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Title: Acute use of built in software of non invasive ventilators – A case series

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Body: Over recent years manufacturers have incorporated compliance software into non-invasive ventilators. This has primarily been aimed at reviewing compliance within the clinic setting. The reliability of these packages has been reviewed (1,2) and there have been reported use of the software to titrate settings in acute and home settings (2). We reviewed the value of built in ventilator software to indicate deterioration in patients prior to an emergency hospital admission. All patients with home Non Invasive Ventialtion (NIV) attending clinic have their ventilators downloaded. A record is made of compliance (hours of usage), tidal volume (TV), leak for the preceding month and arterial blood gas (ABG). This was compared to a similar dataset downloaded for the preceding week prior to an acute admission (3 neuro-muscular, 2 COPD, 4 COPD & obesity, 1 obesity (n=10). Only stable patients (no admissions in the previous 3 months, using the ventilator for ≥5hrs per night at last clinic attendance) were evaluated. The majority of admissions (n=7) were secondary to an respiratory exacerbation. Five patients were acidotic (pH 7.2 – 7.33). Six patients increased their NIV usage, while in 4 this fell. TV as a proportion of the baseline clinic volume dropped in 6 patients up to 49%, 6 days prior to admission. In a small series, it would appear that interrogating downloaded NIV compliance data could identify changes in key ventilator parameters up to a week prior to admission. If substantiated, using data to implement early therapeutic intervention to prevent subsequent deterioration could have an impact on patient care References 1. Contal, O et al 2012; 141(2):469–476 2. Rabec C et al Eur Respir J 2009; 34: 902–913.