

**Measure #279: Sleep Apnea: Assessment of Adherence to Positive Airway Pressure Therapy – National Quality Strategy Domain: Effective Clinical Care**

**2017 OPTIONS FOR INDIVIDUAL MEASURES:**  
**REGISTRY ONLY**

**MEASURE TYPE:**  
Process

**DESCRIPTION:**  
Percentage of visits for patients aged 18 years and older with a diagnosis of obstructive sleep apnea who were prescribed positive airway pressure therapy who had documentation that adherence to positive airway pressure therapy was objectively measured

**INSTRUCTIONS:**  
This measure is to be reported a minimum of **once per performance period** for patients with sleep apnea seen during the performance period. This measure may be reported by eligible clinicians who perform the quality actions described in the measure based on the services provided and the measure-specific denominator coding.

**Measure Reporting:**  
The listed denominator criteria is used to identify the intended patient population. The numerator options included in this specification are used to submit the quality actions allowed by the measure. The quality-data codes listed do not need to be submitted for registry-based submissions; however, these codes may be submitted for those registries that utilize claims data.

**DENOMINATOR:**  
All patients aged 18 years and older with a diagnosis of sleep apnea

**Denominator Criteria (Eligible Cases):**

Patients aged  $\geq$  18 years on date of encounter

**AND**

Diagnosis for sleep apnea (ICD-10-CM): G47.30, G47.33

**AND**

Patient encounter during the performance period (CPT): 99201, 99202, 99203, 99204, 99205, 99212, 99213, 99214, 99215, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350

**WITHOUT**

Telehealth Modifier: GQ, GT

**AND**

Positive airway pressure therapy was prescribed: G8852

**NUMERATOR:**  
Patient visits with documentation that adherence to positive airway pressure therapy was objectively measured

**Definition:**

Objectively Measured is defined as – positive airway pressure machine-generated measurement of hours of use.

**Numerator Options:**

*Performance Met:*

Objective measurement of adherence to positive airway pressure therapy, documented (**G8851**)

**OR**

***Denominator Exception:***

Documentation of reason(s) for not objectively measuring adherence to positive airway pressure therapy (e.g., patient didn't bring data from continuous positive airway pressure [CPAP], therapy not yet initiated, not available on machine) (G8854)

**OR**

***Performance Not Met:***

Objective measurement of adherence to positive airway pressure therapy not performed, reason not given (G8855)

**RATIONALE:**

This recommendation is based on overwhelming evidence at all levels indicating patients with obstructive sleep apnea (OSA) overestimate their positive airway pressure use time. Level I and Level II studies indicate that objectively-measured nightly continuous positive airway pressure (CPAP) "time on" ranges from 3.5 hours/night in minimally symptomatic new patients to 7.1 hours/night in established users (Kushida et al, 2006). The success of any positive airway pressure device therapy depends primarily on patient adherence, which can be enhanced by education, proper mask/interface fit, frequent follow-up by the clinician and durable medical equipment provider, and finally, A.W.A.K.E. (Alert Well And Keeping Energetic) meetings (ICSI, 2007). When objective adherence is assessed and an intervention is employed –either in the clinic or via the telephone, use is increased. Meter reads (on the machines) or card reads provide a longitudinal assessment of use and prevent the potential for overuse of stimulant therapy and daytime testing of sleepiness with multiple sleep latency tests.

Numerous studies have shown that patient adherence to CPAP is low or over-estimated by patients. A 2006 study assessed OSA severity, continuous positive airway pressure adherence, and factors associated with CPAP adherence among a group of patients with OSA receiving care at a publicly-funded county hospital. The findings indicated that CPAP adherence was low, with women having a higher likelihood of non-adherence than men. When individuals without follow-up were assumed to be non-adherent, the overall compliance rate was 30.4%, and women were 1.72 (95% CI, 1.03-2.88) times more likely to be noncompliant than men, adjusting for race, marital status, and age (Joo et al, 2007). Another study by Kribbs et al (Level I) found that subjective and covertly monitored objective CPAP adherence were discordant and that OSA patients in the aggregate overestimate subjective CPAP adherence compared with objective adherence measurements obtained by microprocessor. Adherence was arbitrarily defined as  $\geq 4$  hours of CPAP usage for  $\geq 70\%$  of the nights monitored. Although 60% of patients subjectively reported nightly use of CPAP for a mean of 106.9 days, only 16 of 35 (46%) were objectively using CPAP at least 4 hours per night on 70% of the nights. Patients over-estimated actual CPAP use by  $69 \pm 110$  min. (Gay et al, 2005)

**CLINICAL RECOMMENDATION STATEMENTS:**

CPAP usage should be objectively monitored to help assure utilization (Level 1). Close follow-up for PAP usage and problems in patients with obstructive sleep apnea (OSA) by appropriately trained health care providers is indicated to establish effective utilization patterns and remediate problems, if needed. This recommendation is based on 61 studies that examined management paradigms and collected acceptance, utilization, and adverse events; 17 of these studies qualified as Level I. This is especially important during the first few weeks of PAP use and can prove to be beneficial for the longitudinal care of the patient. (Kushida et al, 2006)

