Appendix D: Clinical evidence tables

Study	Anttalainen 2016[3]
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=111)
Countries and setting	Conducted in Finland; Setting: Department of pulmonary diseases, Turku university hospital, Finland
Line of therapy	Not applicable
Duration of study	Intervention + follow up:
Method of assessment of guideline condition	Adequate method of assessment/diagnosis
Stratum	Moderate-severe: n/a
Subgroup analysis within study	Not applicable: n/a
Inclusion criteria	OSAS patients who were commencing CPAP treatment at the department of pulmonary diseases of Turku university hospital. All patients were over 18 years of age.
Exclusion criteria	unclear/ not specified
Recruitment/selection of patients	Consecutive
Age, gender and ethnicity	Age - Mean (SD): Telemonitoring - 53.9(12.2); usual 56.4(11.8). Gender (M:F): Telemonitoring group 36/14; Usual care 43/18. Ethnicity: not stated
Further population details	1. BMI: BMI of 30 kg/m^2 or more (Telemonitoring 34.8(7.6); Usual care 32.9(6.9)). 2. Co-existing conditions: Not stated / Unclear 3. High risk occupation group: Not stated / Unclear 4. Sleepiness: ESS 9 or less (Telemonitoring - 8.2(4.9); Usual care8.2 (4.2)).
Indirectness of population	No indirectness
Interventions	(n=50) Intervention 1: Telemonitoring. Wireless telemonitoring system (ResTaxx Online, ResMed Sydney, Australia). The module was attached to the S9 Elite (ResMed, Sydney Australia) CPAP device, which transmitted compliance data evey day automatically to ResTaxx Online. The treatment was considered successful when CPAP use was >4h/day, mask <0.4 L/s and AHI <5/h during the last 6 days. Study nurses made the data checkups daily during weekdays and if the criteria for successful CPAP therapy was not achieved during two consecutive nights the nurses adjusted the CPAP remotely and called the patient to give further advice. The patients were encouraged to contact the nurse in case they had any problems. TM group

	answered the questionnaire at 3 months by email.. Duration 3 months. Concurrent medication/care: n/a. Indirectness: No indirectness Further details: 1. Intervention type: Electronic (telemonitoring). (n=61) Intervention 2: In person follow-up. In Person follow up. Usual care group visited the pulmonologist after 3 months leading in a 3 month habituation phase in the UC group. UC group answered the questionnaire at the 3 month visit. CPAP device was used without wireless telemonitoring. Duration 3 months. Concurrent medication/care: n/a. Indirectness: No indirectness Further details: 1. Intervention type:
Funding	Equipment / drugs provided by industry (ResTaxx Online System was provided by ResMed)

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: TELEMONITORING versus IN PERSON FOLLOW-UP

Protocol outcome 1: Quality of life at >1 month
- Actual outcome for Moderate-severe: GHQ-12 score at 12 months; Group 1: mean 5.1 (SD 6.1); n=39, Group 2: mean 4.9 (SD 5.8); n=49
Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Very high, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 11; Group 2 Number missing: 12

Protocol outcome 2: Sleepiness score at >1 month
- Actual outcome for Moderate-severe: Sleepiness ESS at 12 months; Group 1: mean 5.4 (SD 3.5); n=39, Group 2: mean 5.4 (SD 3.4); n=49
Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Very high, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 11; Group 2 Number missing: 12

Protocol outcome 3: AHI/RDI at >1 month
- Actual outcome for Moderate-severe: Residual AHI at 12 months; Group 1: mean 1.3 (SD 1); n=39, Group 2: mean 3.2 (SD 3.8); n=49
Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Very high, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 11; Group 2 Number missing: 12

Protocol outcome 4: Patient preference at >1 month
- Actual outcome for Moderate-severe: Adherence - CPAP usage h/day at 12 months; Group 1: mean 6.4 h/day (SD 2.1); n=39, Group 2: mean 6.1 h/day (SD 1.7); n=49
Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Very high, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 11; Group 2 Number missing: 12

Protocol outcomes not reported by the study	Mortality at >1 month; ODI at >1 month; Minor adverse effects of Tx at >1 month; Driving outcomes at >1 month; Neurocognitive outcomes at >1 month; HbA1c at >1 month; CV events at >1 month; Systolic BP at >1 month; Healthcare contacts at >1 month

Study	**Fox 2012[10]**
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=75)
Countries and setting	Conducted in Canada; Setting: University sleep disorders program in British Columbia, Canada
Line of therapy	Not applicable
Duration of study	Intervention + follow up:
Method of assessment of guideline condition	Adequate method of assessment/diagnosis
Stratum	Moderate-severe: n/a
Subgroup analysis within study	Not applicable: n/a
Inclusion criteria	Patients were recruited from adult (≥ 19 yr of age) patients with moderate to severe OSA (AHI ≥ 15 events/hr by polysomnography (PSG) using the Chicago scoring criteria for the determination of apneas and hypopneas, according to the American Academy of Sleep Medicine)10 diagnosed at the Sleep Disorders Program who were seen by one of three respirologists (JF, CFR, NTA) at the University of British Columbia (UBC) between April 8, 2008 to June 1, 2010. Patients with OSA who were prescribed PAP therapy by their regular sleep physician and who were willing to accept a trial of therapy were potentially eligible for the trial
Exclusion criteria	Patients were excluded from participating if they were unable or unwilling to provide informed consent, had active cardiopulmonary or psychiatric disease, had been previously treated for OSA, did not have a telephone line in their bedroom (necessary to transmit information by the modem), or could not return for follow-up visits
Recruitment/selection of patients	n/a
Age, gender and ethnicity	Age - Mean (SD): 52(10.8); 55.2(11.5). Gender (M:F): Telemedicine male - 82%; Standard care - 77.8. Ethnicity: not stated

Further population details	1. BMI: BMI of 30 kg/m^2 or more (Telemedicine - 31.9(5); Standard 32.6(6.2)). 2. Co-existing conditions: Not stated / Unclear 3. High risk occupation group: Not stated / Unclear 4. Sleepiness: ESS >9 (Telemedicine 9.9(5); standard care 9.7(4.7).
Indirectness of population	No indirectness
Interventions	(n=39) Intervention 1: Combined strategies. Auto-titrating PAP machine that transmitted physiologic information information (i.e. adherance, air leak, residual AHI) daily to a website that could be reviewed. . Duration 3 months. Concurrent medication/care: all patients were oriented to CPAP, fitted with a mask, and given an auto-titrating machine. Indirectness: No indirectness Further details: 1. Intervention type: Not applicable (n=36) Intervention 2: In person follow-up. Standard care with auto-titrating CPAP. In Person follow up. Duration 3 months. Concurrent medication/care: all patients were oriented to CPAP, fitted with a mask, and given an auto-titrating machine. Indirectness: No indirectness Further details: 1. Intervention type:
Funding	Study funded by industry (This study was partially supported by a research grant from Phillips Respironics Inc. The authors have indicated no financial conflicts of interest)

