

- fixed

Figure 3. Clarify bed charges as a percent of what(?)—total hospital stay?

- Figure 3 represents the percentages of bed charges that occurred in the chronic ventilation unit. Over time there was an increasing number of critical care charges that occurred in the chronic ventilation unit. The values displayed are a percentage of the total bed charges that occurred in the chronic ventilation unit per year. We speculate that there was an increasing level of acuity in this unit due to the increasing percentage of critical care charges. Despite the likely increase in acuity, median length of stay decreased.

Clarify when NPs were implemented on the time axis.

- Updated on Figure 1

Discussion Would consider validating these findings at other pediatric chronic ventilator units

- Added to the last paragraph of the discussion.

Research frontiers Clarify how this study verified the success of dedicated NP in the chronic vent unit (by supporting prior findings at another PCVU?).

- Changed verify to suggest

Peer-review How did this study demonstrate an enhancement of the patient's care during the time when dedicated NPs were available? How was the quality of services by NPs assessed in this study?

- This section was updated. Aside from length of stay, the quality of services of the NP was not assessed by this study.

Reviewer No 69139

The manuscript is an inspiring work depicting success in implementing Nurse Practitioners in a discharge process from Pediatric Chronic Ventilator Dependent Unit (PCVDU). Worth publishing in the Journal. May I coin some peer review as following; -

There are 2 Figure-1, please choose only one. –

- We will remove the second figure 1.

Figure 2 is not very essential as it adds nothing and the message in this graph has been given in the text. Or it can be merged with Figure-1 ? –

- Agreed we will remove Figure 2. We will update Figure 3 to now be figure 2.

Table 2: Is it better to substitute 'Neurologic' with 'Neurology' –

- Updated to read neurologic disorder

Table 3 has many errors: Rehab needs full word. $p=0.84$ (too many punctuations). On Death row, (22.0)-62.0 --> (22.0-62.0)

- corrected