OLIVE VIEW-UCLA MEDICAL CENTER
RESPIRATORY CARE SERVICES – SLEEP MEDICINE
POLICY & PROCEDURE

NUMBER: 9193
VERSION: 1

SUBJECT/TITLE: QUALITY ASSURANCE

POLICY:

Quality improvement measures will be evaluated every quarter and reported to staff and institution on a quarterly basis by the facility director. Appropriate individuals included in the data gathering and reporting of the quality improvement activities include the sleep facility director, the sleep medicine nurse practitioner and the sleep medicine RN.

The facility director shall evaluate the effectiveness of the quality improvement program at least on an annual basis to identify other indicators as needed, which may require monitoring as defined by performance review.

The sleep facility QA program will identify outcome and process measures to monitor and evaluate to determine methods of improving patient care and outcomes.

Monitored indicators will minimally include but not be limited to:

1. A process measure for OSA;
2. An outcome measure for OSA;
3. An outcome measure for another sleep disorder (e.g. RLS, insomnia or narcolepsy); and
4. Inter-scorer reliability.

The HSAT QA program will identify two process measures and one outcome measure used to evaluate efficiency of the program and determine methods of improving patient care and outcomes. Monitored indicators for the HSAT program will minimally include but not be limited to:

1. Two process measures
2. One outcome measure

The facility will utilize the same outcome measure and process measures for OSA as long as data is collected and analyzed from all patients, including patients tested with both in-center testing and HSAT.

The facility director along with the sleep medicine RN will be responsible for establishing and implementing the sleep facility QA program. Quarterly, the facility director will attest to the effectiveness of all quality improvement efforts and implement remediation for measures for those indicators that do not meet the

established thresholds.

PURPOSE: To improve patient care, process and clinical outcomes the facility will be committed to continuous quality improvement.

DEPARTMENTS: **RESPIRATORY CARE SERVICES**

PROCEDURE

1.0 The QA plan will monitor indicators that measure sleep facility processes and patient outcomes. Indicators will be identified and chosen through clinical and administrative collaboration and may be selected from the AASM Published Quality Measures.

2.0 ***INDICATOR SELECTION—SLEEP FACILITY:*** *Detailed indicator descriptions are attached*

2.1 Process Measure for OSA—Adult—Severity assessment at initial diagnosis
2.2 Outcome Measure for OSA—Adult—Improve quality of life
2.3 Outcome Measure for Insomnia—Improve sleep satisfaction and quality
2.4 Inter-Scorer Reliability

3.0 ***INDICATOR SELECTION—HSAT PROGRAM:*** *Detailed indicator descriptions are attached*

3.1 Process Measure for OSA—Adult— Severity assessment at initial diagnosis
3.2 Process Measure for OSA—Adult—Evidence-based therapy prescribed
3.3 Outcome Measure for OSA—Adult—Improve quality of life.

4.0 Collection and review of the data

4.1 Monitoring and collection of data will be performed monthly to identify variances from the established criteria:
- 4.1.1 The data will be collected for the individual indicators using chart review or continuously updated spreadsheets
- 4.1.2 The results will be measured and analyzed.
- 4.1.3 Indicators that have failed, met or exceeded their established threshold will be identified.
- 4.1.4 Further measurement of indicators will be discussed.

5.0 Evaluation and reporting

5.1 The facility director will review and report all measures to determine if minimum expected thresholds are met. Evaluation shall focus on identifying opportunities to improve process and outcomes of patient care and actual identified problem areas that effectuate a negative outcome. Conclusions shall be drawn regarding the evaluation of data presented with recommendations for remediation determined by the facility director.

5.2 Results of the indicators must be tracked at least quarterly, aggregated, and reported to the facility director for review and determination of areas for improvement plans, for remediation of measures that do not meet the established threshold, and decisions regarding recommendations for improvement.
- 5.2.1 Written summary reports of all indicators must be signed and dated by the facility director.
- 5.2.2 Results of the indicators appropriate to the technical staff will be reported at their monthly staff meeting.

5.2.3 Written summary reports will be kept on file for a period of at least five years.
5.2.4 Facility director will review and determine the areas requiring improvement.
5.2.5 A remediation plan will be created.
5.2.6 Actions will be taken as appropriate to implement the resolve.
5.2.7 Other indicators may be chosen as warranted.

