Title: Improving Primary Care Providers' Degree of Comfort in Clinical Decision Making when Caring for Patients with COPD with the Use of an Evidence Based Practice Tool

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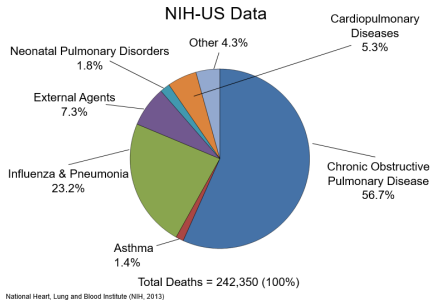
Background

Despite GOLD guidelines, accepted as the benchmark worldwide for optimal management of patients with COPD, lack of prevention and inconsistent chronic disease management strategies in COPD among PCPs continues. Common barriers to the utilization of evidence based guidelines (EBG) in primary care are knowledge, time and resources. Additionally, if the evidence is not easily interpreted the utilization of guidelines



Purpose

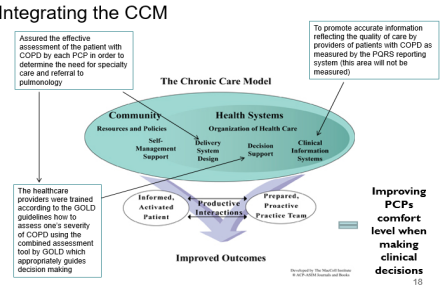
This DNP project sought to analyze the comfort level of primary care providers' (PCP's) clinical decision making when assessing the patient with chronic obstructive pulmonary disease (COPD) through the use of an instructional session reviewing the 2018 Global Initiative of Obstructive Lung Disease's (GOLD's) evidence based combined assessment tool.

Design, Methodology and Analysis

Design: A mixed quantitative, qualitative and pretest-posttest design examined the comfort level of PCP's after an intervention of evidence-based practice (EBP) guidelines. In addition, an inquiry regarding application of these guidelines into practice followed approximately six weeks post intervention. **Methods:** An instructional session reviewing GOLD's combined assessment tool occurred in three Southern Jersey primary care offices between November 1, 2018 and January 31, 2019. A survey inquiring PCP's degree of comfort when making clinical decisions for the patient with COPD by means of a case study occurred a total of three times. Surveys were administered immediately pre and post-intervention, and finally six weeks after participants had the opportunity to utilize the evidence base tool in practice. **Analysis**: Findings indicated a significant increase in PCP's comfort of decision making immediately after the intervention compared to before the intervention ($z = -3.061$, $p < 0.01$), while there was still a slight increase six weeks post intervention compared to before the intervention ($z = -1.826$, $p = 0.068$) it did not meet statistical significance. Participants' statements supported the continued

Theory

Integrating the CCM



Conclusions and Implications

Findings support the utilization of EBP guidelines to improve providers' comfort in clinical decision making and ultimately, patient outcomes. However, avoidance or misuse of guidelines can occur when the evidence is difficult to interpret. The data from this DNP project showed an improvement in PCP's comfort level of clinical decision-making required for the management of patients with COPD. Most importantly, the clinical implications of this project displayed sustainability when participants' revealed application of these guidelines into their personal practice.

Acknowledgements

DNP Committee Members:
Cynthia Ayres, PhD, RN, FNAP
Kathleen J. Jackson DNP, APN, BC-ADM

References

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Improving Primary Care Providers' Confidence in Decision Making When Caring for Patients with COPD

DNP Project Presentation

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Introduction

Evidence based guidelines (EBGs) when practiced in the clinical setting improves providers' confidence when making clinical decisions for their patients, ultimately improving outcomes (Cooke & Gould, 2013; Holmes-Rovner et al., 1996; Pierson, 2009).

Chronic Obstructive Pulmonary Disease (COPD) is a condition with compelling evidence to guide primary care providers (PCPs) in diagnosis and optimal management of COPD (Claus F Vogelmeier et al., 2017; Gupta et al., 2013).

Despite the compelling evidence - translation into practice lags for years.

Common barriers include: knowledge, time, resources and interpretation. (Cooke & Gould, 2013; Holmes-Rovner et al., 1996).

Definitions

COPD is a term used to describe a chronic condition of the lungs that causes mild to severe limitation of airflow resulting in difficulty breathing affecting millions of Americans.

Exacerbation of COPD is defined as events and changes in one's condition from base line that requires changes in medication, often leading to the need for acute care.

GOLD (2017); WHO (2019)

