the societal perspective following the bottom-up approach, using rates/wages/prices obtained at national level in 2004 (ECRHS II; converted to a 2013 equivalent) and 2013 (ECRHS III). The variation of the annual cost per patient was estimated by the change in disease status using a 2-level random-intercept Laplace quantile regression model, adjusting for sex, age, ever smoking, low socio-economic status (centre: level 2 unit).

At baseline, the mean annual cost was 193€, 790€ and 3,120€ per patient with intermittent, CP persistent or U persistent asthma, respectively. Compared to patients whose disease status was unchanged, those with an improved or worsened asthma showed reduced [−145 (95% CI: −275,–15) €; p=0.029] and increased [185 (95%CI: 59, 311) €; p=0.005] annual costs, respectively.

Our study suggests substantial cost savings if asthma severity/control improved among adult patients in Europe.

M9 OPTIMIZING ACUTE NON-INVASIVE VENTILATION CARE IN THE NHS; THE V-TAC APPROACH

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Introduction Accurate assessment of gas exchange is essential for the management of hypercapnic respiratory failure. The 2017 NCEPOD and 2018 BTS reports on Non-Invasive-Ventilation (NIV) revealed quality issues across the NHS on the delivery of NIV. Here we present the validation of an alternative to ABG, v-TAC (venous-To-Arterial-Conversion), which provides 'arterialised' samples from venous blood gases (VBG) and could revolutionise NIV management.

Methodology Twenty patients with respiratory compromise were randomly selected from the Respiratory, or Critical Care Units. ABG and VBG samples were obtained and analysed within fifteen minutes. Oxygen saturation (SpO_2) was measured via standard pulse oximetry. VBG and SpO_2 were then blindly converted to 'arterialised' gas via v-TAC and compared to ABG with the technical support of OBI Medical. Arterial and v-TAC pH, pCO_2 and pO_2 were plotted using Bland-Altman Plots. Rules were applied to venous/arterial sample pairs to identify non-physiological appearing sets. Subsets of peripheral (pVBG) samples were analysed separately from central VBG ones (cVBG).

Discussion In accordance to similar studies, pVBG samples arterialised via v-TAC were comparable to ABG samples in terms of pH, pCO_2 and pO_2, showing 95% limits of agreement within clinically acceptable limits. v-TAC always provided a converted sample with physiological-looking values. However, if our applied rules deemed the original VBG/ABG pair a poor match, its further analysis provided plausible explanations for the apparent disparity between VBG and ABG, and hence between v-TAC and VBG/ABG. The small subset of cVBG samples was plotted separately with comparable results.

Conclusion v-TAC is an advanced software algorithm that converts VBG to ABG values with great accuracy and has great potential benefits in NIV management. We envisage the implementation of a nurse-led pathway which will enable nurse autonomy in setting up and managing NIV, thus enhancing compliance in monitoring treatment progress and ensuring timely intervention. Ultimately, the goal is to improve compliance to standards of care leading to improved quality of care and outcomes, and reduced length of stay, costs and mortality.

REFERENCE

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M10 ACCURACY OF GAS EXCHANGE MEASUREMENTS AS PREDICTORS OF EARLY SUCCESSFUL WEANING AMONG ICU PATIENTS OF PHILIPPINE HEART CENTER: A PROSPECTIVE COHORT STUDY

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Background Weaning is an important clinical issue between clinicians and patients that comprises 40% of mechanical ventilation. Rapid weaning and extubation is essential to fast-track recovery of the critically-ill patients. Gas exchange measurements such as inspired – expired oxygen concentration difference $(I–E)O_2$ and end-tidal carbon dioxide concentration ($PETCO_2$) are useful in identifying patients who are likely to succeed in liberation from mechanical ventilation. By being able to determine the accuracy of gas exchange measurements, it will greatly aid the physicians in the ventilator management and weaning of the patients which would affect both morbidity and mortality.

Methodology This prospective cohort study done at the intensive care unit of our Institution. Patients who were intubated

Abstract M10 Table 1 Baseline characteristics of the study population

Variables	Successful n=210 Mean ± SD or n (%)	Failure n=80 Mean ± SD or n (%)	p-value
Gender:			0.854
Male	142 (67.62)	55 (68.75)	
Female	68 (32.38)	25 (31.25)	
Age (years)	50.98 ± 15.17	48.50 ± 15.92	0.219
Height (cm)	163.25 ± 7.64	164.87 ± 9.08	0.126
Weight (kg)	70.11 ± 11.59	71.10 ± 12.00	0.520
BMI (kg/m2)	26.33 ± 3.79	25.82 ± 3.91	0.310
Medical History:			
Cardiac	182 (86.67)	74 (92.5)	0.168
Hypertension	147 (70)	66 (82.50)	**0.031**
CHD/VHD	37 (17.62)	20 (25)	0.157
CHF	31 (14.76)	19 (23.75)	0.070
CAD	53 (25.24)	19 (23.75)	0.793
ACS/MI	11 (5.24)	1 (1.25)	0.127
COPD	15 (7.14)	9 (11.25)	0.257
Bronchial Asthma	4 (1.90)	4 (5)	0.150
PTB	9 (4.29)	3 (3.75)	0.838
Stroke/CVD	11 (5.24)	9 (11.25)	0.116
Diabetes Mellitus	106 (50.48)	26 (32.50)	**0.006**
CKD	2 (0.95)	2 (2.50)	0.313
Smoking History:			**<0.001**
Non-smoker	118 (56.19)	22 (27.50)	
Smoker	92 (43.81)	58 (72.50)	
APACHE II Score	7.36 ± 2.24	7.46 ± 2.44	0.751
Duration of MV (hours)	3.66 ± 1.56	3.38 ± 1.54	0.177
Internal Diameter of ETT			0.166
7 mm	6 (2.86)	0	
7.5 mm	31 (14.76)	17 (21.25)	
8 mm	173 (82.38)	63 (78.75)	
Mode of Ventilation prior to weaning:			
AC Mode	146 (69.52)	56 (70)	0.937
SIMV- PS	3 (1.43)	1 (1.25)	1.000
ASV	18 (8.57)	18 (22.50)	0.102
PSV	43 (20.48)	5 (6.25)	0.104
Hemoglobin (g/L)	129.92 ± 18.4	134.28 ± 17.7	0.0697