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: COMBINED STRATEGIES versus IN PERSON FOLLOW-UP

Protocol outcome 1: Sleepiness score at >1 month
- Actual outcome for Moderate-severe: Epworth sleeping scale- mean decrease in ESS at 3 months; Group 1: mean 1.6 (SD 5.1); n=28, Group 2: mean 0.7 (SD 5.2); n=26; Comments: p=0.49
Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - Very high, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 11; Group 2 Number missing: 10

Protocol outcome 2: AHI/RDI at >1 month
- Actual outcome for Moderate-severe: Apnoea-Hypopnea index (AHI) at 3 months; Group 1: mean 4.7 (SD 3.8); n=28, Group 2: mean 6.6 (SD 4.8); n=26; Comments: p=0.12
Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - Very high, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 11; Group 2 Number missing: 10

Protocol outcome 3: Patient preference at >1 month
- Actual outcome for Moderate-severe: Mean adherence (min per day) at 3 months; Group 1: mean 191 minutes (SD 147); n=28, Group 2: mean 105 minutes (SD 118); n=26; Comments: p=0.006

Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - Very high, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 11; Group 2 Number missing: 10 - Actual outcome for Moderate-severe: Mean adherence on nights PAP used (min per day) at 3 months; Group 1: mean 321 minutes (SD 80); n=28, Group 2: mean 207 minutes (SD 106); n=26; Comments: <0.0001 Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - Very high, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 11; Group 2 Number missing: 10 - Actual outcome for Moderate-severe: mean % days used at 3 months; Group 1: mean 55.9 % (SD 40); n=28, Group 2: mean 45.9 % (SD 38); n=26 Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - Very high, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 11; Group 2 Number missing: 10	
Protocol outcomes not reported by the study	Quality of life at >1 month; Mortality at >1 month; ODI at >1 month; Minor adverse effects of Tx at >1 month; Driving outcomes at >1 month; Neurocognitive outcomes at >1 month; HbA1c at >1 month; CV events at >1 month; Systolic BP at >1 month; Healthcare contacts at >1 month

Study	**Hoet 2017[14]**
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=46)
Countries and setting	Conducted in Belgium; Setting: The study was performed in the sleep unit of the Saint-Pierre University Hospital in Brussels, Belgium.
Line of therapy	Not applicable
Duration of study	Intervention + follow up:
Method of assessment of guideline condition	Adequate method of assessment/diagnosis
Stratum	Moderate-severe: n/a
Subgroup analysis within study	Not applicable: n/a
Inclusion criteria	Eligible patients were ≥18 years old. They were recently diagnosed with OSAS with an apnea-hypopnea index (AHI) ≥20/h according to AASM 2012 scoring rules and sent to our sleep laboratory for initiation of treatment with CPAP therapy.
Exclusion criteria	Previous exposure to CPAP therapy, mixed or predominantly central sleep apnea, a planned trip abroad for more than 3 weeks during the first 3 months of follow-up, language barriers, cognitive or psychiatric disorders

	making it difficult to comprehend information regarding CPAP therapy and provide informed consent, and significant comorbidities such as severe chronic obstructive pulmonary disease or hypoventilation syndromes.
Recruitment/selection of patients	n/a
Age, gender and ethnicity	Age - Mean (SD): Telemonitoring group -59(13; Usual care group - 54(14). Gender (M:F): Define. Ethnicity: not stated
Further population details	1. BMI: BMI of 30 kg/m^2 or more (Telemonitoring group - 31(4); usual care group - 32(6)). 2. Co-existing conditions: HTN (TM group - 52%; UC group-52%). 3. High risk occupation group: Not stated / Unclear 4. Sleepiness: ESS >9 (TM group - 10(4); UC group -15(5)).
Extra comments	All patients provided written informed consent to participate in the study
Indirectness of population	No indirectness
Interventions	(n=23) Intervention 1: Telemonitoring. T4P TM unit was added to the CPAP device of the patient at home. Sleep laboratory technical staff were instructed to connect to the web portal and to analyze individual patient's data each Tuesday and Friday. In case of air leaks >50 L/min, residual AHI >10/h, or CPAP use <3h on 3 consecutive days, they were required to call the patient and to set up a visit with the staff of the sleep laboratory. Duration 3 months. Concurrent medication/care: All eligible patients underwent on CPAP titration night with an automated CPAP(APAP) device under fully attended polysomnography (PSG) monitoring. Indirectness: No indirectness Further details: 1. Intervention type: Electronic (CPAP and T4P TM unit). (n=23) Intervention 2: In person follow-up. After CPAP titration night, patients were instructed to use the device each night for the whole night. They received written instructions and were able to contact the sleep unit (with telephone call or visit) as often as needed, during weekdays, in order to resolve any current problem interferring with their CPAP use. a group educational session for CPAP-treated patients was scheduled 1 month after CPAP initiation, and a visit to the pneumologist was scheduled 1.5 and 3 months after CPAP initiation. Duration 3 months. Concurrent medication/care: All eligible patients underwent on CPAP titration night with an automated CPAP(APAP) device under fully attended polysomnography (PSG) monitoring. Indirectness: No indirectness Further details: 1. Intervention type: Physical (CPAP).
Funding	No funding

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: TELEMONITORING versus IN PERSON FOLLOW-UP

Protocol outcome 1: Patient preference at >1 month

- Actual outcome for Severe: Adherence hours of use at 3 months; Group 1: mean 5.7 (SD 1.6); n=21, Group 2: mean 4.2 (SD 1.9); n=20 Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 2; Group 2 Number missing: 3 - Actual outcome for Severe: % nights CPAP use >4 hours at 3 months; Mean; , Comments: Adherent patients (%) CPAP use >4 hours Telemonitoring - 82 %; In person follow up - 64% Mean (range) - hours/night Telemonitoring + in p Follow-up group - 6.2(4-8.1); In person follow up group - 5.2 (4-7.5); Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 2; Group 2 Number missing: 3	
Protocol outcomes not reported by the study	Quality of life at >1 month; Mortality at >1 month; Sleepiness score at >1 month; AHI/RDI at >1 month; ODI at >1 month; Minor adverse effects of Tx at >1 month; Driving outcomes at >1 month; Neurocognitive outcomes at >1 month; HbA1c at >1 month; CV events at >1 month; Systolic BP at >1 month; Healthcare contacts at >1 month

