



MEDICAL ENHANCED CARE UNIT

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THE PROBLEM

Mr P, a 73 year old man with known COPD and SOB for 1 week. First ABG did suggest respiratory acidosis.

- Might require Non Invasive Ventilation and certainly
- Controlled oxygen as well as
- Close monitoring.
- Escalation plan
- Mortality prediction if requiring NIV ~ 10 – 20%

Mrs S, 81 year old man with CURB 65 of 4/5 and multiple co-morbidities. ABG did suggest type 1 respiratory failure.

- Might require Nasal High Flow Oxygen Therapy.
- Close monitoring
- Escalation plan
- Mortality prediction if CURB 65 3-5 > 15%

PROBLEM

The last 15 years have seen a significant change in the delivery of healthcare in hospitals and a national drive to recognise deterioration of health and deliver a timely response.

Indeed, the National Early Warning Score (NEWS2) has successfully become our descriptive language to describe a patient's acuity, supplemented by the institution of medical emergency teams and/or Critical Care outreach to deliver the response to deterioration and hasten admission to Critical Care.

Concurrently, the number of patients aged 85 and over, being admitted to acute medical beds, has grown by over 58%, a rate greater than any other age group over the past decade.

Older patients with complex comorbidities increasingly have 'Treatment Escalation Plans' establishing a ceiling of treatment, often appropriately precluding the escalation to Critical Care facilities.

ENHANCED CARE: Guidance on service development in the hospital setting May 2020

Patients with respiratory failure and a background of chronic respiratory disease are often excluded from escalation to critical care

- Chronic Obstructive Pulmonary Disease: Patients accessing ITU - 0.8% National Average - 2% (GIRFT report)

NCEPOD

Patient outcome of the peer reviewed cases

- **Number of patients %**
 - Discharged alive 221
65.4%
 - Died in hospital 117
34.6%
 - **Subtotal 338**

Patient outcome of the total number of patients included in the study

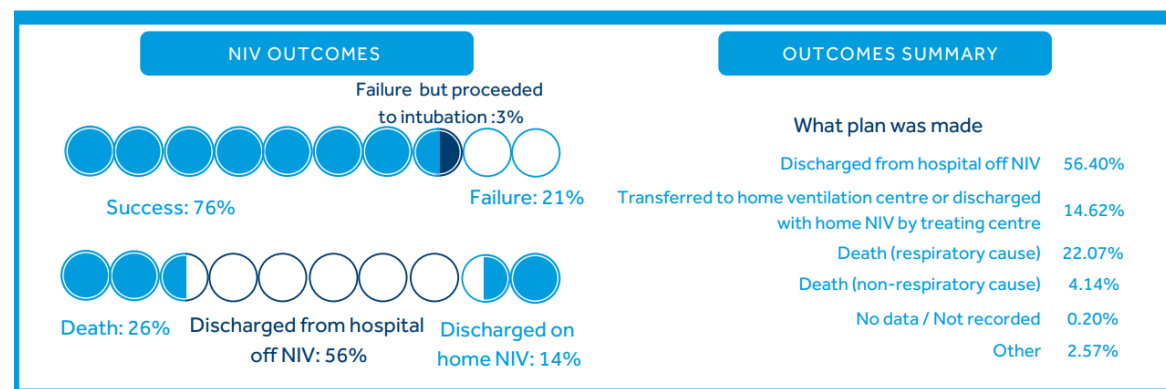
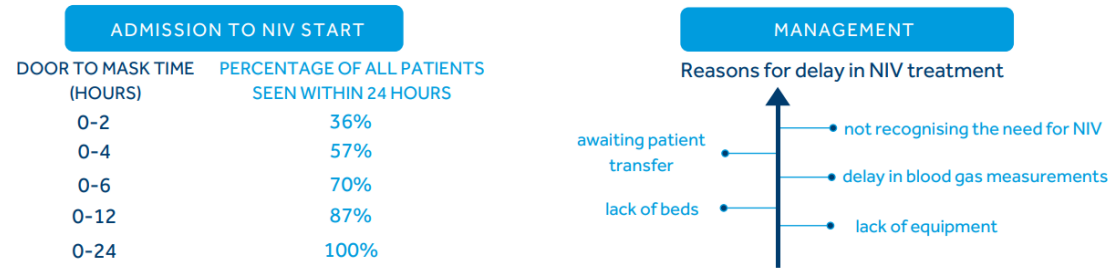
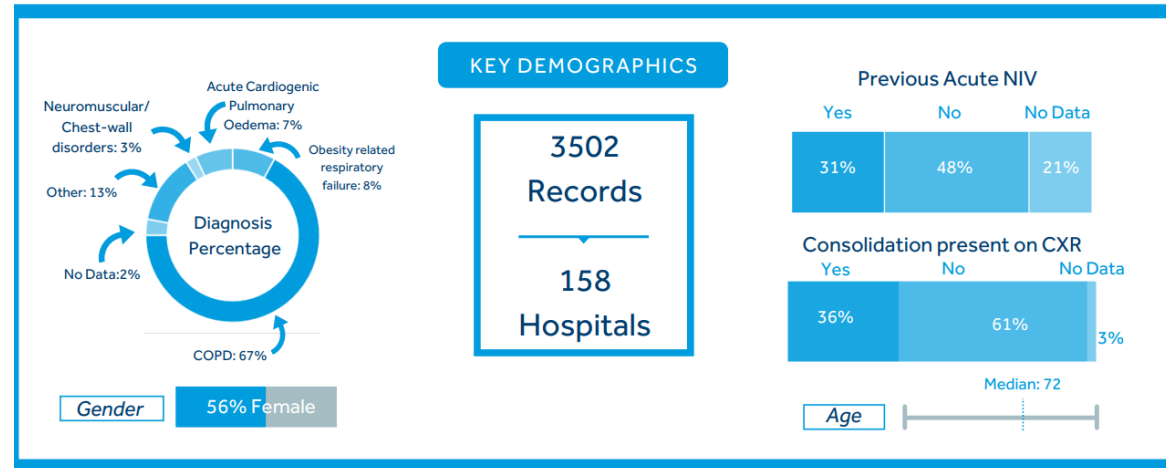
- **Number of patients %**
 - Transferred to another hospital 17
4.0%
 - Still an inpatient at 30 days 4 0.9%
 - Discharged home 237 55.8%
 - Died 150 35.3%
 - Other 17 4.0%
 - **Subtotal 425**