Background
National Institute of Health-US Data

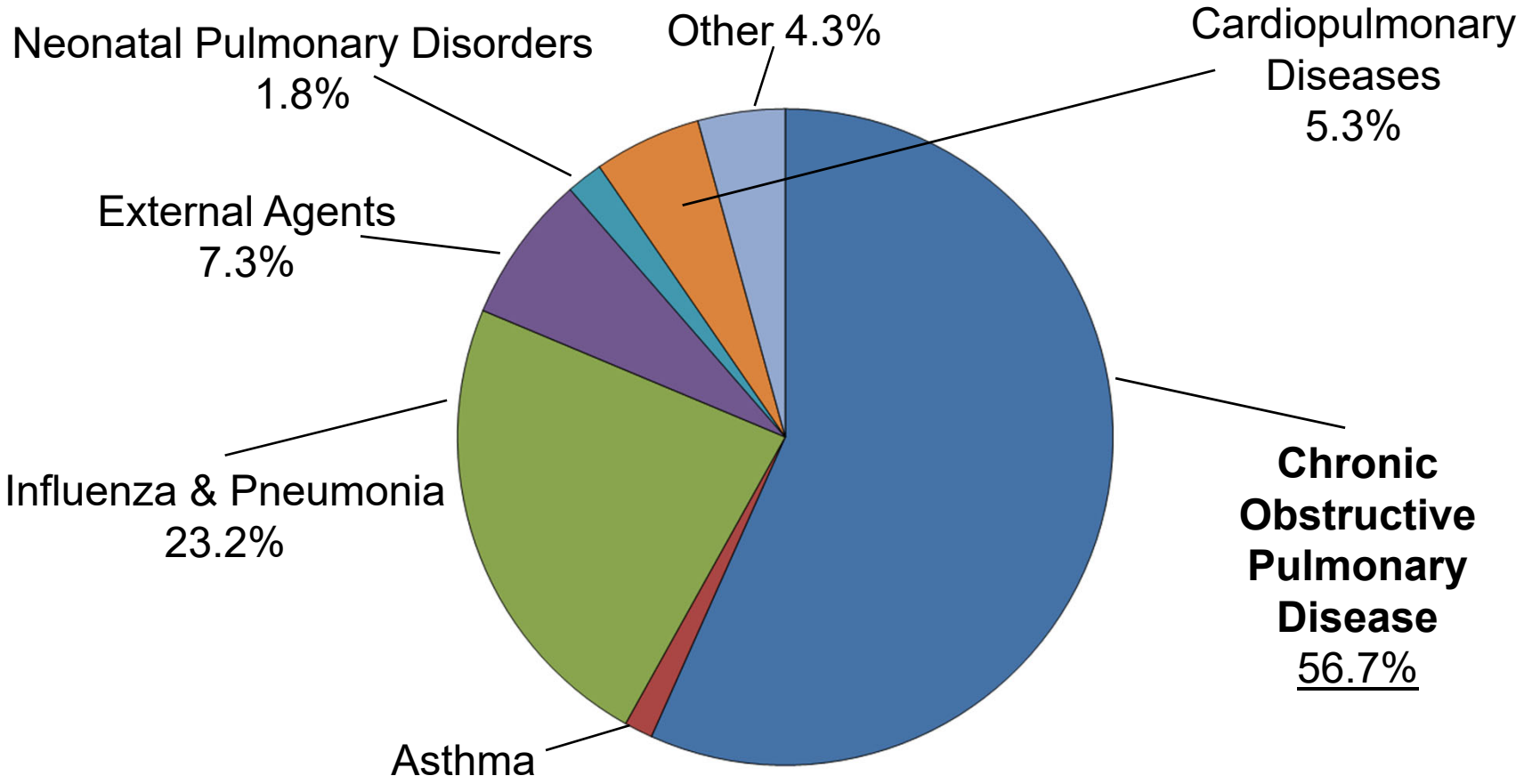


Figure 1: Background

Total Deaths = 242,350 (100%) and Direct Annual Cost of $32.1 billion

(Centers for Disease Control and Prevention [CDC], 2018; National Heart, Lung and Blood Institute [NIH], 2013)

Gap

- Evidence shows there is a lack of primary prevention for Americans and an under utilization in COPD Evidence-based Practice (EBP) guidelines in primary care.

- Management of COPD
  - Without a proactive standardized way to analyze changes in patients with COPD, PCPs may under prescribe disease management strategies (e.g. medications) that could lead to an acute exacerbation that may result in hospitalization.

Fixing the GAP?

- Patient Protection and Affordable Care Act (PPACA) contracted in 2010.
  - Center for Medicare and Medicaid Services (CMS) also amended the Social Security Act (SSA) to include a set of standards by which hospitals receive reimbursement
    - Hospital Readmission Reduction Program (HRRP)
    - Physician Quality Reporting System (PQRS).

Pushing primary care to do a better job at managing COPD

PQRS Documentation

- Lack of translation of research into practice evident by the lack of documentation in a primary practice setting servicing patients with COPD
  - Four (47, 51, 52 & 57) specific areas necessary to meet these COPD quality indicators
    - PQRS #47: coordination of care and pulmonary rehabilitation referral
    - PQRS #51: diagnostic spirometry evaluation results
    - PQRS #52: bronchodilator therapy
    - PQRS #57: referral of COPD patients to specialized care

Problem Statement

Despite GOLD guidelines accepted as the benchmark worldwide for optimal management of patients with COPD, lack of prevention and inconsistent chronic disease management strategies in COPD treatment care among health care providers continues…

(Criner et al., 2015)

My Experience

PICOT Question

- The following question directed the student's DNP project:
  - Will the implementation of an instructional training session reviewing 2018 GOLD (2017) COPD guidelines by way of the combined assessment process improve participants' (PCP's) comfort level in their clinical decision making necessary for improved management of COPD?
  - Additionally, will PCPs' report the utilization of this guidelines in practice?

Purpose

- The purpose of the project was to examine the effectiveness of an instructional intervention session to increase providers' comfort in clinical decision making when deciding which pharmacological and non-pharmacological therapies are appropriate for the patient with COPD.

Literature Review

- Definitions of COPD and Statistical Data
  - International Web Site for the World Health Organization (WHO)
  - National Center for Disease Control (CDC)
- Guidelines and Best Practice
  - Global Obstructive Lung Disease Web Site (GOLD)
  - American Thoracic Society
- Barriers to the Utilization of EBP
  - National Institute of Health (NIH)
  - Cochrane
- Validated Tools
  - National Clearing House
  - Cochrane
  - MEDLINE

Significant Articles

- Gap in Practice
  - Results of the study conducted by Perez, Wisnivesky, Lurslurchachai, Kleinman, & Kronish (2012) showed, in analyses, that *familiarity of guidelines, low self-efficacy and time constraints* were significantly associated with non-adherence to two or more recommendations of GOLD.
  - Additionally, if the evidence is not easily interpreted the utilization of guidelines could be avoided or misused (Cooke & Gould, 2013; Holmes-Rovner et al., 1996).

Significant Articles

- Theoretical Framework

  - *American Thoracic Society Reports* entitled, “The Integrated Care of the COPD patient”, published in January of 2012 identifies the need for integrated EBP in primary care using the chronic care model (Nici, L., & ZuWallack, R., 2012).
  - Systematic review showed the use of the chronic care model in prevention and management of chronic obstructive pulmonary disease improves outcomes (Adams, S. G. et. al., 2007).
  - In addition, GOLD (2017) guidelines recommend using the chronic care model for the treatment and management of COPD

Significant Articles

- The Microlife PF 100 Peak Flow Meter for Spirometry with FEV1

  - C Kapoor, G Bambra, P Mills, J Vempilly, & V V Jain. (2014). B43 COPD: SCREENING AND DIAGNOSTIC TOOLS: Evidence of correlation between office spirometry and laboratory spirometry in patients with asthma and COPD. *American Journal of Respiratory and Critical Care Medicine, 189*, 1. Retrieved from http://search.proquest.com/docview/1853708057

Significant Articles

- Pre-Post Intervention Instrument: Provider Decision Process Assessment Instrument (PDPAI)
    - Dolan, J. G. (1999). A method for evaluating health care providers' decision-making. *Medical Decision Making, 19*(1), 38-41. doi:10.1177/0272989X9901900105
- Instruments to assess the perception of physicians in the decision-making process of specific clinical encounters: A systematic review (Légaré, F., Moher, D., Elwyn, G., LeBlanc, A., & Gravel, K., 2007).