Study	**Isetta 2015[19]**
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=139)
Countries and setting	Conducted in Spain; Setting: Multicentre randomised trial
Line of therapy	Not applicable
Duration of study	Intervention + follow up:
Method of assessment of guideline condition	Adequate method of assessment/diagnosis
Stratum	Severe: n/a
Subgroup analysis within study	Not applicable: n/a
Inclusion criteria	All enrolled patients were classified as requiring CPAP treatment after an overnight study.
Exclusion criteria	Severe sleepiness, severe nasal obstruction, pregnancy, psychiatric disease, dangerous employment, clinical instability and current or previous treatment for OSA. We excluded patients who lacked sufficient internet skills or refused to participate in the study.
Recruitment/selection of patients	n/a

Age, gender and ethnicity	Age - Mean (SD): Telemedicine 51 (8.9); Control - 47(10.9). Gender (M: F): 120/19. Ethnicity: not stated
Further population details	1. BMI: BMI of 30 kg/m^2 or more (Telemedicine - 32.8(7.3); 33.6(8.3)). 2. Co-existing conditions: AF (cardiovascular disease: telemedicine-11; control-7). 3. High risk occupation group: Not applicable 4. Sleepiness: ESS >9 (Telemedicine 10.5(4.6); control 10.8(4.8)).
Indirectness of population	No indirectness
Interventions	(n=69) Intervention 1: Telemonitoring. Telemonitoring +televisits Patients randomised to the telemedicine group received their follow-up at home supported by a website developed for this study, where they could find information about OSA and CPAP therapy, and a biweekly six-item questionnaire about their status, physical activity, sleep time, CPAP use and treatment side effects. Each centre's staff monitored questionnaire answers and communicated with patients through the website messaging tool to solve treatment-related problems. To participate, patients only required an internet-connected device with a microphone and webcam. Televisits via video conference were undertaken at months 1 and 3. We used Skype due to its availability, ease of use and good performance.21 Patients automatically received a confirmation email indicating the date and time of their appointment. Extra televisits or hospital visits were scheduled as necessary. . Duration 6 months. Concurrent medication/care: n/a. Indirectness: No indirectness Further details: 1. Intervention type: Electronic (Telemedicine/Televisits). (n=70) Intervention 2: In person follow-up. Patients randomised to the control group had the same follow-up schedule as the telemedicine group but attended the hospital. Specifically, they received standard face-to-face follow-up with visits at months 1, 3 and 6, and extra visits if needed. . Duration 6 months. Concurrent medication/care: n/a. Indirectness: No indirectness Further details: 1. Intervention type: Physical (In person follow up).
Funding	Equipment / drugs provided by industry (This project was supported by SEPAR/FIS PI14/00416 and ECO2013-47092 (MINECO, Spain).

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: TELEMONITORING versus IN PERSON FOLLOW-UP

Protocol outcome 1: Quality of life at >1 month
- Actual outcome for Severe: E5QD at 6 months; Group 1: mean 0.82 (SD 0.19); n=64, Group 2: mean 0.88 (SD 0.2); n=64
Risk of bias: All domain - High, Selection - Low, Blinding - Very high, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 5; Group 2 Number missing: 6
- Actual outcome for Severe: FOSQ at 6 months; Group 1: mean 16.9 (SD 3.94); n=64, Group 2: mean 18.01 (SD 2.97); n=64
Risk of bias: All domain - High, Selection - Low, Blinding - Very high, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 5; Group 2 Number missing: 6

Protocol outcome 2: Sleepiness score at >1 month - Actual outcome for Severe: Sleepiness ESS at 6 months; Group 1: mean 6.52 (SD 4.14); n=64, Group 2: mean 5.89 (SD 3.51); n=64 Risk of bias: All domain - High, Selection - Low, Blinding - Very high, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 5; Group 2 Number missing: 6 Protocol outcome 3: Patient preference at >1 month - Actual outcome for Severe: Adherence h/day at 6 months; Group 1: mean 4.4 (SD 2); n=64, Group 2: mean 4.2 (SD 2); n=64 Risk of bias: All domain - High, Selection - Low, Blinding - Very high, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 5; Group 2 Number missing: 6 - Actual outcome for Severe: % CPAP use >4 hours at 6 months; Percentage (%) >4 hours/night Telemonitoring + televisits - 65 %; control group - 57%; Risk of bias: All domain - High, Selection - Low, Blinding - Very high, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 5; Group 2 Number missing: 6	
Protocol outcomes not reported by the study	Mortality at >1 month; AHI/RDI at >1 month; ODI at >1 month; Minor adverse effects of Tx at >1 month; Driving outcomes at >1 month; Neurocognitive outcomes at >1 month; HbA1c at >1 month; CV events at >1 month; Systolic BP at >1 month; Healthcare contacts at >1 month

Study	**Lugo 2019[23]**
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=186)
Countries and setting	Conducted in Spain; Setting: sleep unit in a hospital clinic Barcelona
Line of therapy	Unclear
Duration of study	Intervention + follow up: 12 weeks
Method of assessment of guideline condition	Adequate method of assessment/diagnosis
Stratum	Moderate

Subgroup analysis within study	Not applicable
Inclusion criteria	suspected OSA and/or refractory hypertension, age 18–75 years, basic knowledge of ICTs use (e.g., tablet, smartphone, or computer), and Internet access.
Exclusion criteria	Patients with disabilities that prevented them from completing the questionnaires, invalidating somnolence (medical criteria), unstable disease, previous CPAP use, uvulopalatopharyngoplasty, risk profession or not signing the informed consent form.
Recruitment/selection of patients	Consecutive patients with suspected OSA referred to the sleep unit between 2016 and Feb 2017 were randomised if they signed the consent form
Age, gender and ethnicity	Age - Mean (SD): 50.6 (11.7). Gender (M:F): 127/59. Ethnicity: unclear AHI mean (SD): telemonitoring group 24.7, hospital group 33.6
Further population details	1. BMI: BMI of 30 2 kg/m^2 or more. Co-existing conditions: Not stated / Unclear 3. High risk occupation group: Not stated / Unclear 4. Sleepiness: ESS >9
Indirectness of population	Serious indirectness: patients with mild, moderate and severe OSA were included along with 19.6% of patients with no OSA diagnosis.
Interventions	(n=94) Intervention 1: Telemonitoring. Patients in the Virtual sleep unit (VSU) were managed exclusively outside of the hospital setting. The diagnostic sleep test consisted of home-based respiratory polygraphy for three consecutive nights, using ApneaLink air (ResMed,Spain). Recorded data were downloaded to a secure server and analyzed by a specialized technician. Subsequently, a sleep physician assessed all records and scheduled a video conference visit to inform the results and discuss the therapeutic decision. If OSA was diagnosed and CPAP was indicated, patients received CPAP education and along with an automatic CPAP device (Dreamstation, Respironics) at the providers pick-up point. A technician could remotely adjust CPAP pressure through a website (EncoreAnywhere, Respironics), based on data sent by the device (i.e., pressure, leaks, residual apnoea–hypopnea index, hours of use). Patients were managed remotely and treatment could accurately be controlled. The time of the interview with the physician was similar between the two arms (no more than 15 minute). Follow-up visits at 3, 6 and 12 weeks were performed through a custom web application (https://plataforma.laboratori-virtual-son.com) developed for the study, with separated areas for patients and professionals or phone-calls. Patients could access general information about OSA, CPAP, healthy sleep, and lifestyle, as well as their medical agenda, FAQs, and online clinical questionnaires. An email address to contact professionals and a teleconference service to perform the interviews were also

