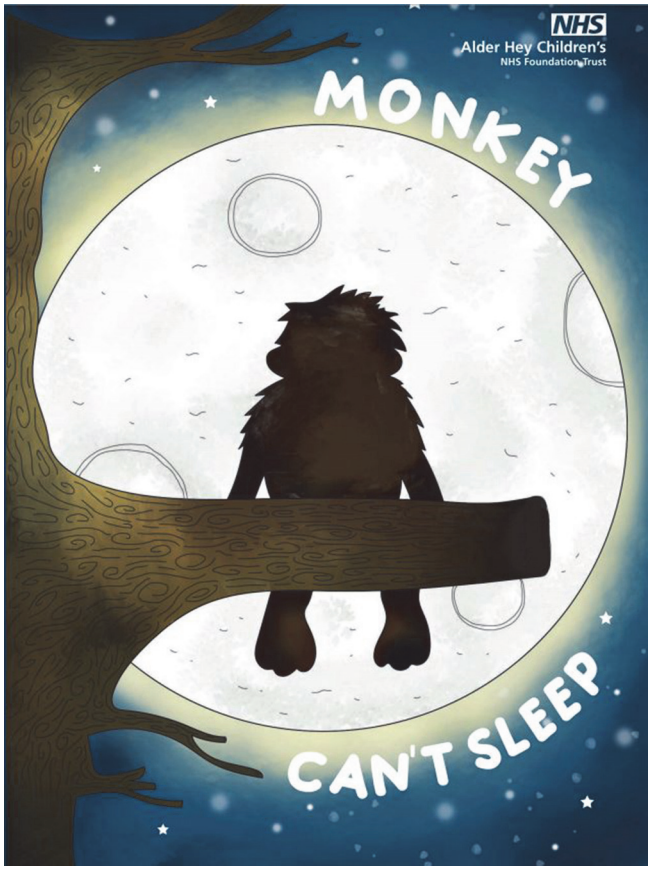

Abstract P29 Figure 1

Introduction We present a 14-year-old girl (A) with Trisomy 21 who was referred for set up of NIV due to severe obstructive sleep apnoea (AHI 13.4/hour) and disturbed sleep. She habitually wandered into her parent's bedroom, where she would then spend the night. This sleep habit had a negative impact on A and the whole household. A consequently struggled with daytime tiredness and would regularly fall asleep during the afternoon at school.
Method We reviewed A's sleep habits and planned a graded application of NIV. Firstly, promoting a consistent bedtime routine alongside using an age-appropriate picture book (figure 1) about NIV, then introducing the NIV mask, and finally the ventilator.

The Long-Term Ventilation team at Alder Hey have developed a bedtime story book to promote good sleep hygiene and bedtime without screens, highlighting the process and advantages of wearing ventilation in a child friendly way. This was utilised in A's case to improve her understanding and create excitement around using NIV.

A was immediately successful in establishing on ventilation using this approach. Parents were then keen to promote independent sleeping, so we utilised a social story including her favourite characters to encourage this. This was also successful, and A is now sleeping consistently in her own room and is compliant with her NIV.

'The story is a big success. She really loves it. Thank you so much. We have had good success with sleeping alone' - Mum
Conclusion A is less tired in the daytime and the whole family are benefitting from better sleep.

Utilising age-appropriate story books about NIV and social stories to encourage a consistent bedtime approach can aid NIV set up and help improve habitual sleep behaviours in children.

P30 USE OF A PATIENT SUPPORT SERVICE (PSS) INITIATED GUIDED CONSULTATION AND REMOTE CLOUD BASED SLEEP DIAGNOSTICS IN A LARGE SLEEP CENTRE- A QUALITY IMPROVEMENT PROJECT

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Introduction Increased referrals for sleep diagnostics have led to long waiting times at many sleep centres. One of the metrics for measuring this has been diagnostic waiting times and activity (DM01). We have struggled to meet this for many years and our current equipment was leading to high failure rates and repeated tests (25%). We undertook a quality improvement project to determine if remote testing would lead to reduced turnaround time and failure rate.
Method Patients referred into our service from start of May 2023 were referred to Sleep Health Solutions Ltd (SHS) PSS who called the patients and arranged a telephone appointment to complete a (SHS) computer guided consultation (GC). The PSS then arranged for a WatchPAT One or 300, (Itamar Medical) to be couriered to the patient depending on smart device availability. The WatchPAT One report was uploaded to the cloud and then directly placed in the SleepHealth patient notes, also cloud based and DPIA protected allowing the hospital team to see the report immediately.
Results Preliminary results show that 387 patients were referred during May with 118 patients sent a WatchPAT device so far; 117/118 were WatchPAT Ones, failure rate 1%. The time from GC review to the study reported and uploaded into patient notes was 7.6 days. Previous data showed turnaround times of 42 days for unreported studies (variety of multichannel devices); NICE guidelines for high risk patients was not being met nor was referral to treatment time.
Discussion Preliminary data has shown that there is a significant reduction in failure rates and turnaround time with this project. Our previous work has shown that, with the improved patient information (GC) combined with robust diagnostics, a treatment decision can be made in 85% of patients. The additional pathway changes reported here allows performance targets to become achievable.