Sleep Facility Process Measure for OSA: Severity Assessment at Initial Diagnosis

Measure Description	
Description	Proportion of patients aged 18 years and older with a diagnosis of obstructive sleep apnea that had an apnea hypopnea index (AHI), a respiratory disturbance index (RDI) or a respiratory event index (REI) documented or measured within 2 months of the initial evaluation for suspected obstructive sleep apnea. 75% Expected Threshold *Performance = # of patients meeting numerator criteria / # of patients meeting denominator criteria − # of patients with valid exclusions.*

Measure Components	
Denominator Statement	All patients aged 18 years and older with obstructive sleep apnea
Exceptions	**Medical Reasons:** Patients with a medical, neurological or psychiatric disease that prohibits successful completion of a sleep study; patients in whom a sleep study would present a bigger risk than benefit or pose an undue burden. **Patient Reasons**: Patient declined AHI/RDI/REI measurement. **System Reasons:** Test was ordered but not completed.

Numerator Statement	Number of patients who had an AHI, a RDI or REI documented or measured within 2 months of initial evaluation for suspected obstructive sleep apnea.

Technical Specifications: Chart Review	
Denominator (Eligible Population)	**Patients 18 years of age or older.** **Accompanied by** Checked out status of the initial "short visit" evaluation that is scheduled after eConsult review by the facility director or sleep medicine nurse practitioner. **Accompanied by** Scheduled HSAT or in-laboratory polysomnogram. **Accompanied by** Documentation that the patient was prescribed an evidence-based OSA treatment (such as positive airway pressure, oral appliances, positional therapies, upper airway surgeries).
Exceptions	**At least one of the following is documented in the patient chart:** • Patient has a medical, neurological or psychiatric disease that prohibits successful completion of a sleep study • Patient for whom a sleep study would present a bigger risk than benefit or pose an undue burden. • Patient declined AHI/RDI/REI measurement. • Test was ordered but not completed.
Numerator	**Chart review indicates:** • Patient had an AHI, RDI or REI documented or measured within 2 months of initial evaluation for suspected obstructive sleep apnea.

Sleep Facility Outcome Measure for OSA: Improve Quality of Life

Measure Description	
Description **Expression of Performance**	Proportion of patients aged 18 years and older diagnosed with obstructive sleep apnea (OSA) who were prescribed OSA treatment that showed any improvement in Functional Outcomes of Sleep Questionnaire (FOSQ) from baseline to within one year of starting treatment. 75% Expected Threshold *Performance = # of patients meeting numerator criteria / # of patients meeting denominator criteria − # of patients with valid exclusions.*

Measure Components	
Denominator Statement	At least 20% of patients 18 years and older diagnosed with obstructive sleep apnea who were prescribed OSA treatment and completed a baseline FOSQ.
Exceptions	**Medical reasons:** Patients diagnosed with a terminal or advanced disease with an expected lifespan of less than six months; Patients with an unstable or poorly controlled medical disease; Patients with severe psychiatric disorders (i.e. severe depression, schizophrenia) **Patient reasons:** Patients who refuse OSA therapy; Patients who do not return for a follow-up appointment within one year of initiating treatment; Patients who decline or

	are unable to complete the FOSQ instrument; Patients who do not have an impaired FOSQ at baseline **System reasons:** None
Numerator Statement	Number of patients that showed any improvement in their FOSQ score from baseline within one year of starting OSA treatment.

Technical Specifications: Continuously updated data collection via RedCap	
Denominator **(Eligible Population)**	Patient is 18 years of age or older. **Accompanied by** Patient attends "CPAP Bootcamp" educational program and data entered into RedCap **Accompanied by** Documentation that the patient was prescribed an OSA treatment. **Accompanied by** Documentation that a FOSQ was completed at baseline

Exceptions	**At least one of the following is documented in the patient chart:** • Patient does not return for a follow-up appointment within one year of initiating treatment. • Patient declines or is unable to complete the FOSQ • Patient refuses OSA treatment • Patient does not have an impaired FOSQ at baseline • Patients diagnosed with a terminal or advanced disease with an expected lifespan of less than six months • Patients with an unstable or poorly controlled medical disease • Patients with severe psychiatric disorders (i.e. severe depression, schizophrenia)
Numerator	**Chart review indicates both of the following:** • Patient's quality of life score is measured using the FOSQ within one year of beginning treatment. • Patient's quality of life score has improved as compared to baseline.

