

Cost-Savings by Extubating Patients To The Same Ventilator

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Aim

This study aims to quantify the cost-savings associated with extubating patients directly to an invasive ventilator set on NIV mode versus transitioning them to a dedicated NIV machine, with a focus on high-risk populations within the MICU.

Background

Given the emerging evidence supporting NIV's benefits post-extubation, we noted an increase in its application, particularly among high-risk patient groups in our Medical Intensive Care Unit (MICU). This study evaluates the economic efficiency of employing the non-invasive ventilation (NIV) mode on invasive ventilators, specifically the Servo U, compared to using dedicated non-invasive ventilators, namely Phillips Respironics V60 or A40, for post-extubation care.

Team Members

Name	Designation	Department
Blesilda Ongsing Ramos	Principal Respiratory Therapist	Respiratory Therapy Services
Erick Amores Rodriguez	Senior Respiratory Therapist	Respiratory Therapy Services
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Interventions / Implementation

Our analysis of data began in 2021 when the department first implemented the conditional application of this practice, which continues to this day. These savings come from the avoidance of using additional consumables compatible with the A40/V60, which specifically provide NIV, and the initial charge for the usage of the A40/V60.

Onward 2026

Our project aligns with the YH Onward 2026 by improving Quality and Patient Safety. Our practice has:

1. provided a means to reduce cost to patient,
2. at this scale, shown to save patients money without sacrificing quality of care.

Results & Outcomes

Year	Maximum Cost to Patients Saved	Cost to Patients After Full Govt. Subsidy
2021	\$21,460.00	\$4,292.00
2022	\$41,847.00	\$8,369.40
2023	\$78,329.00	\$15,665.80

Total Extubations 2021-2023	
1033	
Extubations to A40/V60	Extubated to Servo
154	131
Total Failed NIV	
16	
Failed on A40/V60	Failed on Servo
10	6

Total cost saved by avoiding the use of NIV dedicated ventilator is \$21,460.00 in 2021, \$41,847.00 in 2022, and \$78,329.00 in 2023.

Conclusion

The use of NIV mode on invasive ventilators post-extubation leads to substantial cost savings without adversely affecting patient outcomes.