	available. Professionals could schedule and perform teleconference visits, send messages to patients, and analyze the questionnaire responses. Duration 12 weeks. Concurrent medication/care: Before the HR or VSU diagnostic procedures, patients underwent clinical evaluation of anthropometric data, medical history, OSA symptoms, and treatments received. Patients were or not diagnosed with OSA and, according to the medical opinions, received CPAP treatment and/or sleep hygiene measures and lifestyle recommendations (e.g., diet, exercise, regular sleep hours, sleeping on their side). Patients receiving CPAP treatment were monitored by a specialized nurse at 3, 6 and 12 weeks (face-to-face or videoconference, according to the study group) to assess their general symptoms, CPAP compliance, and side effects. At the final visit, all patients, including those who received sleep hygiene and lifestyle advice, were visited to assess the ESS, QSQ, EuroQol, and their overall satisfaction with the diagnostic and treatment procedure. Indirectness: Serious indirectness; Indirectness comment: patients with mild, moderate and severe OSA were included Further details: 1. Intervention type: Electronic (n=92) Intervention 2: In person follow-up. Sleep tests, medical assessments, and follow-up visits were performed in the Sleep Unit. Based on the patient characteristics, physicians not involved in the trial requested sleep studies (e.g. PSG, or hospital- or home-based respiratory polygraphy). After sleep testing, a sleep physician interviewed patients. If CPAP was indicated, patients received education and training in CPAP use from a specialized nurse or technician in the hospital. CPAP was then titrated in the hospital with manual adjustment by the technician during a sleep study. Once the optimal pressure was determined, patients were provided with a fixed pressure CPAP device to use at home (DreamStation, Respironics). All visits were performed face-to-face in the consultation at 3, 6 and 12 weeks.. Duration 12 weeks. Concurrent medication/care: Before the HR or VSU diagnostic procedures, patients underwent clinical evaluation of anthropometric data, medical history, OSA symptoms, and treatments received. Patients were or not diagnosed with OSA and, according to the medical opinions, received CPAP treatment and/or sleep hygiene measures and lifestyle recommendations (e.g., diet, exercise, regular sleep hours, sleeping on their side). Patients receiving CPAP treatment were monitored by a specialized nurse at 3, 6 and 12 weeks (face-to-face or videoconference, according to the study group) to assess their general symptoms, CPAP compliance, and side effects. At the final visit, all patients, including those who received sleep hygiene and lifestyle advice, were visited to assess the ESS, QSQ, EuroQol, and their overall satisfaction with the diagnostic and treatment procedure.. Indirectness: Serious indirectness; Indirectness comment: patients with mild, moderate and severe OSA were included. Further details: 1. Intervention type: Physical
Funding	Academic or government funding

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: TELEMONITORING versus IN PERSON FOLLOW-UP

Protocol outcome 1: Quality of life at >1 month
- Actual outcome for Moderate: EQ5D at 12 weeks ; Group 1: mean 0.84 (SD 0.18); n=80 (baseline value = 0.80, Group 2: mean 0.85 (SD 0.16); n=74 (baseline value = 0.84)
Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 14, Reason: none provided; Group 2 Number missing: 18, Reason: none provided
- Actual outcome for Moderate: EQ-VAS at 12 weeks ; Group 1: mean 75.66 (SD 13.68); n=80 (baseline value = 70.46), Group 2: mean 75.09 (SD 17.35); n=74 (baseline value = 73.70)
Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 14, Reason: none provided; Group 2 Number missing: 18, Reason: none provided

Protocol outcome 2: Sleepiness score at >1 month
- Actual outcome for Moderate: ESS at 12 weeks ; Group 1: mean 8.5 (SD 4.44); n=80, Group 2: mean 7.05 (SD 4.31); n=74
Risk of bias: All domain - Very high, Selection - High, Blinding - High, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 14, Reason: none provided; Group 2 Number missing: 18, Reason: none provided

Protocol outcome 3: Healthcare contacts at >1 month
- Actual outcome for Moderate: number of OSA related GP visits at 6 months; Group 1: 4/94, Group 2: 6/92
Risk of bias: All domain - Very high, Selection - High, Blinding - Low, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 14, Reason: none provided; Group 2 Number missing: 18, Reason: none provided
- Actual outcome for Moderate: number of OSA related specialist visits at 6 months; Group 1: 11/94, Group 2: 9/92
Risk of bias: All domain - Very high, Selection - High, Blinding - Low, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 14, Reason: none provided; Group 2 Number missing: 18, Reason: none provided

Protocol outcomes not reported by the study	Mortality at >1 month; AHI/RDI at >1 month; ODI at >1 month; Minor adverse effects of Tx at >1 month; Driving outcomes at >1 month; Neurocognitive outcomes at >1 month; HbA1c at >1 month; CV events at >1 month; Systolic BP at >1 month; CO2 control at >1 month

Study	Mendelson 2014[25]
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=107)
Countries and setting	Conducted in France; Setting: There were 14 recruiting centers in France, with Grenoble as the coordinating center
Line of therapy	Not applicable
Duration of study	Intervention + follow up:
Method of assessment of guideline condition	Adequate method of assessment/diagnosis
Stratum	Moderate-severe: n/a
Subgroup analysis within study	Not applicable: n/a
Inclusion criteria	Patients were eligible for the study if they were between 18 and 85 years old, diagnosed OSA on the diagnostic sleep study with AHI > 15 events/h, BMI of less than 40 kg/m^2, cardiovascular risk SCORE > 5%,20 or being in secondary prevention with a past history of cardiovascular disease (transient ischemic attack, stroke, cerebral emorrhage, myocardial infarction, angina, coronary revascularization, arteriopathy, aortic aneurism).
Exclusion criteria	Non-inclusion criteria were the following: central sleep apnea syndrome, cardiovascular score < 5%,20 cardiac failure, history of hypercapnic chronic respiratory failure, incapacitated patients, and pregnancy in accordance with article L 1121-6 of the French public health code, or patients taking part in another clinical trial. All patients provided written informed consent to participate in the study.
Recruitment/selection of patients	n/a
Age, gender and ethnicity	Age - Mean (SD): Total 63(9), Telemedicine - 62(9), Standard care - 63(9). Gender (M:F): Telemedicine male-90.7%; Standard care - 75.5. Ethnicity: not stated
Further population details	1. BMI: BMI of 30 kg/m^2 or more (Total 29.9(4.8), Telemedicine - 29.6 (3.9), Standard care - 30.2 (5.7)). 2. Co-existing conditions: T2DM (Total 36.4 %, Telemedicine - 38.9 %, Standard care - 34.0 %). 3. High risk occupation group: Not stated / Unclear 4. Sleepiness: ESS 9 or less (Total 7.9(4.4), Telemedicine - 8.7(4.5), Standard care - 7.2(4.3)).
Indirectness of population	No indirectness