Project Overview

- Theoretical framework
  - Chronic Care Model
- Process for sustainable change
  - Logic Model
- Pre-post intervention test instrument
  - Provider Decision Process Assessment Instrument (PDPAI)

Theoretical Framework

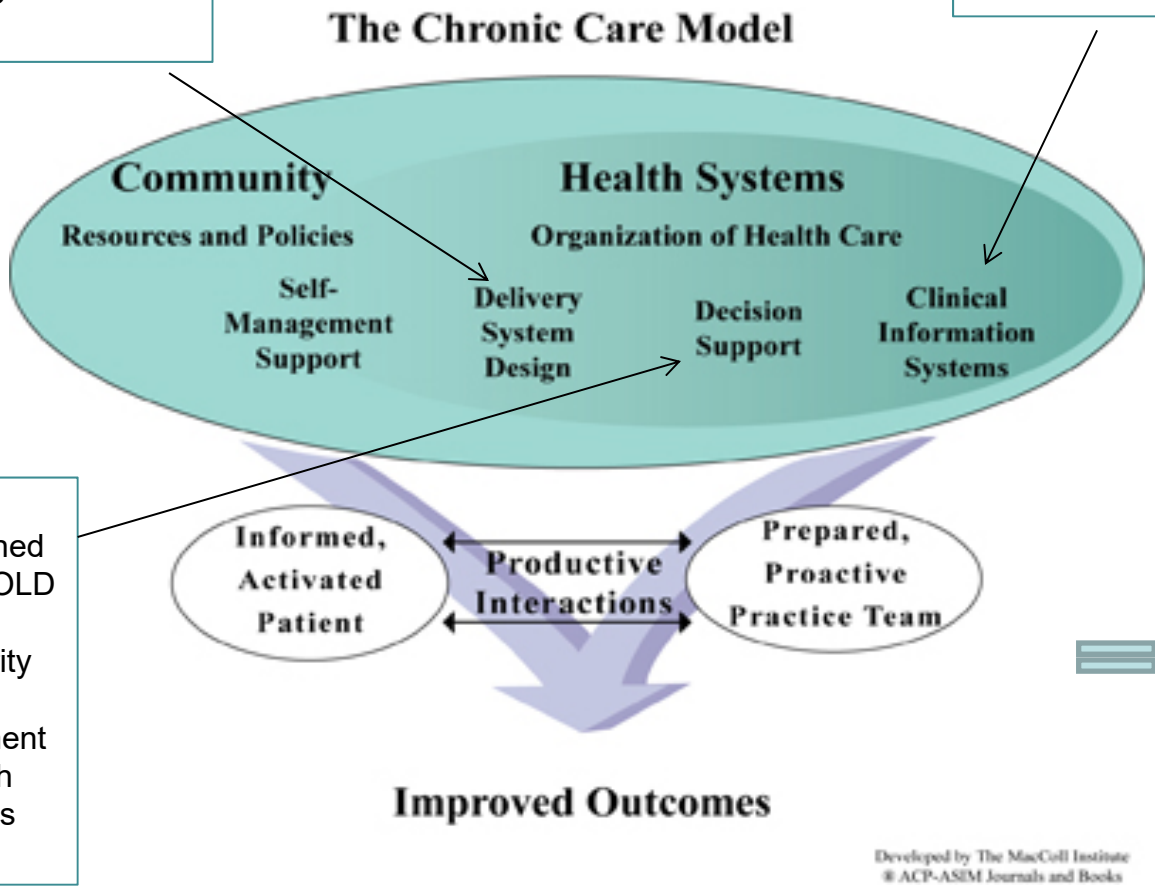
The MacColl Center for Health Care Innovation (2017) defines a chronic condition as, “any condition that requires ongoing adjustment by the affected person and interactions with the health care system”

(MacColl Center for Health Care Innovation, 2017, p. 1).

Integrating the CCM

Assured the effective assessment of the patient with COPD by each PCP in order to determine the need for specialty care and referral to pulmonology

To promote accurate information reflecting the quality of care by providers of patients with COPD as measured by the PQRS reporting system (this area will not be measured-future benefits)



The healthcare providers were trained according to the GOLD guidelines how to assess one's severity of COPD using the combined assessment tool by GOLD which appropriately guides decision making