INDICATION FOR NIV

	Discharged alive	Died in hospital	Mortality	Subtotal	Not answered	Total
COPD	149	50	25.1%	199	8	207
CCF/ pulm. oedema	15	12	44.4%	27	1	28
OHS	8	4	33.3%	12	0	12
Chest wall/ Neuro-muscular	4	6	60.0%	10	1	11
other	17	25	59.5 %	42	3	45

BTS NATIONAL ADULT NON-INVASIVE VENTILATION AUDIT 2019

PATIENT LEVEL DATA





THE PROBLEM

How to provide close monitoring and offer the most appropriate care in case of deterioration with limited critical care bed capacity.

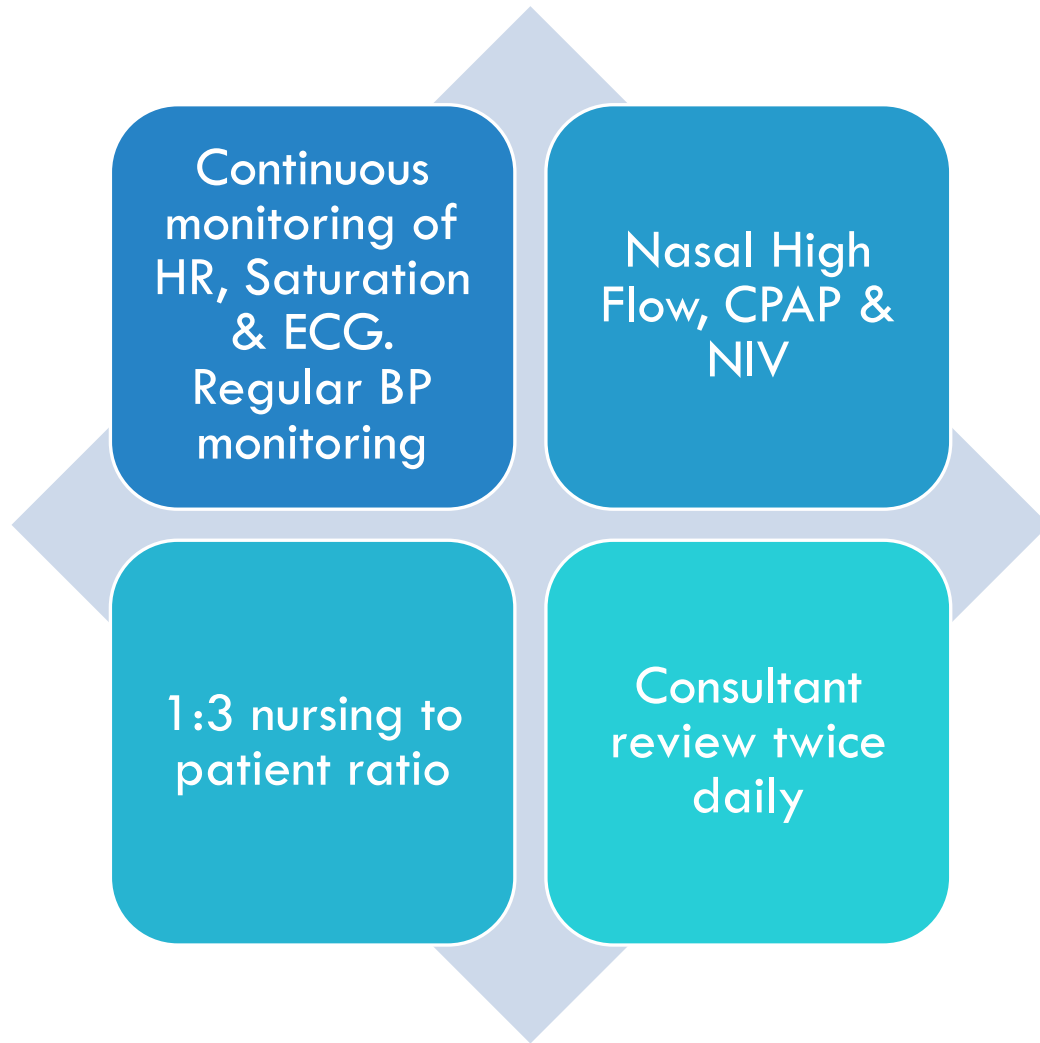
Medical Enhanced Care Unit

SCOPE

The MECU is a ward that provides higher-level of monitoring and respiratory intervention than typically available in routine ward environments.

Patients suitable for management in a MECU are those individuals who need more monitoring and/or intervention but do not require critical care.

While MECUs have emerged due to the need to provide high quality acute non-invasive ventilation, there is a wider patient group likely to benefit.



**WHAT CAN WE
OFFER?**

WHAT CAN WE NOT OFFER

Invasive Ventilator support

Inotropic support

Renal support

Invasive blood pressure monitoring

Central line monitoring

MECU INCLUSION CRITERIA

- Type 2 respiratory failure with respiratory acidosis requiring BiPAP
- Type 1 respiratory failure due to COVID-19 pneumonia and deemed candidates for CPAP therapy
- Severe sepsis due to pneumonia requiring an FiO₂ > 35% with a CURB65 Score > 3 to achieve SpO₂ > 94% (on oxygen) or >88% if a diagnosis of COPD.
- Massive PE or sub-massive PE with consideration of thrombolysis.