Interventions	(n=54) Intervention 1: Combined strategies. Patients assigned to telemedicine were oriented to CPAP, fitted with a nasal mask, and given an auto titrating machine. Patients received a smartphone with an application designed to transmit clinical information. The patients transmitted self-measured morning and evening BP (3-day measurements), CPAP adherence, and subjective sleepiness weekly through a questionnaire-based application. Quality of life questionnaires were transmitted monthly. Patients received daily pictograms with diet and physical-activity related messages on their smartphones. Patients were contacted after 2 days to ask about adherence, side effects, and any problems encountered with the machine. After 4 weeks of treatment, patients met with their sleep specialist and information was reviewed. After 4 months of treatment, patients consulted their sleep specialist and were re-evaluated. Both groups were asked to continue on their normal medication regimen Duration 4 months. Concurrent medication/care: n/a. Indirectness: No indirectness Further details: 1. Intervention type: Electronic (TM and In person follow up). (n=53) Intervention 2: In person follow-up. Patients assigned to standard care were evaluated at baseline, fitted with a nasal mask and given an auto titrating machine. Patients were contacted after 2 days to ask about adherence, side effects, and any problems encountered with the machine. After 4 weeks of treatment, patients met with their sleep specialist and information was transferred from their machines (adherence, mask leak, residual respiratory events). After 4 months of treatment, data were downloaded from the machine, and patients saw their sleep specialist and were re-evaluated. Duration 4 month. Concurrent medication/care: n/a. Indirectness: No indirectness Further details: 1. Intervention type: Physical (in person follow up).
Funding	Academic or government funding (This study was supported by a grant from Initiatives pour la Santé Domicile

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: COMBINED STRATEGIES versus IN PERSON FOLLOW-UP

Protocol outcome 1:Quality of life at >1 month
- Actual outcome for Moderate-severe: Quality of life (Physical composite score) difference (Visit 1 vs visit 2) at 4 months; Group 1: mean 3.2 (SD 8.6); n=40, Group 2: mean 2.9 (SD 7); n=42
Risk of bias: All domain - Very high, Selection - Low, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 14; Group 2 Number missing: 11
- Actual outcome for Moderate-severe: Quality of life (mental composite score) difference (Visit 1 vs visit 2) at 4 months; Group 1: mean 1.6 (SD 10.9); n=40, Group 2: mean 1.6 (SD 8); n=42
Risk of bias: All domain - Very high, Selection - Low, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 14; Group 2 Number missing: 11

Protocol outcome 2: Sleepiness score at >1 month - Actual outcome for Moderate-severe: Sleepiness score difference(ESS) at 4 months; Group 1: mean -2.3 (SD 4); n=40, Group 2: mean -2.1 (SD 4.1); n=42 Risk of bias: All domain - Very high, Selection - Low, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 14; Group 2 Number missing: 11 Protocol outcome 3: Patient preference at >1 month - Actual outcome for Moderate-severe: Adherence min per day at 4 months; Group 1: mean 187 (SD 178); n=40, Group 2: mean 250 (SD 166); n=42 Risk of bias: All domain - Very high, Selection - Low, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 14; Group 2 Number missing: 11	
Protocol outcomes not reported by the study	Mortality at >1 month; AHI/RDI at >1 month; ODI at >1 month; Minor adverse effects of Tx at >1 month; Driving outcomes at >1 month; Neurocognitive outcomes at >1 month; HbA1c at >1 month; CV events at >1 month; Systolic BP at >1 month; Healthcare contacts at >1 month

Study	**Munafo 2016[26]**
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=140)
Countries and setting	Conducted in USA; Setting: study was conducted by Sleep Data Holdings, LLC, a Joint Commission on Accreditation of Healthcare Organizations-accredited CPAP durable medical equipment provider in Southern California, USA.
Line of therapy	Not applicable
Duration of study	Intervention + follow up:
Method of assessment of guideline condition	Adequate method of assessment/diagnosis
Stratum	Moderate-severe: n/a
Subgroup analysis within study	Not applicable: n/a
Inclusion criteria	Inclusion criteria were age 18–80 years, CPAP-naïve, confirmed OSA (AHI 5–70/h) diagnosis based on polysomnography (PSG) or home sleep test. In addition, patients were required to have access to and be able to utilize, communication technology (text messaging, e-mail)

Exclusion criteria	Exclusion criteria were prominent central apnea (>20 %), claustrophobia, current use of mandibular repositioning device, or other OSA therapy. A simple randomization scheme was used to allocate patients to CPAP treatment plus SOC or TH.
Recruitment/selection of patients	n/a
Age, gender and ethnicity	Age - Mean (SD): TH group - 52.3(10.6); SOC group 50(11.7). Gender (M:F): 45/43. Ethnicity: TH group (Caucasian 72.1%; Hispanic 16.2%; AfricanAmerican-4.4%; Asian 7.4% other-0%); SOC - (Caucasian 82%; Hispanic 6.6%; AfricanAmerican-3.3%; Asian 6.6% other-1.6%)
Further population details	1. BMI: BMI of 30 kg/m^2 or more (TH- 33.5(8.2); SOC-32.9(7.1)). 2. Co-existing conditions: Not stated / Unclear 3. High risk occupation group: Not stated / Unclear 4. Sleepiness: ESS >9 (TH- 10.9(4.7); SOC-10.2(5.7)).
Indirectness of population	No indirectness
Interventions	(n=70) Intervention 1: Telemonitoring. Patients in the TH group were dispensed a CPAP device on Day 0, along with a pamphlet about U-Sleep, which was used to monitor adherence. U-Sleep is a secure, HIPAA-compliant, web-based application that is designed to receive CPAP device data and message patients and providers via text and/or e-mail based on a customizable set of rules. At the time of set up, patients were encouraged to log-in to the U-Sleep website from home so that they could follow their therapy. Sleep Data study staff were trained to set up and use the software, which was provided to patients at no charge. Initial patient contacts were triggered by ≥1 of five intervention points based on metrics (AHI, leak, therapy hours) After initial contact, subsequent contacts were in response to an automated message or based on clinical judgment. All TH patients received a final phone call on day 90. All patients were contacted at day 90 and asked to rate how well the follow-up program had met their expectations (on a scale from1 to 5) Duration 3 months. Concurrent medication/care: At baseline, all patients had a 1-h education session with arespiratory therapist (RRT) about OSA and its consequences, proper use and maintenance of the CPAP device and mask, and therapy expectations. All patients were provided with a fixed or auto CPAP device, heated humidifier, modems, and mask interface (S9 Elite, S9 AutoSet, H5i heated humidifier; ResMed Corp.). Patients saw an RRT at all clinic visits; telephone follow-up was performed by registered PSG technicians (RPSGT). Indirectness: No indirectness Further details: 1. Intervention type: Electronic (Telemonitoring). (n=70) Intervention 2: Telephone follow-up. Patients randomized to SOC were dispensed a CPAP device on Day 0, then contacted via phone on Days 1, 7, 14, 30, and 90 (Fig. 1). CPAP usage and efficacy data were tracked via the wireless modem attached to the CPAP machine. Modem data were accessed via ResMed's