Improving PCPs comfort level when making clinical decisions

Figure 2: Integrating the CCM

Logic Model

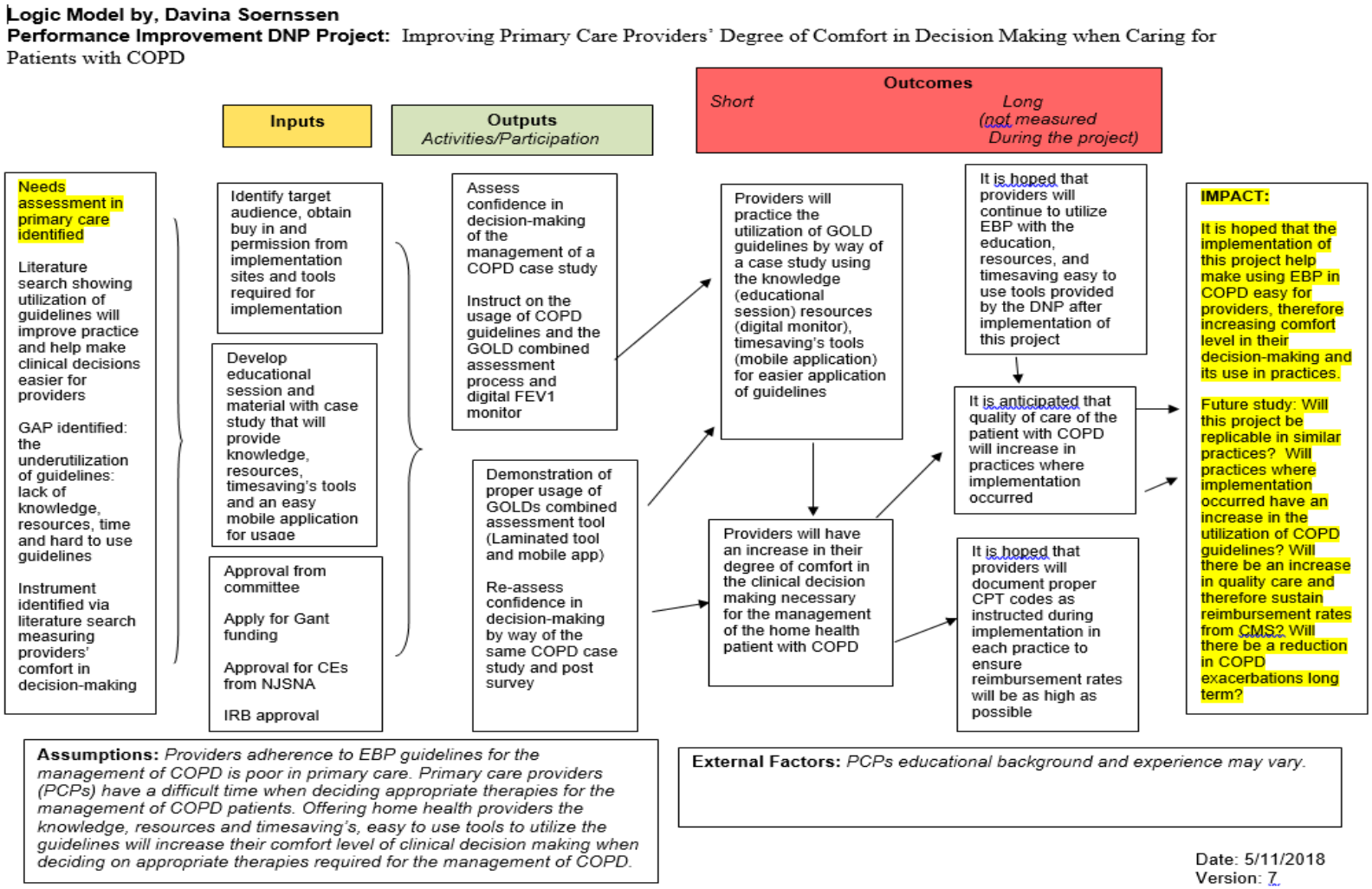


Figure 3: Logic Model

Pre and Post Test

- PDPAI Tool (Dolan, 1999)
  - Dolan's (1999) PDPAI scale is a 5-point Likert scale ranging from strongly agree to strongly disagree. Scores range from 12 to 60 with lower scores indicating lower degrees of conflict and therefore greater comfort in the decision made.
    - Construct confirmed by a negative correlation of two satisfaction items: satisfaction with the decision (Spearman's r = -0.58) and assessment of the quality of the decision (Spearman's r = -0.52).
    - Reliability showed an internal consistency with a documented Coefficient alpha (-0.878).

Overview of Project

- March, 2018: All permissions
- May, 2018: Proposal approval from Committee
- October, 2018: IRB Approval from Rutgers University
- October, 2018: Dates for intervention
  - Site champions
- November 1, 2018: Intervention
    - Three practices; at 6 locations
    - Face to face instruction two practices; online one site
    - Eligible Participants: PCPs working in the practice with prescription authority able to read and speak in English
      - Demographics survey, pre-case study and pre-survey
      - Instructional Intervention
      - Post case study and post-survey
      - 6 week follow up post-survey and evaluation
- January 31, 2019: Data collection completed
- March, 2019: Analysis complete

Design

- Mixed methods, pretest-posttest design with both quantitative and qualitative evidence
  - Pre and post assessment measured the comfort in clinical decision making by way of a modified NLN approved case study
    - Once with the Pre assessment: Demographics including age, gender, educational background and years in practice
  - A third assessment 6 weeks post implementation included an open ended question inquiring how participants might change their practice due to the intervention

Methods: Instructional Session

- An instructional session reviewing GOLD's COPD guidelines and combined assessment tool took place in 3 Southern Jersey primary care offices between November 1, 2018 and January 31, 2019.
- Additional resources:
  - PP presentation for providers at
    - https://goldcopd.org/
  - CDC Predicted FEV1 calculator:
    - https://www.cdc.gov/niosh/topics/spirometry/refcalculator.html
  - Manual Printable Charts:
    - https://www.cdc.gov/niosh/topics/spirometry/pdfs/CMale61_80_All.pdf
  - 2017 Pocket Guide Mobile Application

Intervention: ABCD Assessment Tool

Figure 2.4. The refined ABCD assessment tool

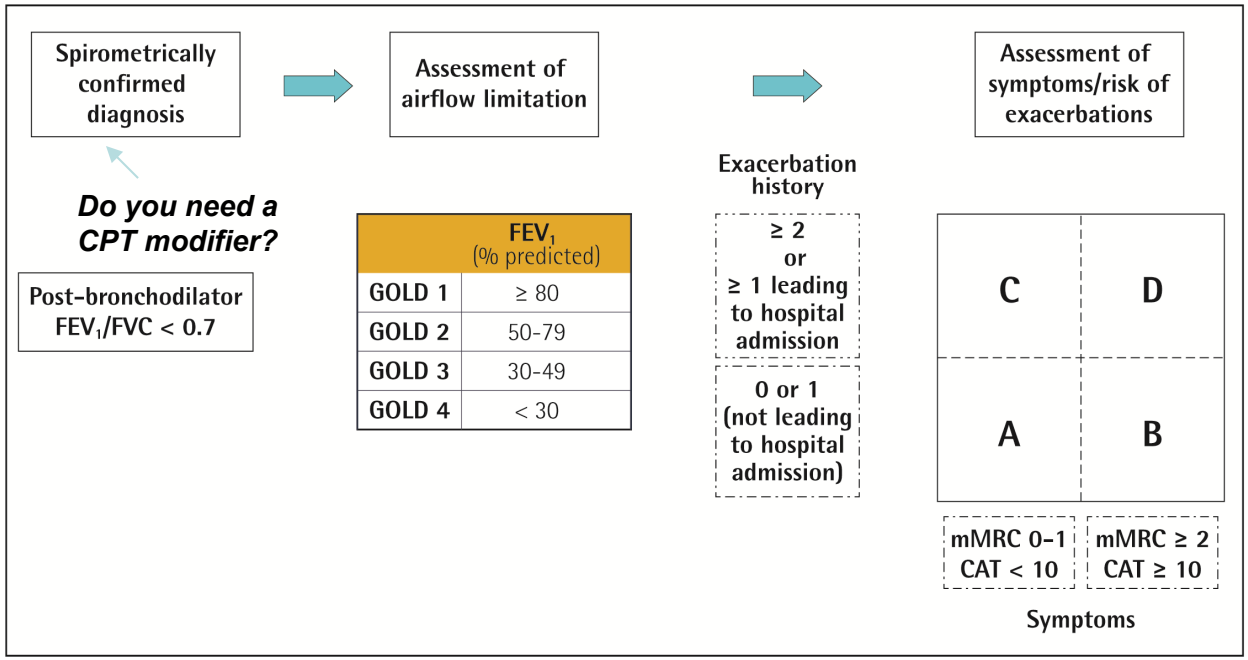


Figure 4: ABCD Tool

Treatment Guidelines

- Using the FEV1 digital Monitor:
  - Take the average of three attempts
  - Using the patients ethnicity, age, and height to calculate predicted values go to:
    - https://www.cdc.gov/niosh/topics/spirometry/refcalculator.html

