

### 6.11 Non-invasive ventilation for acute hypercapnic respiratory failure, a quality improvement project

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**Background:** The use of non-invasive ventilation (NIV) in the treatment acute respiratory failure has proven to limit the need of intubation, duration of hospital admission and mortality<sup>1</sup>. The smart aim was to increase the percentage compliance with NIV Standards of Care\* from 0% to 100% by July 2025 in patients presenting with hypercapnic respiratory failure due to AECOPD in MUH. **Methods:** Following on our previous QI project the NIV prescription sticker was used to standardise NIV prescription and documentation. Monthly data was collected on 10 charts, and the focus was on NIV prescription/documentation on the medical notes, timings of ABGs, escalation plan, and respiratory team referral. **Results:** Ten charts were randomly selected to assess compliance with NIV standards of care. 100% were appropriately prescribed NIV. 57% of patients had documented NIV prescription. None of the patient had escalation and resuscitation plan documented. One out of the ten patients had their repeat ABG carried out within the first hour of NIV initiation. A respiratory consultant reviewed 85% of the patients and .71 % had respiratory follow up arranged on discharge. **Conclusion:** The overall result highlights gaps in standard of NIV therapy in our cohort. Ongoing NIV education on the use of NIV prescription sticker and monitoring of NIV will be provided. Change ideas will focus on improving NIV prescription compliance and timely ABGs and documentation of escalation/resuscitation plans.

**Conflict of interest:** All authors declare they have no conflict of interest.

#### References:

1. Ferrer M, Torres A. Noninvasive Ventilation and High-Flow Nasal Therapy Administration in Chronic Obstructive Pulmonary Disease Exacerbations [published online ahead of print, 2020 Jul 28]. *Semin Respir Crit Care Med*. 2020;10.1055/s-0040-1712101. doi:10.1055/s-0040-1712101

**Abbreviations:** NIV: Non- Invasive Ventilation/ AHRF: Acute hypercapnic respiratory failure