

**Measure #277: Sleep Apnea: Severity Assessment at Initial Diagnosis – National Quality Strategy**  
**Domain: Effective Clinical Care**

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

**MEASURE TYPE:**  
Process

**DESCRIPTION:**  
Percentage of patients aged 18 years and older with a diagnosis of obstructive sleep apnea who had an apnea hypopnea index (AHI) or a respiratory disturbance index (RDI) measured at the time of initial diagnosis

**INSTRUCTIONS:**  
This measure is to be reported a minimum of **once per performance period** for patients with a diagnosis of sleep apnea seen during the performance period. The most recent quality-data code submitted will be used for performance calculation. 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 ≥ 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

**NUMERATOR:**  
Patients who had an apnea hypopnea index (AHI) or a respiratory disturbance index (RDI) measured at the time of initial diagnosis

**Definitions:**

**Apnea-Hypopnea Index (AHI)** for polysomnography performed in a sleep lab is defined as (Total Apneas + Hypopneas per hour of sleep); Apnea-Hypopnea Index (AHI) for a home sleep study is defined as (Total Apneas + Hypopneas per hour of monitoring).

**Respiratory Disturbance Index (RDI)** - is defined as (Total Apneas + Hypopneas + Respiratory Effort Related Arousals per hour of sleep).

**Numerator Options:**

***Performance Met:***

Apnea hypopnea index (AHI) or respiratory disturbance index (RDI) measured at the time of initial diagnosis (G8842)

**OR**

***Denominator Exception:***

Documentation of reason(s) for not measuring an apneahypopnea index (AHI) or a respiratory disturbance index (RDI) at the time of initial diagnosis (e.g., psychiatric disease, dementia, patient declined, financial, insurance coverage, test ordered but not yet completed) (G8843)

**OR**

***Performance Not Met:***

Apnea hypopnea index (AHI) or respiratory disturbance index (RDI) not measured at the time of initial diagnosis, reason not given (G8844)

**RATIONALE:**

For patients with obstructive sleep apnea (OSA), the desired outcome of treatment includes the resolution of the clinical signs and symptoms of OSA and the normalization of the apnea hypopnea index (AHI) and oxyhemoglobin saturation. Physicians treating patients with OSA should calculate the patient's level of severity, which informs risk for other co-morbid conditions and complications. Numerous Level 1 and Level 2 studies have shown that the risk of cardiovascular complications is established for patients with an AHI over 15 (Kushida et al, 2005). Patients with a respiratory disturbance index equal to or greater than 15 are considered to have moderate to severe OSA and should be treated with positive airway pressure therapy.

**CLINICAL RECOMMENDATION STATEMENTS:**

Moderate sleep apnea is defined as having an RDI of equal to or greater than 15, but less than 30 episodes per hour of sleep; severe sleep apnea is defined as having an RDI equal to or greater than 30 episodes per hour of sleep. These patients are at higher risk for severe cardiovascular diseases and other co-morbid conditions (Kushida et al, 2006). Polysomnography is indicated for positive airway pressure (PAP) titration in patients with sleep related breathing disorders (Level 1). PSG with CPAP titration is appropriate for patients with any of the following results: a) an RDI of at least 15 per hour, regardless of the patient's symptoms; b) an RDI of at least 5 per hour in a patient with excessive daytime sleepiness. (Kushida et al, 2005)