- Example: Mr. Brody
    - American American, 67 year old male, 172 cm tall
    - FEV1L of 1.5 (average) twenty minutes post bronchodilator
      - 1.5/2.49L = 0.602

    - Results in a percentage of predicated value of 60.2%

ABCD Assessment Tool

Figure 2.4. The refined ABCD assessment tool

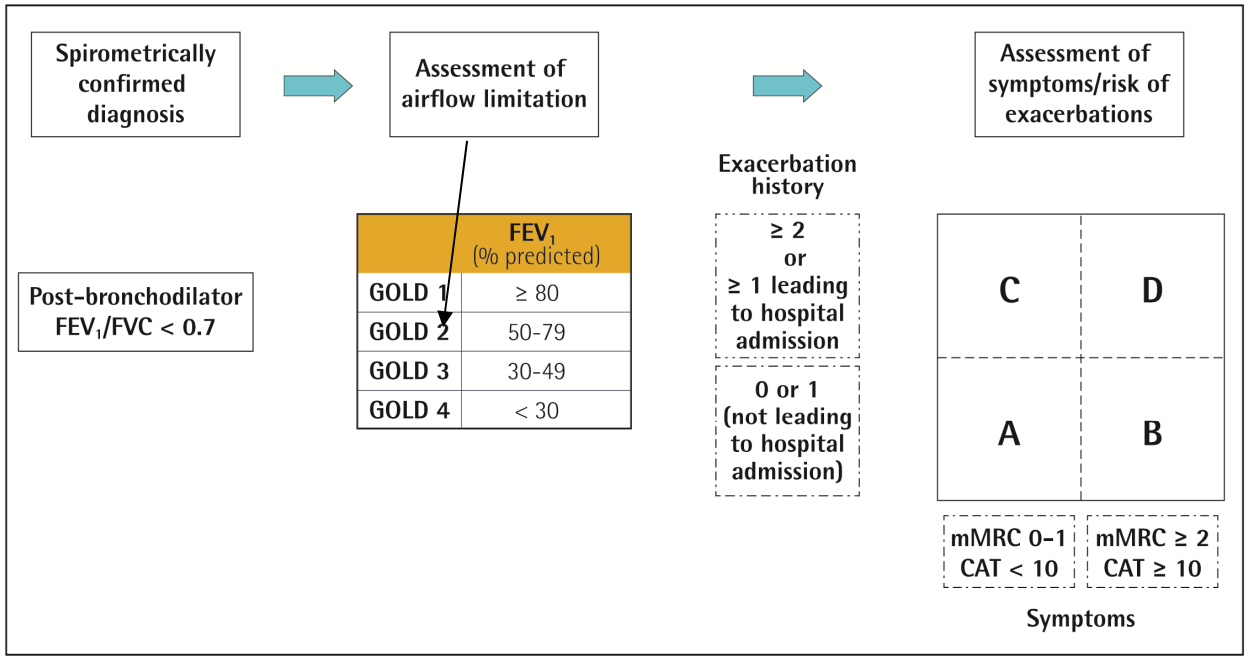


Figure 4: ABCD Tool

Treatment Guidelines

- Severity of disease (MMRC scale):
  - 0 = *no dyspnea except with strenuous exercise*
  - 1 = *dyspnea when walking up an incline or hurrying on a level*
  - 2 = *walks slower than most on a level or stops after 15 minutes of walking on the level*
  - 3 = *stops after a few minutes of walking on the level*
  - 4 = *dyspnea with minimal activity such as getting dressed or too dyspneic to leave the house*.

  - **CC:**
    - Patient complains of increasing fatigue and shortness of breath with activity and inability to sleep well at night. He also c/o daily clear sputum production and cough. He also complains he is out of breath when dressing himself in the AM, preventing him from going out.
      - **Results = 4 (group B or D?)**

ABCD Assessment Tool

Figure 2.4. The refined ABCD assessment tool

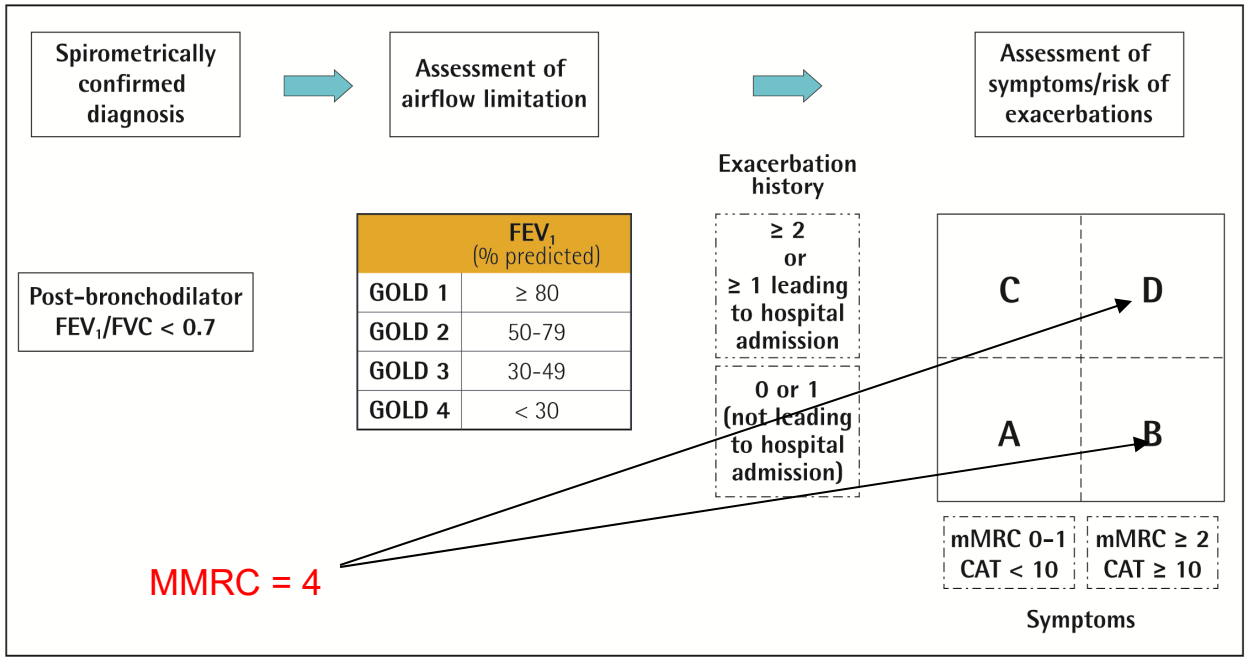


Figure 4: ABCD Tool

Treatment Guidelines

- Risk for exacerbation:
- A (low risk less symptoms)
- B (low risk more symptoms)
- C (high risk less symptoms)
- D (high risk more symptoms)
  - PMH:
    - NKDA, unknown immunization status, 50 year history of smoking 2 packs of cigarettes/day. He weighs 70kg and is 172cm tall. During the last year he has had two exacerbations, both leading to admissions.
      - **Results = Group D**