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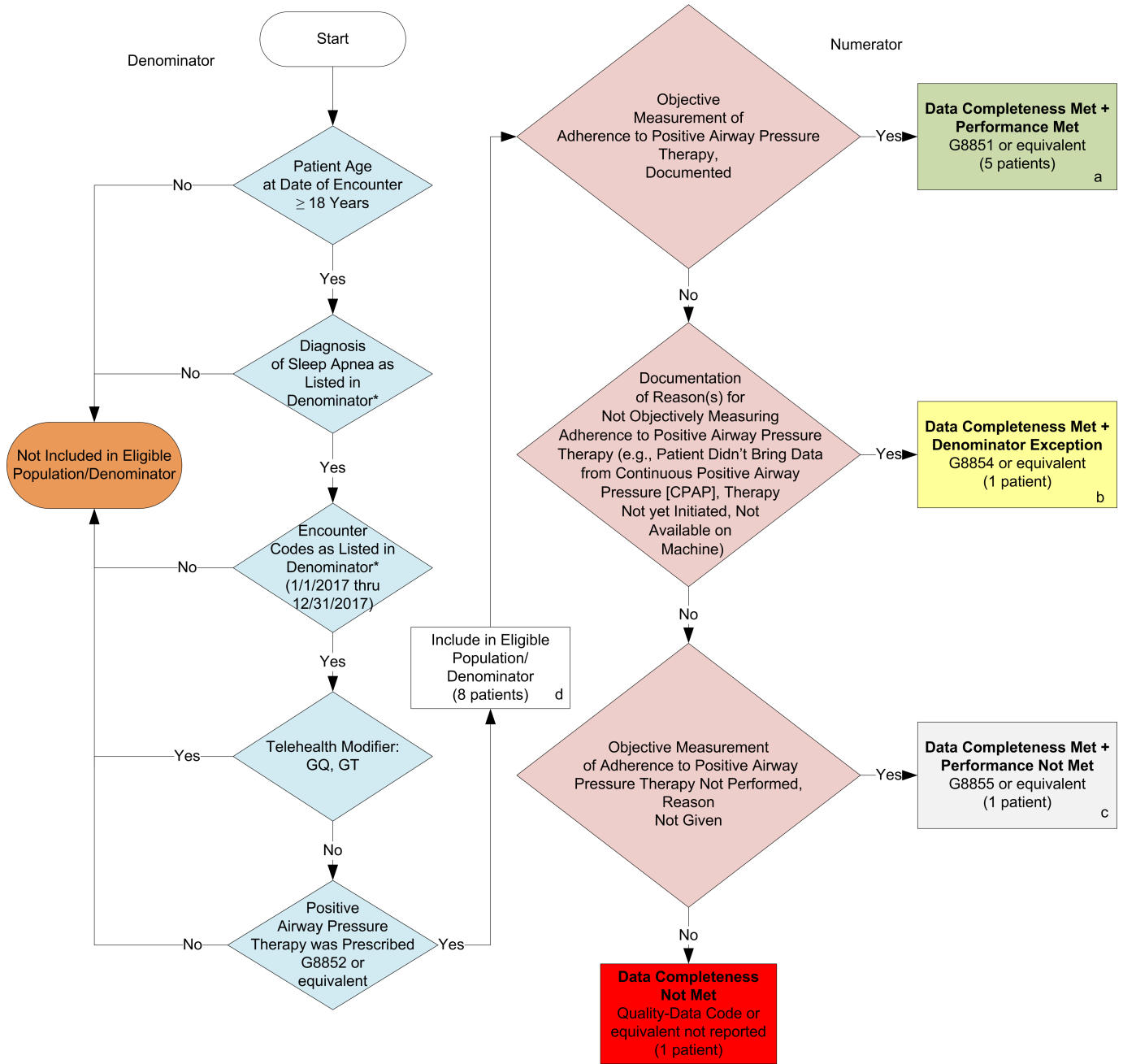
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## 2017 Registry Individual Measure Flow #279: Sleep Apnea: Assessment of Adherence to Positive Airway Pressure Therapy



### SAMPLE CALCULATIONS:

**Data Completeness=**

Performance Met (a=5 patients) + Denominator Exception (b=1 patient) + Performance Not Met (c=1 patient) = 7 patients = 87.50%  
Eligible Population / Denominator (d=8 patients) = 8 patients

**Performance Rate=**

Performance Met (a=5 patients) = 5 patients = 83.33%  
Data Completeness Numerator (7 patients) – Denominator Exception (b=1 patient) = 6 patients

\* See the posted Measure Specification for specific coding and instructions to report this measure.