- Complicated intercostal chest drains for empyema or pneumothorax
- Critical care step-down for on-going respiratory needs requiring FiO₂ > 35% - this will need discussion with the MECU team prior to step-down.
- Patients requiring tracheostomy management post critical care in the acute scenario
- Severe sepsis and other medical conditions requiring closer monitoring that cannot be achieved on an ordinary medical ward setting.

MECU EXCLUSION CRITERIA

- No senior decision discussion
- No decision in place regarding ceilings of care
- On BiPAP/CPAP long term for chronic use, not related to acute admission
- Lack of consent for NIV including BiPAP, CPAP and NHFOT.
- Management plan that can be safely delivered in a ward environment
- Post-operative management
- Patient requiring critical care and intervention not currently delivered on the MECU
- End of life care
- Patients receiving advanced respiratory support via endotracheal tube or non-respiratory organ support
- Patients receiving advanced respiratory support via tracheostomy or laryngectomy unless invasively ventilated in the community

ADMISSION

So, how does it work?

1. Identify a patient that you think would benefit from transfer to MECU
2. Discuss with your registrar/ consultant re escalation to MECU
 - If in ED, discuss with the on call medical registrar/ consultant
 - Will need a review and plan by the medical registrar
3. Clarify escalation plan
4. Bleep/ contact the MECU team who will decide regarding admission
 - E-referral in development
5. Importantly – no patient can be admitted to MECU without a review by the on call or team medical registrar