ABCD Assessment Tool

Figure 2.4. The refined ABCD assessment tool

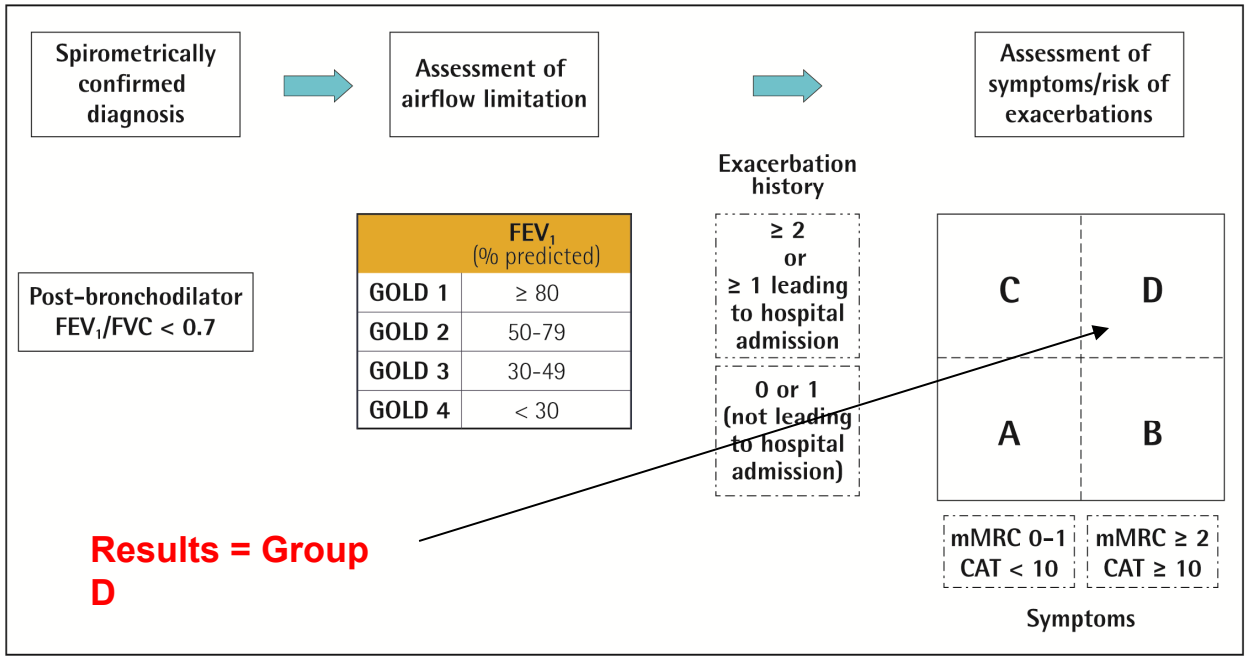


Figure 4: ABCD Tool

ABCD algorithm

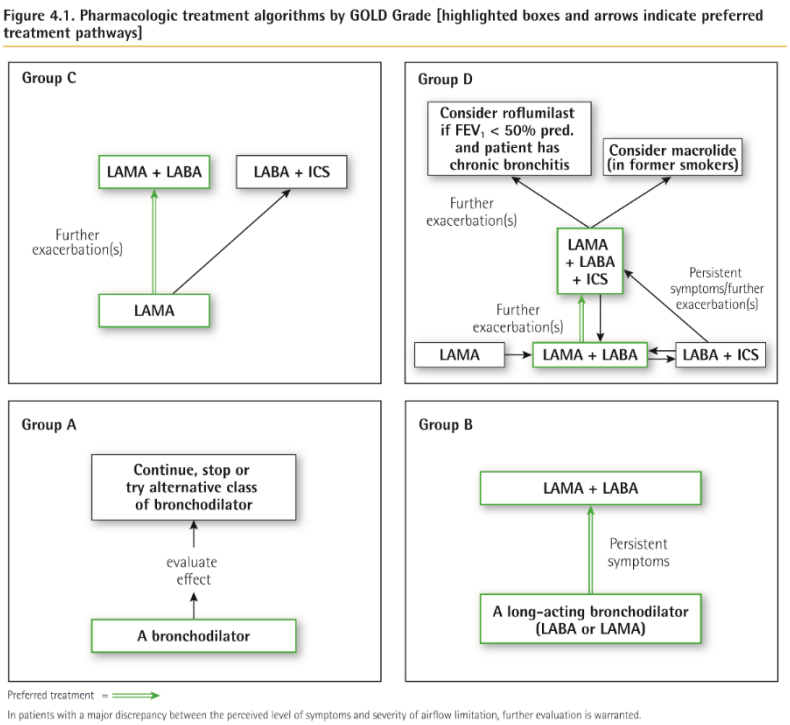


Figure 4.1. Pharmacologic treatment algorithms by GOLD Grade [highlighted boxes and arrows indicate preferred treatment pathways]

Figure 5: ABCD Algorithm

Pharmacologic Treatment

Table 3.3. Commonly used maintenance medications in COPD*

Drug	Inhaler (mcg)	Solution for nebulizer (mg/ml)	Oral	Vials for injection (mg)	Duration of action (hours)
Beta$_2$-agonists					
Short-acting					
Fenoterol	100-200 (MDI)	1	2.5 mg (pill), 0.05% (syrup)		4-6
Levalbuterol	45-90 (MDI)	0.1, 0.21, 0.25, 0.42			6-8
Salbutamol (albuterol)	90, 100, 200 (MDI & DPI)†	1, 2, 2.5, 5 mg/ml	2, 4, 5 mg (pill), 8 mg (extended release tablet) 0.024%/0.4 mg (syrup)	0.1, 0.5 mg	4-6, 12 (extended release)
Terbutaline	500 (DPI)		2.5, 5 mg (pill)	0.2, 0.25, 1 mg	4-6
Long-acting					
Arformoterol		0.0075†			12
Formoterol	4.5-9 (DPI)	0.01°			12
Indacaterol	75-300 (DPI)				24
Olodaterol	2.5, 5 (SMI)				24
Salmeterol	25-50 (MDI & DPI)				12
Anticholinergics					
Short-acting					
Ipratropium bromide	20, 40 (MDI)	0.2			6-8
Oxitropium bromide	100 (MDI)				7-9
Long-acting					
Aclidinium bromide	400 (DPI), 400 (MDI)				12
Glycopyrronium bromide	15.6 & 50 (DPI)†		1 mg (solution)	0.2 mg	12-24
Tiotropium	18 (DPI), 2.5 & 5 (SMI)				24
Umeclidinium	62.5 (DPI)				24
Combination of short-acting beta$_2$-agonist plus anticholinergic in one device					
Fenoterol/ipratropium	50/20 (SMI)	1.25, 0.5 mg in 4ml			6-8
Salbutamol/ipratropium	100/20 (SMI), 75/15 (MDI)	0.5, 2.5 mg in 3ml			6-8