NOTE: Reporting Frequency: Patient-process

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## 2017 Registry Individual Measure Flow

### #279: Sleep Apnea: Assessment of Adherence to Positive Airway Pressure Therapy

Please refer to the specific section of the Measure Specification to identify the denominator and numerator information for use in reporting this Individual Measure.

1. Start with Denominator
2. Check Patient Age:
  - a. If the Age is greater than or equal to 18 years of age on Date of Service and equals No during the measurement period, do not include in Eligible Patient Population. Stop Processing.
  - b. If the Age is greater than or equal to 18 years of age on Date of Service and equals Yes during the measurement period, proceed to check Patient Diagnosis.
3. Check Patient Diagnosis:
  - a. If Diagnosis of Sleep Apnea as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Diagnosis of Sleep Apnea as Listed in the Denominator equals Yes, proceed to check Current Encounter Performed.
4. Check Encounter Performed:
  - a. If Encounter as Listed in the Denominator equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Encounter as Listed in the Denominator equals Yes, proceed to check Telehealth Modifier.
5. Check Telehealth Modifier:
  - a. If Telehealth Modifier equals Yes, do not include in Eligible Patient Population. Stop Processing.
  - b. If Telehealth Modifier equals No, proceed to check Positive Airway Pressure Therapy was Prescribed.
6. Check Positive Airway Pressure Therapy was Prescribed:
  - a. If Positive Airway Pressure Therapy was Prescribed equals No, do not include in Eligible Patient Population. Stop Processing.
  - b. If Positive Airway Pressure Therapy was Prescribed equals Yes, include in Eligible Population.
7. Denominator Population:
  - a. Denominator population is all Eligible Patients in the denominator. Denominator is represented as Denominator in the Sample Calculation listed at the end of this document. Letter d equals 8 patients in the sample calculation.
8. Start Numerator
9. Check Objective Measurement of Adherence to Positive Airway Pressure Therapy, Documented:

- a. If Objective Measurement of Adherence to Positive Airway Pressure Therapy, Documented equals Yes, include in Data Completeness Met and Performance Met.
  - b. Data Completeness Met and Performance Met is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter a equals 5 patients in Sample Calculation.
  - c. If Objective Measurement of Adherence to Positive Airway Pressure Therapy, Documented equals No, proceed to Documentation of Reason(s) for Not Objectively Measuring Adherence to Positive Airway Pressure Therapy (e.g., Patient Didn't Bring Data from Continuous Positive Airway Pressure [CPAP], Therapy Not yet Initiated, Not Available on Machine).
10. Check Documentation of Reason(s) for Not Objectively Measuring Adherence to Positive Airway Pressure Therapy (e.g., Patient Didn't Bring Data from Continuous Positive Airway Pressure [CPAP], Therapy Not yet Initiated, Not Available on Machine):
- a. If Documentation of Reason(s) for Not Objectively Measuring Adherence to Positive Airway Pressure Therapy (e.g., Patient Didn't Bring Data from Continuous Positive Airway Pressure [CPAP], Therapy Not yet Initiated, Not Available on Machine) equals Yes, include in Data Completeness Met and Denominator Exception.
  - b. Data Completeness Met and Denominator Exception is represented in the Data Completeness and Performance Rate in the Sample Calculation listed at the end of this document. Letter b equals 1 patient in Sample Calculation.
  - c. If Documentation of Reason(s) for Not Objectively Measuring Adherence to Positive Airway Pressure Therapy (e.g., Patient Didn't Bring Data from Continuous Positive Airway Pressure [CPAP], Therapy Not yet Initiated, Not Available on Machine) equals No, proceed to Objective Measurement of Adherence to Positive Airway Pressure Therapy Not Performed, Reason Not Given.
11. Check Objective Measurement of Adherence to Positive Airway Pressure Therapy Not Performed, Reason Not Given:
- a. If Objective Measurement of Adherence to Positive Airway Pressure Therapy Not Performed, Reason Not Given Yes, include in Data Completeness Met and Performance Not Met.
  - b. Data Completeness Met and Performance Not Met is represented in the Data Completeness in the Sample Calculation listed at the end of this document. Letter c equals 1 patient in the Sample Calculation.
  - c. If Objective Measurement of Adherence to Positive Airway Pressure Therapy Not Performed, Reason Not Given equals No, proceed to Data Completeness Not Met.
12. Check Data Completeness Not Met:
- a. If Data Completeness Not Met equals No, Quality Data Code or equivalent not reported. 1 patient has been subtracted from the data completeness numerator in the sample calculation.

**SAMPLE CALCULATIONS:**

**Data Completeness=**

Performance Met (a=5 patients) + Denominator Exception (b=1 patient) + Performance Not Met (c=1 patient) = 7 patients = 87.50%  
Eligible Population / Denominator (d=8 patients) = 8 patients

**Performance Rate=**

Performance Met (a=5 patients) = 5 patients = 83.33%  
Data Completeness Numerator (7 patients) – Denominator Exception (b=1 patient) = 6 patients