Methods In this retrospective open cohort analysis of the Clinical Practice Research Datalink (CPRD) database from 1979–2019, patients with asthma (≥ 18 years of age) were followed from the first recorded prescription of SCS until occurrence of death or end of follow-up. Mortality data was collected through linkage with death registration data from the Office of National Statistics. A time-to-event design with multivariable Cox proportional hazard models adjusting for confounders was used to assess the association between measures of SCS exposure (average daily exposure and cumulative dose) and overall and cause-specific deaths. Hazard ratios (HRs) were calculated for overall and each key adverse outcome-related mortality.

Results Of 9,413 patients with asthma with SCS exposure who were followed for up to 28 years (median 8.7 years), 1,762 died. The most frequent primary cause of death was respiratory disease (30%). The mortality rate was 14–21 per 1000 person-years across SCS-related adverse outcomes of interest with incidence ratios ranging from 1.8 to 2.1. Dose-response relationships of average daily SCS exposure and cumulative SCS with higher risk of death were observed (figure 1). Patients exposed to a cumulative dose ≥ 10 g of SCS were more than twice as likely to die compared with those with <0.5 g. Patients with an average daily exposure ≥ 7.5 mg/day were almost 4.6 times more likely to die compared with those with <0.5 mg/day.

Conclusion In patients with asthma, greater cumulative and average daily SCS exposure was associated with increased mortality.

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S6 COVID-19 RELATED CHANGES IN OUTPATIENT CPAP SET-UP PATHWAYS FOR OSA ARE LINKED WITH DECREASED 30-DAY CPAP USAGE

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Introduction The COVID-19 pandemic led to changes in CPAP set-up pathways. Prior to the pandemic, patients received face-to-face (f2f) education, and trialling of CPAP with experienced healthcare professional support. However, trialling CPAP is an aerosol generating procedure and thus became severely limited by infection control guidelines. We aimed to see the impact the necessary practice changes had on CPAP usage.

Methods We conducted a multi-centre retrospective service evaluation of secondary care sleep units. We collected data on consecutive patients commenced on CPAP in July–August 2019 (pre-pandemic) and July–August 2020 (post first-wave). We recorded baseline demographics, sleep study results, CPAP set-up and first follow-up information.

Abstract S6 Table 1 Baseline characteristics from patients. Data are expressed as mean $\pm$ standard deviation, median (first quartile, third quartile) or number (percentage), as appropriate

	2019	2020
Age (years)	53.4 $\pm$ 13.6	53.4 $\pm$ 13.3
Gender		
Female	206 (33.2%)	185 (32.6%)
Male	414 (66.8%)	380 (67.0%)
Ethnicity		
White	476 (76.8%)	383 (67.5%)
Asian	18 (2.9%)	12 (2.1%)
Black	10 (1.6%)	10 (1.8%)
Other	7 (1.2%)	5 (0.9%)
Unknown	109 (17.6%)	157 (27.7%)
BMI (kg/m ²)	34.9 (30.6, 41.0)	34.8 (29.5, 40.4)
ESS	11.2 $\pm$ 5.5	11.8 $\pm$ 5.2
ODI	23.0 (14.1, 43.0)	21.5 (13.0, 41.8)

BMI=body mass index, ESS=Epworth sleepiness score, ODI=oxygen desaturation index $\geq 4\%$.

Results In total, we included 1,187 patients from eight centres who were set-up on CPAP, with 620 set-up in 2019, and 567 in 2020. Patient characteristics of the two groups were comparable (see table 1). In 2019, CPAP set-up was f2f, with CPAP machine turned on, in 613 patients (98.9%). By contrast, in 2020, only 6 (1.1%) patients had set-up f2f with CPAP turned on, with 403 (71.1%) set-up f2f without CPAP being turned on, and 158 (27.9%) set-up remotely. Thirty-day CPAP usage fell significantly from a mean $\pm$ standard deviation of 4.8 $\pm$ 2.6 in 2019 to 3.9 $\pm$ 2.7 hours/night in 2020 (mean effect -0.9 hours/night, 95% Confidence Interval (CI) -1.2 to -0.5 , $p<0.0001$). This effect was similar following multivariable adjustments for age, mode of CPAP set-up (f2f or remote), sex, baseline Epworth Sleepiness Scale (ESS), log Oxygen Desaturation Index 4% (ODI) and centre (-0.6 hours/night, 95% CI -1.2 to -0.3 , $p=0.0006$). CPAP usage was lower with both f2f and remote set-up in 2020, compared with 2019. However, in 2020, CPAP usage was also worse with remote set-up compared to f2f set-up (mean effect -0.6 hours/night, 95% CI -1.1 to -0.1 , $p=0.03$).

Discussion Pathway changes that include set-up without trialling CPAP f2f, particularly remote set-up, were associated with clinically relevant reductions in CPAP usage at 30 days. Changes in practice to reduce risk of infection to patients and staff during CPAP set-up were necessary, but should not be accepted as being equivalent to traditional evidenced-based methods of CPAP set-up.

S7 ESTIMATING THE POTENTIAL IMPACT OF RESIDUAL EDS ON THE QOL OF PATIENTS WITH OSA AND, FOR THE FIRST TIME, THEIR PARTNERS, USING A TIME TRADE-OFF METHODOLOGY

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Introduction and Objectives Excessive daytime sleepiness (EDS) is a common symptom of obstructive sleep apnoea (OSA), persisting in 9% to 22% of patients despite primary airway therapy (residual EDS). EDS can impair work productivity and driving ability, and negatively impact quality of life (QoL) of patients and their partners.

