Program Information

Introduction: Family Medicine and Primary Care practices are where Nurse Practitioners (NPs) have regular and consistent contact with patients and are, therefore, very likely to encounter patients who are experiencing complications from Chronic Obstructive Pulmonary Disease (COPD). It is imperative that NPs understand the disease process, initiate, advance and monitor appropriate treatment, according to updated guidelines to arrest progression and effectively communicate with patients suffering from COPD.

Educational Need: According to a needs analysis conducted for this program, clinicians:

- Lack understanding about the diagnosis of COPD, which impacts recognition and reduces the opportunity to slow disease progression.
- Are challenged in their ability to assess COPD severity and provide guideline-concordant treatment.
- Are not fully aware of the evolving recommendations for management of COPD during the COVID-19 era.

Learning Objectives:

- Describe the burden of disease associated with delayed diagnosis of COPD.
- Identify the indicators that must be present to establish a diagnosis of COPD.
- Differentiate between COPD exacerbations and respiratory infections such as COVID-19 symptoms in the urgent care setting.
- Summarize key updates to the ABCD assessment tool.
- List recommended treatment strategies when initiating pharmacologic therapy in patients with COPD.
- Select appropriate treatments for patients with COPD requiring follow-up therapy.
- **Format:** This on-demand, web-based enduring videocast and featured 3-D graphics by BioDigital. A clinical resource tool was developed and made available for healthcare providers to download with the activity and placed in the Tools and Resources section of the AANP website.

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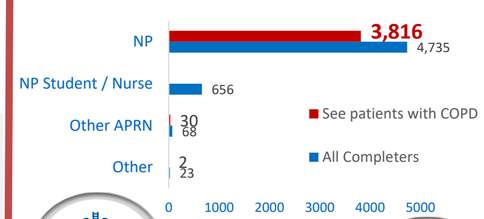
CASE STUDIES IN COPD

Important Updates for Nurse Practitioners

September 3, 2021 – September 28, 2022

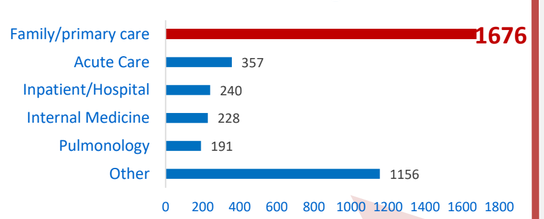
Demographics

Profession



Target Audience Reached

Practice Setting



3,848 See Patients with COPD

5,482 Activity Completions of 11,999 Unique Registrations

99% Nurse Practitioners or NP Student

51,327 Mean # Patients Seen Weekly with COPD

34% Conduct spirometry more often

55% Utilized GOLD ABCD tool more often

29% Assessed for alpha-1 antitrypsin deficiency

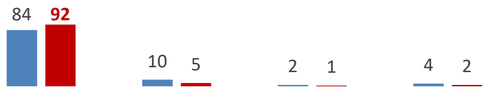
49% Integrated others into COPD care team

2.0 CE
1.0 RX

Knowledge and Competence

A 56-year-old woman with COPD who currently smokes presents to urgent care with complaints of shortness of breath, productive cough, myalgia, and anorexia. She has a fever of 102.9 °F. She has not received a COVID-19 vaccine and recently attended a birthday party where physical distancing guidance was not followed. Chest radiograph reveals hyperinflation and flattened diaphragms with some ground-glass opacities in left lower lobe. Which of her symptoms suggests a presumptive diagnosis of COVID-19 over COPD exacerbation? **1) Fever of 102.9 °F** 2) Hyperinflation 3) Productive cough 4) Shortness of breath

Statistically significant 10% relative increase *P*<0.001, n=3,848, paired data



Which of the following is required to make a formal diagnosis of COPD? 1) Chest x-ray with findings of hyperinflation. 2) Sputum culture with negative gram stain. **3) Post-bronchodilator FEV1:FVC ratio <70%.** 4) Arterial blood gas after albuterol.

Statistically significant 88.9% decrease correct pre to post, *P*<0.001, n=251, paired data

You are following up with a patient with COPD and need to assign a GOLD ABCD category. The patient's FEV1/FVC is 0.65. Their mMRC score is 2, and their CAT score is 11. In the past year, they have had 1 exacerbation that required hospitalization. Which would you no longer use to categorize COPD for your patient? 1) CAT score of 11 2)One exacerbation requiring hospitalization 3) mMRC score of 11 **4) FEV1/FVC of 0.65**

Statistically significant 32% relative increase in correct answers from pre (19%) to post (25%), *P*<0.001, n=3,848, paired data

A 69-year-old man of European descent with a 60-pack-year smoking history presents with breathlessness with minimal exertion, which has progressed in the past 5 years, and a cough that is productive of a small amount of white phlegm each morning. You diagnose COPD. He is started on treatment and smoking cessation pharmacotherapy. Two years later, the same patient is diagnosed with comorbid asthma. Which of the following patient features put him at elevated risk for comorbid asthma? **1) Diagnostic delay of 5 years.** 2) Male sex. 3) Symptom of productive cough. 4) Use of smoking cessation pharmacotherapy.