P31 IMPROVING PATIENT AND PARENT SLEEP IN HOSPITAL – EARS TO KEEPING THE NOISE DOWN

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Sleep quality is affected at decibel levels over 42 dBA, yet the majority of hospital wards at night have been shown to consistently exceed these levels, this impacts on every aspect

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of care. Staff conversation is typically > 50% of the reported cause and cited as the most disruptive by patients and carers.[1]

The Great North Children's Hospital is a large tertiary hospital in the Northeast of England, with two PICU and ten paediatric wards. We describe a sleep improvement programme developed over 2 years that incorporated the Southampton Sleep Health in Hospital protocol[2] described by Professor Hill, with individual ward sleep champions and additionally SoundEARS installed by the nursing station on every ward.

We developed a multidisciplinary team of sleep champions including medical staff sleep physiologists, nursing staff, healthcare assistants and play specialists. As a larger group we have identified noise as a key area for improvement.

After enrolling in the Sleep for Health in Hospital project and attending a training workshop; training was cascaded across the wards and across the multidisciplinary teams. Specific, targeted education was developed for staff with short educational presentations delivered in-situ on wards but also to senior ward sisters and directorate managers. Webpages about 'normal' sleep for younger and older children were embedded within trust intranet for staff and parents. Highlighting the importance of undisturbed sleep led to changes in the timing of overnight observations, reducing the number of medications being given overnight and clustering interventions (bundling care).

SoundEARS were installed on the wards as a visible reminder to patients, their families, and staff about the importance of reducing noise overnight. Mean noise levels were initially logged over two weeks. Showing night staff noise levels above the WHO recommended levels for health was shown to modify behaviour and significantly reduce night noise over time.

REFERENCES

1. Jue K, Nathan-Roberts D. How Noise Affects Patients In Hospitals. Proceedings of the Human Factors and Ergonomics Society 2019 Annual Meeting 2019. p1510–1514.
2. Sleep for Health in Hospital. Sleep for Health in Hospital Programme (SHH). Available at: Sleep for Health in Hospital Programme (SHH) - PAEDIATRIC INNOVATION, EDUCATION & RESEARCH NETWORK (piernetwork.org) Accessed: May 2023

P32 THE IMPACT OF CONTINUOUS POSITIVE AIRWAY PRESSURE THERAPY TELEMONITORING ON COMPLIANCE AND THE PHYSIOLOGICAL BENEFITS TO THE OSA PATIENT: A SYSTEMATIC REVIEW

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Introduction Obstructive sleep apnoea (OSA) is a highly prevalent condition, involving collapse of the upper airway during sleep, intermittent hypoxia and micro-arousals. Continuous

Abstract P32 Table 1 Participant demographics based on 10 included studies

Mean age (years)	53.8 ± 1.72
Male gender (%)	69.2 ± 7.36
Mean body mass index (kg/m2)	32.3 ± 0.79
Mean apnoea hypopnoea index (events/hour)	37.3 ± 2.36
Mean Epworth Sleepiness Scale	9.6 ± 0.42

Values reported are means ± SE

Abstract P32 Table 2 Summary of finding based on 10 included studies (as above)

Outcomes	Comparisons	Favourable effect	Number of participants	Studies with statistically significant differences between groups
Total days used (%)	Usual care vs. Telemonitoring	Telemonitoring	823 (7 studies)	3
Days used >4 hours (%)	Usual care vs. Telemonitoring	Telemonitoring	911 (7 studies)	2
Average usage on days used (hours)	Usual care vs. Telemonitoring	Telemonitoring	1223 (10 studies)	4
Change in AHI from baseline (calculated)	Usual care vs. Telemonitoring	Telemonitoring	540 (7 studies)	0
Change in ESS from baseline (calculated)	Usual care vs. Telemonitoring	Telemonitoring	716 (5 studies)	0
Optimal telemonitoring period	Telemonitoring of <3 months vs. 3 months vs. >4 months	Monitoring for >4 months	485 (7 studies)	N/A

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