Sleep Facility Process Measure for Insomnia: Improve Sleep Satisfaction and Quality

Measure Description	
Description	Proportion of patients who showed improvement in sleep satisfaction and quality as measured by the Insomnia Severity Index (ISI) after treatment initiation. Assessment method.
Expression of Performance	75% Expected threshold

	Performance = # of patients meeting numerator criteria / # of patients meeting denominator criteria − # of patients with valid exclusions.
Measure Components	
Denominator Statement	All patients diagnosed with insomnia (minimally 20 medical records) who receive insomnia evidence-based management such as initiation or renewal of insomnia treatments during their first visit with the clinician.
Exceptions	**Medical Reasons:** None **Patient Reasons:** Patients who decline treatment; patients who do not return and do not complete assessment at a follow-up visit after they insomnia treatment is initiated; patients who are unable to engage in treatment; patients less than seven years of age should be excluded. **System Reasons:** None
Numerator Statement	Number of patients who showed improvement in at least one domain of daytime functioning after treatment initiation by the ISI. The "return visit" measure should be administered sometime between one (minimum interval) and three months after treatment initiation.
Technical Specifications:	**Entry of scores into spreadsheet at clinic visits**
	One of the following codes indicating Insomnia: 291.82 Alcohol induced sleep disorders (includes alcohol induced insomnia) 292.85 Drug induced sleep disorders (includes drug induced insomnia) 307.41 Transient disorder of initiating or maintaining sleep

	307.42 Persistent disorder of initiating or maintaining sleep 307.49 Other (includes "subjective insomnia complaint") 327.00 Organic insomnia, unspecified 327.01 Insomnia due to medical condition classified elsewhere 327.02 Insomnia due to mental disorder 327.09 Other organic insomnia 780.51 Insomnia with sleep apnea, unspecified 780.52 Insomnia, unspecified **Accompanied by** One of the following patient encounters: Behavioral Sleep Medicine Clinic
Denominator (Eligible Population)	Sleep Medicine Clinic
	Accompanied by Documentation that the patient is currently receiving evidence-based treatment for his/her insomnia.

Denominator Eligible Population (Continued)	**Accompanied by** Documentation that ISI has been administered at baseline and at a return visit: *Documented baseline assessment of daytime functioning administered within one month maximum prior to treatment initiation. *Documented assessment at a return visit of daytime functioning

	administered at least once at minimum between one and three months after treatment initiation.
Exceptions	**At least one of the following is documented in the patient chart:** * Patient declines treatment * Patient does not return and does not complete assessment at a follow-up visit after the insomnia treatment is initiated. * Patient is unable to engage in treatment * Patient is under seven years of age.
Numerator	**Chart review indicates:** Documented improvement in sleep satisfaction or quality as determined by the ISI.

HSAT Process Measure for OSA: Severity Assessment at Initial Diagnosis

Measure Description

Description	Proportion of patients aged 18 years and older with a diagnosis of obstructive sleep apnea that had a respiratory event index (REI) documented or measured within 2 month of the initial evaluation for suspected obstructive sleep apnea. 90% Expected Threshold *Performance = # of patients meeting numerator criteria / # of patients meeting denominator criteria − # of patients with valid exclusions.*

Measure Components	
Denominator Statement	All patients aged 18 years and older with obstructive sleep apnea
Exceptions	**Medical Reasons:** Patients with a medical, neurological or psychiatric disease that prohibits successful completion of a sleep study; patients in whom a sleep study would present a bigger risk than benefit or pose an undue burden. **Patient Reasons**: Patient declined REI measurement. **System Reasons:** Test was ordered but not completed.
Numerator Statement	Number of patients who had a REI documented or measured within 1 month of initial evaluation for suspected obstructive sleep apnea.

Technical Specifications: Chart Review
Data collection via the LA Countywide electronic medical record ORCHID (Cerner) Users report a rate based on all patients for whom data are available and who meet the eligible population/denominator criteria.

Denominator (Eligible Population)	Patients 18 years of age or older. **Accompanied by** Acceptance of patient for obstructive sleep apnea evaluation for OSA after eConsult review by the facility di rector or sleep medicine nurse practitioner. **Accompanied by** "Checked out" from the initial "short visit" OSA evaluation
Exceptions	At least one of the following is documented in the patient chart: • Patient has a medical, neurological or psychiatric disease that prohibits successful completion of a sleep study • Patient for whom a sleep study would present a bigger risk than benefit or pose an undue burden. • Patient declined AHI/RDI/REI measurement. • Test was ordered but not completed.
Numerator	Chart review indicates: • Patient had a REI documented or measured within 1 month of initial evaluation for suspected obstructive sleep apnea.