	EasyCare Online (ECO) platform. Sleep Data SOC procedures include frequent phone calls and return clinic visits as necessary Duration 3 months. Concurrent medication/care: At baseline, all patients had a 1-h education session with arespiratory therapist (RRT) about OSA and its consequences, proper use and maintenance of the CPAP device and mask, and therapy expectations. All patients were provided with a fixed or auto CPAP device, heated humidifier, modems, and mask interface (S9 Elite, S9 AutoSet, H5i heated humidifier; ResMed Corp.). Patients saw an RRT at all clinic visits; telephone follow-up was performed by registered PSG technicians (RPSGT). Indirectness: No indirectness Further details: 1. Intervention type: Not applicable (Telephone follow up).
Funding	Other author(s) funded by industry (Medical writing assistance from Nicola Ryan, independent medical writer, was funded by ResMed Corp
RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: TELEMONITORING versus TELEPHONE FOLLOW-UP Protocol outcome 1: Patient preference at >1 month - Actual outcome for Moderate-severe: Adherence hours of use daily at 3 months; Group 1: mean 5.1 (SD 1.9); n=58, Group 2: mean 4.7 (SD 2.1); n=64 Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 12; Group 2 Number missing: 6	
Protocol outcomes not reported by the study	Quality of life at >1 month; Mortality at >1 month; Sleepiness score at >1 month; AHI/RDI at >1 month; ODI at >1 month; Minor adverse effects of Tx at >1 month; Driving outcomes at >1 month; Neurocognitive outcomes at >1 month; HbA1c at >1 month; CV events at >1 month; Systolic BP at >1 month; Healthcare contacts at >1 month

Study	**Pepin 2019[36]**
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=306)
Countries and setting	Conducted in France; Setting: Multicetre study. 23 centres were recruited. All centres were sleep sleep units with facilities for diagnosis, treatment and follow up of OSA and had worked with professional home care

	providers trained in CPAP initiating and follow up.
Line of therapy	Not applicable
Duration of study	Intervention + follow up:
Method of assessment of guideline condition	Adequate method of assessment/diagnosis
Stratum	Severe: n/a
Subgroup analysis within study	Not applicable: n/a
Inclusion criteria	Eligible patients were aged from 18-75, with severe OSA (apnoea-hypopnea index (AHI)>30events/h) on the basis of respiratory polygraphy or poly somnography. Patients should suffer from at least one cardiovascular disease or exhibit an elevated cardiovascular risk assessed by the 10 year risk of fatal cardiovascular event Systematic Coronary Risk evaluation calculation established specifically for European countries. Patients with a SystematicCoronarry Risk evaluaton risk>5% or in secondary prevention were included.
Exclusion criteria	Patients with central sleep apnea or heart failure with a left ventricular ejection fraction <40% were excluded
Recruitment/selection of patients	n/a
Age, gender and ethnicity	Age - Mean (range): 60.8(53.8; 66); Usual care - 61.8 (54.7; 66.1). Gender (M:F): 226/80. Ethnicity: not stated
Further population details	1. BMI: BMI of 30 kg/m^2 or more (Telemonitoring 32.4(29.6; 36.5); Usual care 31.4 (28.1; 35.2). 2. Co-existing conditions: T2DM (Telemonitoring (20(12.9); Usual care18 (12.2)). 3. High risk occupation group: Not stated / Unclear 4. Sleepiness: ESS >9 (Telemonitoring 9(5;13); Usual care 9(5; 14)).
Indirectness of population	No indirectness
Interventions	(n=157) Intervention 1: Telemonitoring. Multimodal telemonitoring included systolic and diastolic HBP and physical activity recorded by connected devices. This assessment of individual risk was associated with CPAP telemonitoring providing adherence, leaks and residual events. Symptoms and quality of life were recorded via electronic questionnaires to be filled by patients. Patients benefited from a demonstration of how to use the remote home telemonitoring equipment and an explanation of why monitoring psychological variables is relevant for their care. Concerning HBP recommendations, patients had to perform three measurements in the morning and the evening for 3 consecutive days in both groups. One minute was required between each measurement and the patient had to stay sedentary before and during the measurements. Duration 6 months. Concurrent medication/care: The patients were treated by auto-CPAP with a pressure

	window between 6 and 14 cm H2O. Both usual care and remote multimodal telemonitoring arms received the same 1-h CPAP initiating educational program Indirectness: No indirectness Further details: 1. Intervention type: Electronic (multimodal telemonitoring). (n=149) Intervention 2: In person follow-up. In person follow up (not much detail) Duration 6 months. Concurrent medication/care: The patients were treated by auto-CPAP with a pressure window between 6 and 14 cm H2O. Both usual care and remote multimodal telemonitoring arms received the same 1-h CPAP initiating educational program Indirectness: No indirectness Further details: 1. Intervention type: Physical (in person follow up).
Funding	Equipment / drugs provided by industry (The authors have reported to CHEST the following: J.-L.P. and R.T. report grants from Philips, Resmed, Fisher and Paykel, Foundation de la recherche medicale, Direction dela recherche Clinique du CHU De Grenoble, Fond de donation "Agirpour les maladies chroniques"; and personal fees from Perimetre, Philips, Fisher and Paykel RESMED, Astra-Zeneka, SEFAM, Agiradom, ELIA, and Teva, outside the submitted work.