Statistically significant 21% relative increase in correct answers from pre (56%) to post (68%), *P*<0.001, n=3,848, paired data

Your new patient who has never smoked with stage II COPD with persistent exacerbations despite adherent treatment with LABA + LAMA and appropriate inhaler use. Which of the following treatment options should you suggest for this patient? 1) LABA + ICS **2) LABA + LAMA + ICS** 3) LABA + LAMA + azithromycin 4) Switch inhaler device

Statistically significant 6% increase in correct answers from pre (72%) to post (76%), *P*<0.001, n=3,848, paired data

Which of the following therapies is most likely to provide the greatest benefit to your patient with chronic stable emphysema and a resting oxygen saturation of 86%? 1) Inhaled long acting antimuscarinic (LAMA) daily.2) Oral steroid daily PRN exacerbation. 3) Supplemental oxygen used at night. **4) Supplemental oxygen used continuously.**

Statistically significant 25% relative increase in correct answers from pre (56%) to post (70%), *P*<0.001, n=3,848, paired data

You are seeing a patient who is newly diagnosed with COPD (GOLD group C) and need to select an initial therapy. What is your recommended initial pharmacologic treatment for this patient? **1) LAMA** 2) Bronchodilator 3) LABA 4) ICS + LABA

Statistically significant 168% relative increase correct, *P*<0.001, n=3,848, paired data

Faculty

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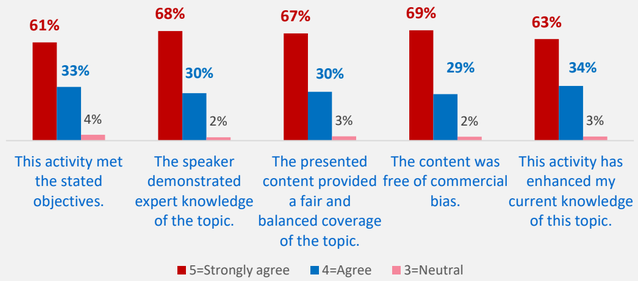
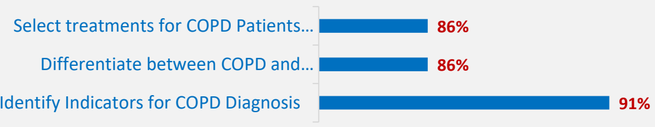
Program Evaluation



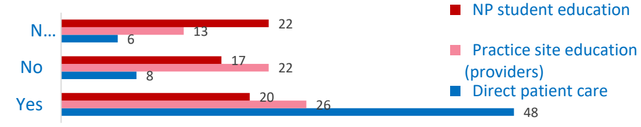
Ask the Expert: Upon conclusion of the activity, learners in the first 90-days post-launch were encouraged to pose questions about COPD. Answers and references were provided by course faculty then compiled as an additional resource available to previous and prospective learners via a downloadable PDF.

60-Day Follow-up n=63, 98.4% NP

Confidence *Increased or Increased Significantly*



Over the past 60 days, have you used the information from this activity for any of the following?



Data Collection, Measurement and Analysis: Changes in knowledge, competence, self-reported changes in confidence and practice habits, and identification of remaining gaps. A paired analysis of results of 7 pre/post results were aggregated in Excel including registrations (11,999), Completions (5,482) which were then filtered to include only learners who self-reported seeing patients with COPD each week (n=3,848). Demographics (pre) and evaluation (post) results used descriptive statistics tests to identify statistically significant differences pre to post: McNemar test for each of 7 multiple choice knowledge/case questions paired t-test for % correct knowledge/case questions, and the confidence rating scale questions ($P \leq 0.05$ indicates a statistically significant difference. Effect Size (ES), to indicate the size of the change), was also calculated as appropriate (Cohen's *d*): 0.20 = small, 0.50 = medium, 0.80 = large. Learners were asked to rate their level of confidence in the answer they selected (positive, fairly sure, or not sure). Thus, we conducted an analysis to identify learners who were positive and correct, positive and incorrect, etc. *Excel* data were brought into IBM *Statistics Package for the Social Sciences v.27* for analysis.