Figure 6: Pharmacologic Treatment

Pharmacologic Treatment

Combination of long-acting beta$_2$-agonist plus anticholinergic in one device				
Formoterol/aclidinium	12/400 (DPI)			12
Formoterol/glycopyrronium	9.6/18 (MDI)			12
Indacaterol/glycopyrronium	27.5/15.6 & 110/50 (DPI)[†]			12-24
Vilanterol/umeclidinium	25/62.5 (DPI)			24
Olodaterol/tiotropium	5/5 (SMI)			24
Methylxanthines				
Aminophylline		105 mg/ml (solution)	250, 500 mg	Variable, up to 24
Theophylline (SR)		100-600 mg (pill)	250, 400, 500 mg	Variable, up to 24
Combination of long-acting beta$_2$-agonist plus corticosteroids in one device				
Formoterol/beclometasone	6/100 (MDI)			
Formoterol/budesonide	4.5/160 (MDI), 4.5/80 (MDI), 9/320 (DPI), 9/160 (DPI)			
Formoterol/mometasone	10/200, 10/400 (MDI)			
Salmeterol/fluticasone	5/100, 50/250, 5/500 (DPI), 21/45, 21/115, 21/230 (MDI)			
Vilanterol/fluticasone furoate	25/100 (DPI)			
Phosphodiesterase-4 inhibitors				
Roflumilast		500 mcg (pill)		

MDI = metered dose inhaler; DPI = dry powder inhaler; SMI = soft mist inhaler
* Not all formulations are available in all countries; in some countries other formulations and dosages may be available
† Dose availability varies by country
‡ Formoterol nebulized solution is based on the unit dose vial containing 20 mcg in a volume of 2.0 ml
† Dose varies by country

Figure 6: Pharmacologic Treatment cont.

Non-pharmacologic Treatment

Table 4.8. Non-pharmacologic management of COPD			
Patient group	Essential	Recommended	Depending on local guidelines
A	Smoking cessation (can include pharmacologic treatment)	Physical activity	Flu vaccination Pneumococcal vaccination
B-D	Smoking cessation (can include pharmacologic treatment) Pulmonary rehabilitation	Physical activity	Flu vaccination Pneumococcal vaccination

Figure 4.2. Prescription of supplemental oxygen to COPD patients

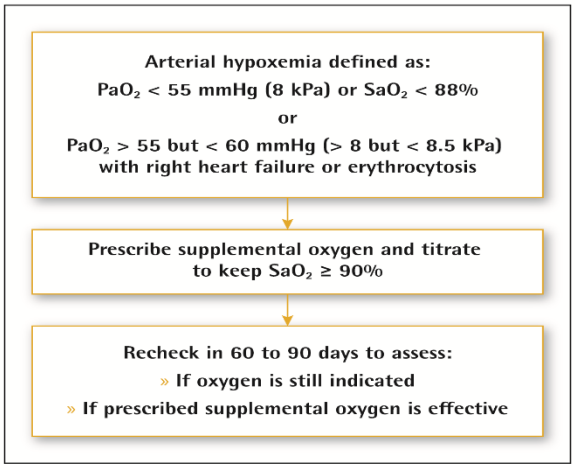


Figure 7: Non-pharmacologic Treatment

Non-pharmacologic Treatment

- Education and self-management
- Physical activity
- Pulmonary rehabilitation programs
- Exercise training
- Self-management education
- End of life and palliative care
- Nutritional support
- Vaccination
- Oxygen therapy

Figure 8: Summary of Non-pharmacologic Treatment

Do you feel more confident in recommending therapies for this patient?

Results: Demographics

- Demographical analysis of participants' including, the mode of educational implementation received, personal experience, education and number of patients seen with COPD weekly are presented in the following pie charts (Figures 9-12)