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: TELEMONITORING versus IN PERSON FOLLOW-UP

Protocol outcome 1: Quality of life at >1 month
- Actual outcome for Severe: SF12-Physical at 6 months; Group 1: mean 45.3 (SD 5.3); n=117, Group 2: mean 44.1 (SD 5.4); n=122
Risk of bias: All domain - Very high, Selection - Low, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 40; Group 2 Number missing: 27
- Actual outcome for Severe: SF12-Mental at 6 months; Group 1: mean 43.9 (SD 4.4); n=117, Group 2: mean 43.6 (SD 4.9); n=122
Risk of bias: All domain - Very high, Selection - Low, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 40; Group 2 Number missing: 27

Protocol outcome 2: Patient preference at >1 month
- Actual outcome for Severe: adherence at 6 months; Group 1: mean 5.28 (SD 2.23); n=117, Group 2: mean 4.75 (SD 2.5); n=122
Risk of bias: All domain - Very high, Selection - Low, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 40; Group 2 Number missing: 27

Protocol outcome 3: Systolic BP at >1 month - Actual outcome for Severe: Sleepiness ESS (0-24) at 6 months; Group 1: mean 4.58 (SD 3.88); n=117, Group 2: mean 6.05 (SD 4.07); n=122 Risk of bias: All domain - Very high, Selection - Low, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 40; Group 2 Number missing: 27 - Actual outcome for Severe: Systolic blood pressure difference - (6 months and baseline) morning at 6 months; Group 1: mean 130.98 (SD 18.47); n=117, Group 2: mean 130.06 (SD 17.53); n=122 Risk of bias: All domain - Very high, Selection - Low, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 40; Group 2 Number missing: 27	
Protocol outcomes not reported by the study	Mortality at >1 month; Sleepiness score at >1 month; AHI/RDI at >1 month; ODI at >1 month; Minor adverse effects of Tx at >1 month; Driving outcomes at >1 month; Neurocognitive outcomes at >1 month; HbA1c at >1 month; CV events at >1 month; Healthcare contacts at >1 month

Study	**Stepnowsky 2007[40]**
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=45)
Countries and setting	Conducted in USA; Setting: Participants were patients at the Veterans Affairs San Diego Healthcare System (VASDHS)
Line of therapy	Not applicable
Duration of study	Intervention + follow up:
Method of assessment of guideline condition	Adequate method of assessment/diagnosis
Stratum	Moderate-severe: n/a
Subgroup analysis within study	Not applicable: n/a
Inclusion criteria	diagnosis of moderate-to-severe OSA, defined as an Apnea-Hypopnea Index (AHI) ≥ 15 events per hour; naive to CPAP therapy; stable sleep environment (operationally defined as a permanent address, requisite for wireless monitoring); and at least 18 years of age. An AHI of ≥15 was chosen in an effort to be consistent with current OSA guidelines and practice parameters
Exclusion criteria	Patients were excluded from the study if they met any one of the following criteria: allergies or sensitivity to the mask or mask material; previous use of any other PAP device (eg, bi-level PAP, auto-adjusting PAP);

	current use of prescribed supplemental oxygen; or significant comorbid medical conditions that would prevent the patient from completing the protocol. Significant comorbidities were defined as any medical or mental health condition that could interfere with the daily use of CPAP. Additionally, patients were excluded if they lived in a geographically unsuitable region (ie, outside of the wireless network coverage area). A total of 91 patients at the VASDHS Sleep Clinic either signed or gave verbal consent to be contacted so they could learn more about the study. From these 91 patients, 46 were either were not interested in study participation or did not satisfy the inclusion and exclusion criteria
Recruitment/selection of patients	n/a
Age, gender and ethnicity	Age - Mean (SD): TCC - 60(10.8); UCC - 58(13.7). Gender (M:F): overall 98 % male. Ethnicity: not stated
Further population details	1. BMI: BMI of 30 kg/m^2 or more (total- 32.8; TCC - 33.3(4.9); 30.5(5.1)). 2. Co-existing conditions: Not applicable 3. High risk occupation group: Not stated / Unclear 4. Sleepiness: Not stated / Unclear
Indirectness of population	No indirectness
Interventions	(n=24) Intervention 1: Combined strategies. Telemonitored clinical care group. (Telemonitoring and in person follow up) The essence of the TCC intervention is the ability to tele monitor compliance and efficacy data for each patient on a daily basis from the first day of treatment and to act on those data collaboratively, and in partnership, with the patient. Collaborative management refers to the joint decision making and partnership between provider and patient and is characterized by communication, negotiation, and consideration of important patient factors and preferences. Patients in this group had their objective flow generator data monitored as frequently as needed per specified clinical pathways throughout the active 2-month treatment period. The frequency and nature of the clinical interactions depended on both the objectively measured nightly data values and subjective patient reports. Duration 2 months. Concurrent medication/care: Both groups of patients received the monitoring device and were followed for an intervention period of 2 months. Each participant was provided with an AutoSet Spirit flow generator unit (ResMed Corp, Poway, CA) set to fixed-mode pressure, which was equipped with the HumidAire 2i heated humidifier (ResMed Corp, Poway, CA). Each participant was provided a compatible nasal or full-face mask; nasal pillows were not used in this study. Indirectness: No indirectness Further details: 1. Intervention type: Not applicable (Combined - Telemonitoring and in person follow up). (n=21) Intervention 2: In person follow-up. Usual clinical care group. In person follow up. Patients randomized to UCC were treated according to the prevailing standard of care for OSA patients at the VASDHS CPAP

	Clinic. Usual care consisted of a 1-week telephone call after CPAP initiation and a 1-month in-office follow-up visit by CPAP clinic staff. Patients were encouraged to call the clinic any time they had a problem or concern. CPAP compliance and efficacy data were downloaded at the 1-month time point to help direct clinical management. Duration 2 months. Concurrent medication/care: Both groups of patients received the monitoring device and were followed for an intervention period of 2 months. Each participant was provided with an AutoSet Spirit flow generator unit (ResMed Corp, Poway, CA) set to fixed-mode pressure, which was equipped with the HumidAire 2i heated humidifier (ResMed Corp, Poway, CA). Each participant was provided a compatible nasal or full-face mask; nasal pillows were not used in this study. . Indirectness: No indirectness Further details: 1. Intervention type: Physical (In person follow up).
Funding	Funding not stated

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: COMBINED STARTEGIES versus IN PERSON FOLLOW-UP

Protocol outcome 1: Quality of life at >1 month
- Actual outcome for Moderate-severe: Functional outcomes of sleep at 2 months; Group 1: mean 15.2 (SD 5); n=20, Group 2: mean 14.4 (SD 4.2); n=20; Comments: 32 item self report measure. (1poor; 5 excellent)
Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 4; Group 2 Number missing: 1
- Actual outcome for Moderate-severe: Sleepiness- Epworth at 2 months; Group 1: mean 9.2 (SD 6.6); n=20, Group 2: mean 9.9 (SD 5.2); n=20
Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 4; Group 2 Number missing: 1
- Actual outcome for Moderate-severe: Adherence all days at 2 months; Group 1: mean 4.1 (SD 1.8); n=20, Group 2: mean 2.8 (SD 2.2); n=20
Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 4; Group 2 Number missing: 1
- Actual outcome for Moderate-severe: Adherence days used at 2 months; Group 1: mean 5 (SD 1.8); n=20, Group 2: mean 3.8 (SD 2.3); n=20
Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 4; Group 2 Number missing: 1
- Actual outcome for Moderate-severe: % nights with CPAP use >4 hours at 2 months; Group 1: mean 52 percentage (SD 27); n=20, Group 2: mean 37 percentage (SD 24); n=20
Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 4; Group 2 Number missing: 1