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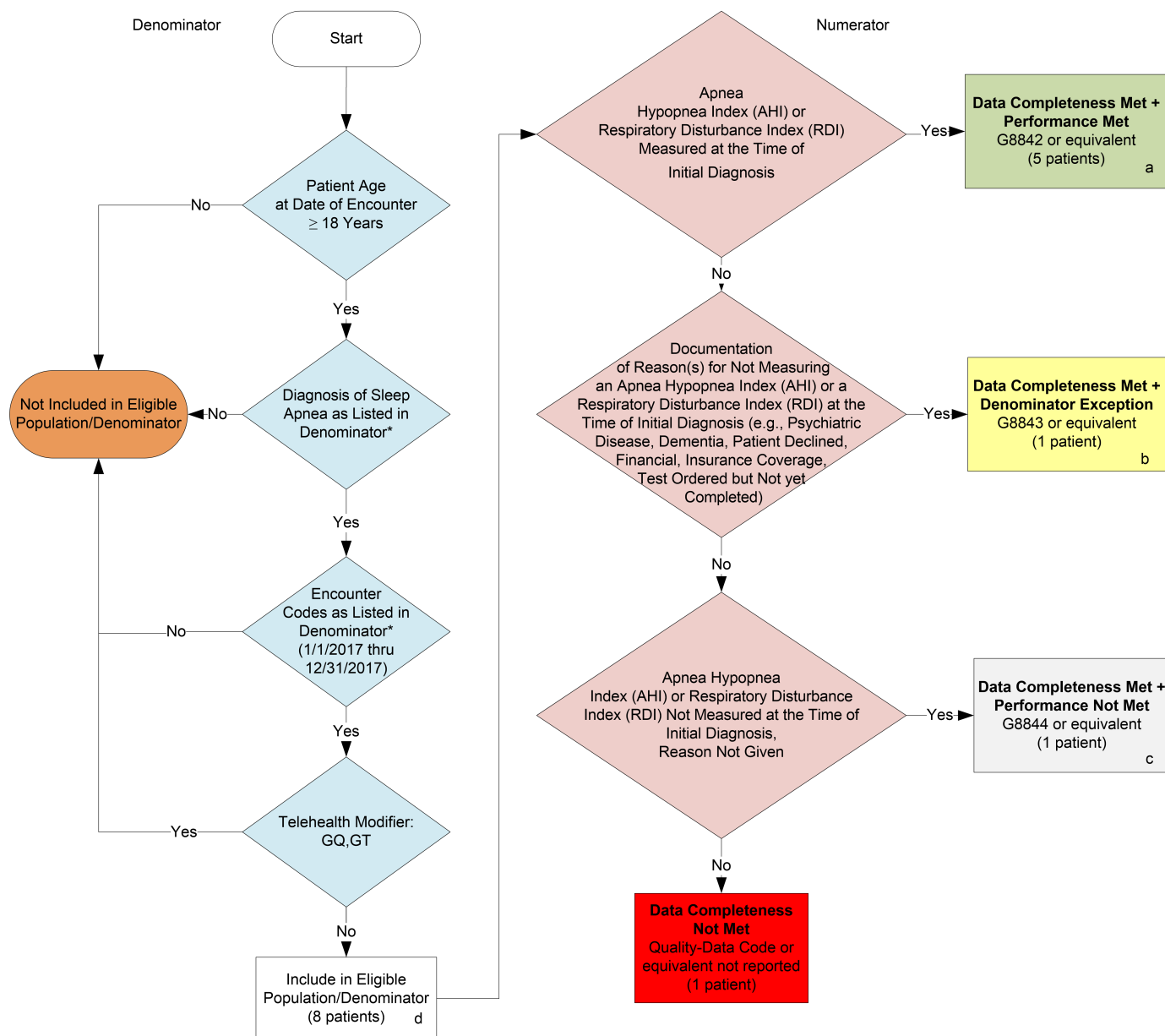
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## 2017 Registry Individual Measure Flow #277: Sleep Apnea: Severity Assessment at Initial Diagnosis



### 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**  
**#277: Sleep Apnea: Severity Assessment at Initial Diagnosis**

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, include in Eligible Population.
6. 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.
7. Start Numerator
8. Check Apnea Hypopnea Index (AHI) or Respiratory Disturbance Index (RDI) Measured at the Time of Initial Diagnosis:
  - a. If Apnea Hypopnea Index (AHI) or Respiratory Disturbance Index (RDI) Measured at the Time of Initial Diagnosis 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 Apnea Hypopnea Index (AHI) or Respiratory Disturbance Index (RDI) Measured at the Time of Initial Diagnosis equals No, proceed to Documentation of Reason(s) for Not Measuring an Apnea Hypopnea Index (AHI) or a Respiratory Disturbance Index (RDI) at the Time of Initial Diagnosis (e.g., Psychiatric Disease, Dementia, Patient Declined, Financial, Insurance Coverage, Test Ordered but Not yet Completed).
9. Check Documentation of Reason(s) for Not Measuring an Apnea Hypopnea Index (AHI) or a Respiratory Disturbance Index (RDI) at the Time of Initial Diagnosis (e.g., Psychiatric Disease, Dementia, Patient Declined, Financial, Insurance Coverage, Test Ordered but Not yet Completed):
  - a. If Documentation of Reason(s) for Not Measuring an Apnea Hypopnea Index (AHI) or a Respiratory Disturbance Index (RDI) at the Time of Initial Diagnosis (e.g., Psychiatric Disease, Dementia, Patient Declined, Financial, Insurance Coverage, Test Ordered but Not yet Completed) 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 Measuring an Apnea Hypopnea Index (AHI) or a Respiratory Disturbance Index (RDI) at the Time of Initial Diagnosis (e.g., Psychiatric Disease, Dementia, Patient Declined, Financial, Insurance Coverage, Test Ordered but Not yet Completed) equals No, proceed to Apnea Hypopnea Index (AHI) or Respiratory Disturbance Index (RDI) Not Measured at the Time of Initial Diagnosis, Reason Not Given.
10. Check Apnea Hypopnea Index (AHI) or Respiratory Disturbance Index (RDI) Not Measured at the Time of Initial Diagnosis, Reason Not Given:
  - a. If Apnea Hypopnea Index (AHI) or Respiratory Disturbance Index (RDI) Not Measured at the Time of Initial Diagnosis, Reason Not Given equals 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 Apnea Hypopnea Index (AHI) or Respiratory Disturbance Index (RDI) Not Measured at the Time of Initial Diagnosis, Reason Not Given equals No, proceed to Data Completeness Not Met.
11. 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=**

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

**Performance Rate=**

$$\frac{\text{Performance Met (a=5 patients)}}{\text{Data Completeness Numerator (7patients) – Denominator Exception (b=1 patient)}} = \frac{5 \text{ patients}}{6 \text{ patients}} = 83.33\%$$