Abstract S7 Table 1 Utility values for patient and partner health states (N=104)^a

		Utility Values ^b	
		Mean	SD
Patient health states	1. No EDS	0.93	0.11
	2. Mild EDS	0.79	0.17
	3. Moderate EDS	0.61	0.22
	4. Severe EDS	0.55	0.24
Partner health states	5. No EDS	0.95	0.08
	6. Mild EDS	0.88	0.13
	7. Moderate EDS	0.75	0.23
	8. Severe EDS	0.67	0.26

EDS, excessive daytime sleepiness; SD, standard deviation.

^aAll values rounded to 2 decimal places.

^bBased on a scale of 0–1, where 0 represents QoL equivalent to death and 1 represents the highest QoL.

This study aimed to elicit QoL values (utilities) from a societal perspective for patients with OSA with residual EDS of varying severity and, for the first time, for the partners of these patients, using a novel time trade-off (TTO) approach.

Methods Utility values for health states of varying severities of residual EDS in OSA were elicited using the TTO method in a study conducted with a United Kingdom general public sample (N=110). Four EDS severity health state descriptions were developed from both patient and partner perspectives (no EDS, mild EDS, moderate EDS, severe EDS). During face-to-face interviews, participants were asked to 'trade off' time for each EDS health state for a shorter period in full health (0–10 years), first for the patient health states and then for the partner health states. TTO responses were converted to utility values (scale of 0–1, where 0 represents QoL equivalent to death and 1 represents the highest QoL).

Results Mean utility scores declined with increasing EDS severity (table 1). In the context of the TTO exercise, participants were prepared to trade a mean of 4.5 life-years (out of a maximum of 10) to avoid the QoL consequences of severe EDS compared with best imaginable health and 3.3 life-years to avoid the QoL impact associated with being the partner of a patient with severe EDS.

Conclusions These results demonstrate the high potential impact of residual EDS on the QoL of patients with OSA and their partners. Estimated utility values for patients and partners declined with increased EDS severity. This is the first time that the impact of residual EDS in OSA on QoL and utility has been measured from the partner perspective, highlighting the range of potential benefits that could result from the use of novel treatment options (alongside primary airway therapy) for residual EDS.

Please refer to page A188 for declarations of interest related to this abstract.

S8 THE IMPACT OF ARTEFACT-FREE RECORDING TIME ON THE DIAGNOSIS OF SLEEP DISORDERED BREATHING

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Background Sleep disordered breathing (SDB) is an umbrella term encompassing obstructive and central sleep apnoea. Overnight studies are used to confirm the diagnosis, however the minimum amount of artefact-free recording time (AFRT) required is yet to be determined in children.

Aim To determine the impact of different lengths of AFRT on the diagnosis of SDB.

Background Patients attended for either overnight cardiorespiratory polygraphy or polysomnography, alongside pulse oximetry sleep studies. Respiratory parameter reports were generated using the first 4, 5, 6 and 7 hours of AFRT. Clinically relevant cut-off (CRCO) values were used in conjunction with common diagnostic parameters: Obstructive AHI (OAH; CRCO³2); Central Apnoea-Hypopnoea Index (CAHI; CRCO³5); 3% Oxygen Desaturation Index (ODI3%; CRCO³6); 4% Oxygen Desaturation Index (ODI4%; CRCO³4). Studies that effectively had diagnostic changes across different AFRTs, where diagnostic parameter values fluctuated above and below the CRCOs, were noted as 'Cases of Change' (COC). Receiver operating characteristic (ROC) curves determined ranges of parameter values at 4 hours to predict the presence of COC across the subsequent AFRTs.

Results 137 children (0.39–17.98 years) were consecutively recruited. The OAH, CAHI, ODI3% and ODI4% had means of 1.54 (σ =2.66), 1.56 (σ =3.43), 5.21 (σ =6.53) and 2.77 (σ =4.42) respectively. Where children achieved 7 hours of AFRT, COC at 4 to 7 hours were seen as follows: OAH³2 =9.7% (10/103); CAHI³5 =2.9% (3/103); ODI3%³6 =3.7% (4/109); ODI4%³4 =1.8% (2/109). For the OAH³2, optimal points on ROC curves demonstrated a range with a lower limit of 0.875 (AUC= 0.733; 50% sensitivity; 93% specificity) and an upper limit of 3.125 (AUC= 0.968; 100% sensitivity; 81% specificity).

Conclusion Studies with 4 hours AFRT are likely to yield diagnostic results in at least 90% of cases when commonly used cut-off criteria are applied. This study has identified ranges at 4 hours within which diagnostic change is most likely with longer periods of AFRT. Consideration should be given to repeating short studies where values at 4 hours lie within these ranges.

S9 THE MANAGEMENT OF SLEEP DISORDERED BREATHING IN PEOPLE LIVING WITH HIV

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Background Obstructive sleep apnoea (OSA) affects up to 24% of the general population and is associated with increased cardiovascular disease, cognitive impairment and depression. Continuous positive airway pressure (CPAP) is recommended for moderate-severe OSA although poor adherence affects treatment outcomes. We sought to identify OSA prevalence in people living with HIV (PLWH) and evaluate patient reported outcomes in those requiring CPAP.

Methods This observational study was conducted in an adult outpatient HIV clinic. We investigated through validated questionnaires and home sleep studies, OSA prevalence in PLWH reporting excessive daytime sleepiness (EDS), defined by an Epworth score >10. We evaluated symptom burden and CPAP outcomes.