Protocol outcome 2: AHI/RDI at >1 month - Actual outcome for Moderate-severe: AHI at 2 months; Group 1: mean 7.9 (SD 4.1); n=20, Group 2: mean 5 (SD 4); n=20 Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 4; Group 2 Number missing: 1 - Actual outcome for Moderate-severe: AHI change at 2 months; Group 1: mean 38.1 (SD 18.4); n=20, Group 2: mean 32.2 (SD 14.8); n=20 Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - High, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 4; Group 2 Number missing: 1	
Protocol outcomes not reported by the study	Mortality at >1 month; Sleepiness score at >1 month; ODI at >1 month; Minor adverse effects of Tx at >1 month; Driving outcomes at >1 month; Neurocognitive outcomes at >1 month; Patient preference at >1 month; HbA1c at >1 month; CV events at >1 month; Systolic BP at >1 month; Healthcare contacts at >1 month

Study	**Turino 2017[42]**
Study type	RCT (Patient randomised; Parallel)
Number of studies (number of participants)	1 (n=100)
Countries and setting	Conducted in Spain; Setting: St Maria Hospital (Lleida, Spain)
Line of therapy	Not applicable
Duration of study	Intervention + follow up:
Method of assessment of guideline condition	Adequate method of assessment/diagnosis
Stratum	Moderate-severe: n/a
Subgroup analysis within study	Not applicable: n/a
Inclusion criteria	Included adult patients (>18 years) with newly diagnosed OSA requiring treatment with CPAP (AHI >15 events·h−1). Assuming an α risk of 0.05 and a β risk of 0.2 in a two-sided test, a sample size of 49 subjects in each group was needed to detect differences ⩾1 h in CPAP treatment compliance. A common standard deviation of 1.75 was assumed. Given the high motivation of both professionals and patients to be involved, no dropouts were anticipated and thus a total of 100 patients were planned to be recruited
Exclusion criteria	Patients with impaired lung function (COPD-OSAHS overlap syndrome, obesity hypoventilation and restrictive disorders), severe heart failure, psychiatric disorders, periodic leg movements, pregnancy, other dysomnias or parasomnias, and/or a history of previous CPAP treatment were excluded.

Recruitment/selection of patients	n/a
Age, gender and ethnicity	Age - Mean (SD): Telemedicine 56 (13); Standard care 54(12). Gender (M:F): 77/23. Ethnicity: stated
Further population details	1. BMI: BMI of 30 kg/m^2 or more (Telemedicine 35 (7); Standard care 35 (7)). 2. Co-existing conditions: Not stated / Unclear 3. High risk occupation group: Not stated / Unclear 4. Sleepiness: ESS >9 (Telemedicine 9(5); Standard care 10(4)).
Indirectness of population	No indirectness
Interventions	(n=52) Intervention 1: Combined strategies. In the telemonitoring group, patients were also fitted with a mask and given a CPAP device (AirSense 10) and a leaflet explaining how to use it, and received the same training sessions from the same personnel as in the standard care arm. Each CPAP device given to patients in this group was equipped with mobile 2G (GSM/GPRS) technology capable of sending daily information on CPAP adherence, CPAP pressures, mask leak and residual respiratory events to the MyOSA–Oxigen Salud web database (www.oxigensalud.com) Automatic alarms for the provider were generated in case of mask leak >30 L·min−1 for >30% of the night or usage of <4 h·night−1 on two consecutive nights. In case of alarm, the pulmonary specialist medical officer of the CPAP provider contacted the patient, providing case-by-case problem solving. This included suggestions about how to minimise symptoms (dry mouth, mask issues, discomfort with the device), specific interventions to improve compliance (mask changing, chin strap, pressure or humidifier settings, saline nasal sprays) and support for the patient in the use of CPAP. Duration 3 months. Concurrent medication/care: n/a Indirectness: No indirectness Further details: 1. Intervention type: Electronic (Telemonitoring + in person follow up). (n=48) Intervention 2: In person follow-up. Patients randomised to standard care were fitted with a mask and given a CPAP device (AirSense 10; ResMed, Martinsried, Germany) and a leaflet explaining how to use it. A short instruction session on how to use a CPAP device was also given to patients and partners in the sleep unit by a trained nurse with experience in the follow-up of CPAP-treated patients. This included a practical demonstration of how to put on the mask, and the correct management and cleaning of the tubes, masks and humidifier. Information on how to turn the CPAP device on and off was provided by the homecare provider at the time of machine delivery. All patients were visited after 1 month of treatment by the specialist nurse at the sleep unit. Information about CPAP pressure, compliance and adherence (use of CPAP for ⩾4 h·day−1), residual respiratory events and leaks were downloaded from the device. CPAP-related side-effects, CPAP machine care and maintenance (changes of mask, tubes and humidifier), and the number of additional visits and calls were recorded by the nurse Duration 3 months. Concurrent medication/care: n/a

	. Indirectness: No indirectness Further details: 1. Intervention type:
Funding	Equipment / drugs provided by industry (This study was partially funded by ResMed Spain (Spain) and ALLER (Spain)

RESULTS (NUMBERS ANALYSED) AND RISK OF BIAS FOR COMPARISON: COMBINED STRATEGIES versus IN PERSON FOLLOW-UP

Protocol outcome 1: Quality of life at >1 month
- Actual outcome for Moderate-severe: EQ5D change at 3 months; Group 1: mean 0.057 (SD 0.19); n=52, Group 2: mean 0.06 (SD 0.17); n=48
Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 0; Group 2 Number missing: 0

Protocol outcome 2: Patient preference at >1 month
- Actual outcome for Moderate-severe: Adherence h/night at 3 months; Group 1: mean 5.1 (SD 2.1); n=52, Group 2: mean 4.9 (SD 2.2); n=48
Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 0; Group 2 Number missing: 0

Protocol outcome 3: Systolic BP at >1 month
- Actual outcome for Moderate-severe: Systolic blood pressure at 3 months; Group 1: mean -4.3 mmHg (SD 14.8); n=52, Group 2: mean -3.1 mmHg (SD 18); n=48
Risk of bias: All domain - Very high, Selection - High, Blinding - Very high, Incomplete outcome data - Low, Outcome reporting - Low, Measurement - Low, Crossover - Low; Indirectness of outcome: No indirectness ; Group 1 Number missing: 0; Group 2 Number missing: 0

Protocol outcomes not reported by the study	Mortality at >1 month; Sleepiness score at >1 month; AHI/RDI at >1 month; ODI at >1 month; Minor adverse effects of Tx at >1 month; Driving outcomes at >1 month; Neurocognitive outcomes at >1 month; HbA1c at >1 month; CV events at >1 month; Healthcare contacts at >1 month