are most often lent to patients who were unable to complete a CPAP treatment study due to study availability or due to previously failed CPAP studies. Anecdotally, it has been observed that some lent machines are not returned. It is also unknown if lending these machines result in a positive long-term clinical outcomes. This study’s aim was to review the clinical history of patients who had acquired a CPAP or APAP loan to determine machine loan data/return status and long-term clinical outcomes.

Methods: Retrospective chart audit of all CPAP and APAP loans from 1st January 2017 to 30th June 2017.

Progress to date (Results – project complete): During the audit period there were 17 CPAP loans and 17 APAP loans. 13 (76.5%) CPAP loans were provided to patients to bridge them to a QHSDP issued CPAP machine, whilst 2 (11.8%) loans were to assist patients in accessing the New South Wales (NSW) ENABLE program for CPAP machine provision. 2 (11.8%) machines were loaned on a compassionate basis for therapeutic management of sleep apnoea. 88.2% of the CPAP machines were returned. Excluding the machines that were not returned, the average loan periods for QHSDP indications, ENABLE indications, and for compassionate reasons were 68.1 days, 38.5 days and 42 days respectively. The overall average loan period was 62.4 days. 8 patients (47%) were eventually established on long-term CPAP therapy, whilst 6 (35%) were non-compliant and 2 (12%) died in the following 12 months. 1 patient’s compliance could not be ascertained.

Of the APAP loans, 15 (88.2%) were to determine a fixed CPAP pressure, while 2 (11.8%) were loaned to bridge patients to a QHSDP issued machine. 88.2% of the APAP machines were returned. After exclusion of two outliers who did not return the machine, the average loan period to determine treatment pressure was 21.8 days, whereas average APAP loan period for QHSDP indications was 28.0 days. The overall average loan period was 22.2 days. 7 (41.2%) of the APAP loans resulted in patients being established on long-term CPAP therapy. 6 of the APAP loans did not result in patients being established on CPAP treatment, usually due to treatment non-compliance (5) or death (1). 4 patients were lost to follow-up.

Intended outcome and impact (Conclusion – project complete): Just over 1 in 10 CPAP and APAP machines lent to patients are never returned. Less than half (47%) of CPAP loans resulted in the desired clinical outcome of long-term treatment while even less (41.2%) of patients who were lent the more expensive APAP machines resulted in the desired clinical outcome of long-term treatment. These results indicate that lending Queensland Health CPAP and APAP machines involves significant risk of machine loss and usually does not result in a positive clinical outcome. The indications and process of loaning equipment to patients need to be reviewed with the aim of improving outcomes and minimising machine loss.

Background: Dysfunctional breathing is common in patients being investigated for obstructive sleep apnoea (OSA). Continuous positive airway pressure (CPAP) is an effective treatment for OSA; however, it is currently unknown if it improves symptoms associated with dysfunctional breathing in patients with OSA. This study’s aim was to determine if CPAP prescribed for OSA improves symptoms of dysfunctional breathing.

Methods: Consecutive patients who were diagnosed with OSA were approached to participate in a prospective cohort study. All OSA patients were offered CPAP therapy. The ‘treatment’ group consisted of patients who accepted and were compliant with CPAP therapy while the ‘control’ group were patients who refused, were intolerant or were non-compliant with CPAP therapy. A Nijmegen questionnaire (to determine dysfunctional breathing) and an Epworth sleepiness score were taken at baseline and at follow up.

Progress to date: 84 patients were included in the analysis, 43 controls and 41 in the treatment group. Almost half (47.6%) of all patients included in the study had dysfunctional breathing. There was no improvement in mean Nijmegen score in the treatment group compared to the control group (18.2 ± SD 15.5 vs. 19.6 ± SD 10.9, p = 0.64). There was a significant improvement in mean Epworth sleepiness score in the treatment group compared to controls (7.7 ± SD 5.5 vs. 11 ± SD 5.3, p = 0.006).

Intended outcome and impact: Dysfunctional breathing is very common in patients with OSA however CPAP treatment does not seem to improve dysfunctional breathing symptoms. Further research is required to identify therapies that may alleviate dysfunctional breathing symptoms in patients with OSA.

Background: Non-invasive ventilation (NIV) is commonly utilised in hospitals for management of respiratory failure. It is associated with high mortality rates and treatment failure that are more reflective of the severity of the underlying medical condition of recipients. We performed a retrospective audit of NIV usage in a tertiary care hospital focusing on outcomes and contributors to outcome.