HSAT Process Measure: Evidence-Based Therapy Prescribed

Measure Description	
Description	Proportion of patients aged 18 years and older diagnosed with obstructive sleep apnea (OSA) that received an evidence-based therapy after initial diagnosis. 85% Expected Threshold
Expression of Performance	*Performance = # of patients meeting numerator criteria / # of patients meeting denominator criteria − # of patients with valid exclusions.*

Measure Components	
Denominator Statement	All patients aged 18 years and older with a diagnosis of obstructive sleep apnea
Exceptions	**Medical Reasons:** none **Patient Reasons**: Patients who do not wish to receive therapy; patients who do not return for follow-up after initial diagnosis. **System Reasons:** Patients whose insurance (payer) does not cover the expense of therapy
Numerator	Number of patients who received evidence-based therapies (such as positive airway pressure, oral appliances, positional therapy, upper airway surgeries) after initial diagnosis. Note: Weight loss is considered adjunctive therapy

Technical Specifications: Continuously updated data collection via RedCap	
Denominator **(Eligible Population)**	Patient is 18 years of age or older. **Accompanied by** One of the following diagnosis codes indicating obstructive sleep apnea: 327.23 Obstructive sleep apnea (adult) 780.53 Hypersomnia with sleep apnea, unspecified **Accompanied by** Visit to CPAP Bootcamp educational session
Exceptions	**At least one of the following is documented in the patient chart:** • Patient did not wish to receive therapy; patient did not return for follow-up after initial diagnosis. • Insurance (payer) does not cover the expense of therapy

Numerator	**Chart review indicates:** • Patient patients who received evidence-based therapies (such as positive airway pressure, oral appliances, positional therapy, upper airway surgeries) after initial diagnosis

HSAT Outcome Measure for OSA: Improve Quality of Life

Measure Description	
Description	Proportion of patients aged 18 years and older diagnosed with obstructive sleep apnea (OSA) by HSAT who were prescribed OSA treatment that showed any improvement in Functional Outcomes of Sleep Questionnaire (FOSQ) from baseline to within one year of starting treatment.
Expression of Performance	75% Expected Threshold *Performance = # of patients meeting numerator criteria / # of patients meeting denominator criteria − # of patients with valid exclusions.*

Measure Components	
Denominator Statement	Patients 18 years and older diagnosed with obstructive sleep apnea by HSAT who were prescribed OSA treatment and completed a baseline FOSQ.
Exceptions	**Medical reasons:** Patients diagnosed with a terminal or advanced disease with an expected lifespan of less than six months; Patients with an unstable or poorly controlled medical disease; Patients with severe psychiatric disorders (i.e. severe depression, schizophrenia) **Patient reasons:** Patients who refuse OSA therapy; Patients who do not return for a follow-up appointment within one year of initiating treatment; Patients who decline or are unable to complete the FOSQ instrument; Patients who do not have an impaired FOSQ at baseline **System reasons:** None
Numerator Statement	Number of patients that showed any improvement in their FOSQ score from baseline within one year of starting OSA treatment.

Technical Specifications: Continuously updated data collection via RedCap

Denominator **(Eligible Population)**	Patient is 18 years of age or older. **Accompanied by** Patient attends "CPAP Bootcamp" educational program and data entered into RedCap **Accompanied by** Documentation that the patient was prescribed an OSA treatment. **Accompanied by** Documentation that a FOSQ was completed at baseline
Exceptions	**At least one of the following is documented in the patient chart:** • Patient does not return for a follow-up appointment within one year of initiating treatment. • Patient declines or is unable to complete the FOSQ • Patient refuses OSA treatment • Patient does not have an impaired FOSQ at baseline • Patients diagnosed with a terminal or advanced disease with an expected lifespan of less than six months • Patients with an unstable or poorly controlled medical disease • Patients with severe psychiatric disorders (i.e. severe depression, schizophrenia)
Numerator	**Chart review indicates both of the following:** • Patient's quality of life score is measured using the FOSQ within one year of beginning treatment. • Patient's quality of life score has improved as compared to baseline.

Facility Measure: Inter-Scorer Reliability

Measure Description	
Description	The AASM Inter-Scorer Reliability program will be used to fulfill this requirement. Staff and contracting scorers will complete 12 ISR exams per year.
Expression of Performance	85% Overall Level of Acceptable Agreement PSG studies must report agreement between scorer and the gold standard scorer as a percent concordance defined as the quotient number of epochs of agreement for a given parameter and the total number of epochs in the analysis sample multiplied by 100. *Performance = # of patients meeting numerator criteria x100* *200 epochs*

Measure Components	
Denominator	200 consecutive 30-second epochs will be used in the analysis.
Numerator Statement	Total number of epochs in agreement for a given parameter
Technical Specifications	
The scorer will choose a study to score from the AASM Inter-Scorer Reliability portal.	