

Home use of noninvasive positive pressure ventilation (NIPPV) in patients with chronic respiratory failure consequent to chronic obstructive pulmonary disease (COPD)

Medicare Evidence Development & Coverage Advisory Committee (MEDCAC)

July 22, 2020

Center for Clinical Standards and Quality
Coverage and Analysis Group



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Meeting Purpose

- Obtain MEDCAC panel recommendations regarding the appraisal of the state of evidence for various types of NIPPV equipment used in the home
- Recommendations will be based on scientific evidence assessing characteristics to define:
 - Patient selection criteria
 - Usage parameters
 - Concomitant services
 - Equipment parameters

NIPPV Background

- Chronic obstructive pulmonary disease (COPD)
 - Prevalent in Medicare population
- Respiratory failure treatment:
 - Pharmacologic and non-pharmacologic
 - Noninvasive positive pressure ventilation (NIPPV):
 - Home mechanical ventilators (HMTVs);
 - Bi-level positive airway pressure (BPAP) devices;
 - Continuous positive airway pressure (CPAP) devices

Current Medicare Coverage

- National Coverage Determination (NCD) for Durable Medical Equipment (DME)
Reference List (280.1) states that ventilators may be covered for:
 - Neuromuscular diseases;
 - Thoracic restrictive diseases;
 - Chronic respiratory failure consequent to COPD

*When necessary, each of these diseases may also be treated with other types of respiratory equipment.

Potential Issues

- Substantial variability in prescribing patterns, guidelines and policies
- Inappropriate prescription can lead to clinical deterioration, poor quality of life and ultimately death

Voting questions

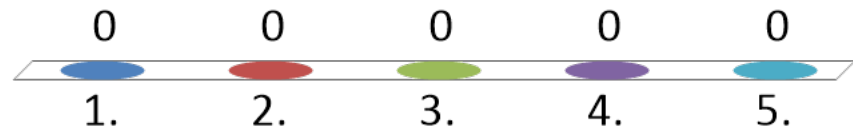
- The types of NIPPV devices being referred to in the below questions are to be used in the home and are classified as:
 - a. *Home mechanical ventilator (HMV): A machine capable of delivering pressure targeted, volume targeted, and/or volume preset ventilation outside of the hospital setting. HMs are usually the machine of choice for patients with tracheostomy, but may also be used in patients via a noninvasive interface. Compared to BPAP machines, HMs typically have additional monitoring, ventilator control, safety, and backup power features.*
 - b. *Continuous positive airway pressure (CPAP): A machine that delivers a single level of positive airway pressure throughout the entire respiratory cycle (inspiration and expiration).*
 - c. *Bi-level positive airway pressure (BPAP): A device that delivers two levels of positive airway pressure. On inspiration, the machine delivers an inspiratory positive airway pressure (IPAP). On expiration, the machine delivers an expiratory positive airway pressure (EPAP).*

All questions below pertain to Medicare beneficiaries with chronic respiratory failure consequent to COPD.

1. How confident are you that the evidence is sufficient to determine the patient selection criteria that will improve health outcomes (e.g. laboratory values, co-morbidities, frequency of exacerbations requiring ER or hospital admission, hospital discharge timing, pulmonary function tests, etc.) when used with any category of home NIPPV device?

Discussion: If intermediate confidence (≥ 2.5) is present in Q1, please provide the selection criteria for the specific category of equipment.

1. Low Confidence
2. -
3. Intermediate Confidence
4. -
5. High Confidence



**Response
Counter**

Mean =

2. How confident are you that the evidence is sufficient to determine the NIPPV equipment parameters necessary to promote successful patient-related outcomes (e.g. decreased mortality, decreased frequency of exacerbations requiring ER or hospital admission, increased time to hospital re-admission for respiratory related disease, and improved physical function and quality of life)?

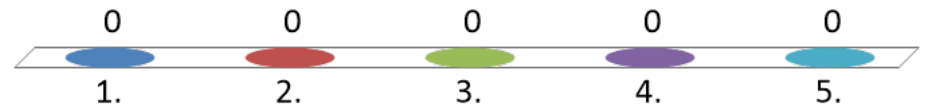
1. Low Confidence

2. -

3. Intermediate Confidence

4. -

5. High Confidence



**Response
Counter**

Mean =

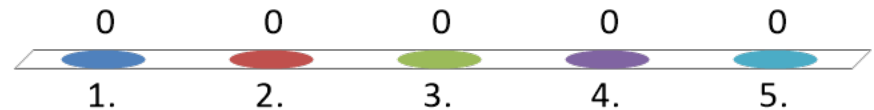
Discussion: Are there any outcome measures that should be considered other than those noted above?

Discussion: If intermediate confidence (≥ 2.5) is present in Q2, please provide the equipment parameters for the specific category of equipment.

3. How confident are you that any improved patient–related outcomes noted above made with any type of NIPPV device in the home, can be attributed to the use of the equipment alone as opposed to the concomitant provision of other support services like home respiratory therapists, home medication reconciliation and repeated elective hospital admissions?

Discussion: If intermediate confidence (≥ 2.5) of improved patient-related outcomes are present in Q3 for any type of home NIPPV device, please state that outcome and the associated category of equipment.

1. Low Confidence
2. -
3. Intermediate Confidence
4. -
5. High Confidence



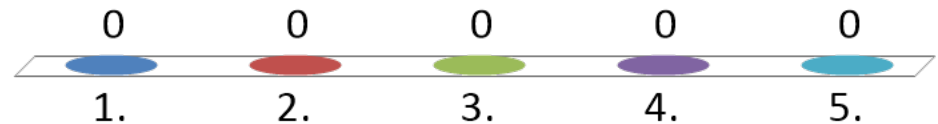
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4. How confident are you that the evidence is sufficient to provide the patient usage parameters that are necessary to achieve the successful patient outcomes in Q2?

Discussion: If intermediate confidence (≥ 2.5) is present in Q4, please provide the patient usage criteria for the specific category of equipment.

1. Low Confidence
2. -
3. Intermediate Confidence
4. -
5. High Confidence



**Response
Counter**

Mean =