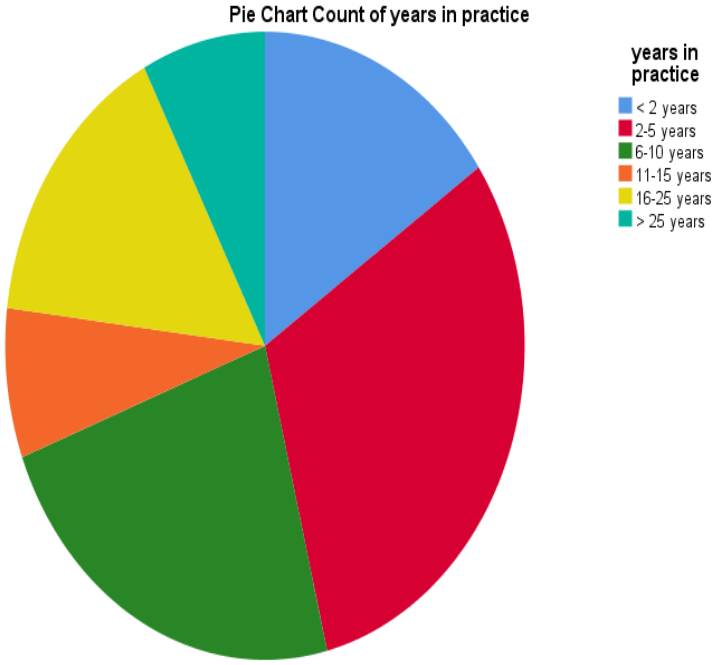


Figure 9: Years of Practice

Results: Demographics

of Patients Seen per Week

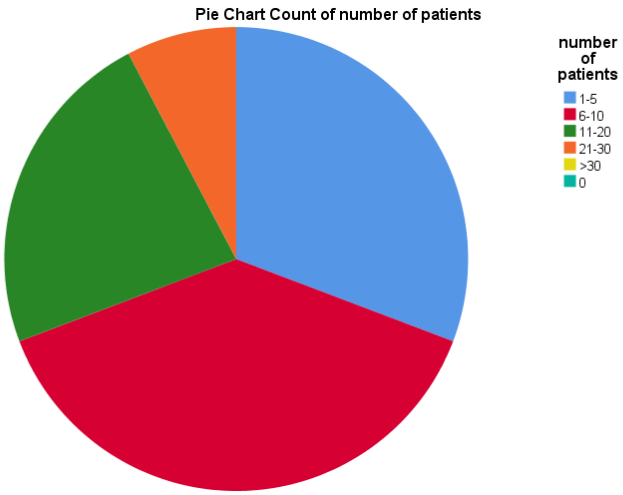


Figure 10: Number of Patients Per week

Level of Education

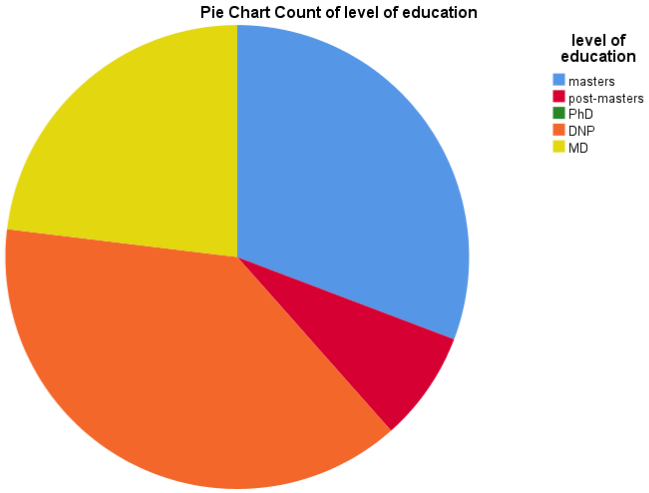


Figure 11: Level of Education

Results: Demographics

- ✓ 9 participants received the training face to face as opposed to 4, who received the training online.

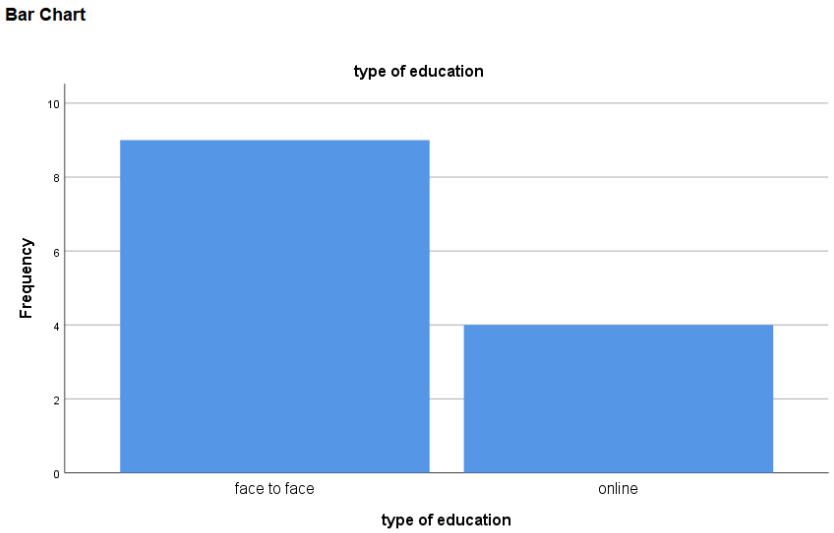


Figure 12: Face to Face vs Online

Comparing online vs face to face instruction

Table 1: AD Hoc Mann-Whitney

Mann-Whitney Test

Ranks

	type of education	N	Mean Rank	Sum of Ranks
AVG SUM OF T1	face to face	9	7.06	63.50
	online	4	6.88	27.50
	Total	13		
AVG SUM OF T2	face to face	9	6.39	57.50
	online	3	6.83	20.50
	Total	12		
AVG SUM OF T3	face to face	2	1.50	3.00
	online	3	4.00	12.00
	Total	5		

Test Statistics[a]

	AVG SUM OF T1	AVG SUM OF T2	AVG SUM OF T3
Mann-Whitney U	17.500	12.500	.000
Wilcoxon W	27.500	57.500	3.000
Z	-.077	-.186	-1.732
Asymp. Sig. (2-tailed)	.938	.853	.083
Exact Sig. [2*(1-tailed Sig.)]	.940[b]	.864[b]	.200[b]

a. Grouping Variable: type of education

b. Not corrected for ties.

- An ad hoc analysis suggested there was no difference between the group receiving the online education versus face to face instruction on comfort level scores of all three surveys (T1, T2, T3). A Mann Whitney-U test revealed no significant differences of all three surveys (U=13, Z=-0.077, p=0.938; U=12, Z=0.185, p=0.853; U=5, Z=-1.732, p=0.083).

Results: Comfort level in Clinical Decisions

- Pre and post surveys were assessed after reversing scores for items 1, 2, 4, 5 and 6 as indicated by Dolan (1999).
- Participants' average of the sum of the scores according to the Likert scale were than averaged as a group for each survey (T1= 2.94, T2= 2.02, T3= 1.85). A lower score indicates a higher degree of comfort level regarding comfort level of clinical decision-making.
  - A Wilcoxon Matched Pairs test was performed to investigate whether there was an increase in comfort level of decision making by item immediately after the intervention according to a case study.

Results: T1:T2

- Overall, results indicate that comfort level of PCPs was significantly higher immediately after the intervention compared before the intervention ($z = -3.061$, $p < 0.01$).

Table 2: T1, T2 Wilcoxon by item

Test Statistics[a]

	T2 item one - T1 item one	T2 item two - T1 item two	T2 item three - T1 item three	T2 item four - T1 item four	T2 item five - T1 item five	T2 item six - T1 item six	T2 item item seven - T1 item seven	T2 item eight - T1 item eight	T2 item nine - T1 item nine	T2 item ten - T1 item ten	T2 item eleven - T1 item eleven	T2 item twelve - T1 item twelve	AVG SUM OF T2 - AVG SUM OF T1
Z	-1.715[b]	-1.912[b]	-2.264[b]	-2.040[b]	-2.233[b]	-1.403[b]	-1.910[b]	-2.213[b]	-1.794[b]	-2.236[b]	-2.428[b]	-2.401[b]	-3.061[b]
Asymp. Sig. (2-tailed)	.086	.056	.024	.041	.026	.161	.056	.027	.073	.025	.015	.016	.002

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Results T1:T3

- Further analysis using a Wilcoxon Matched Pairs test after participants had the opportunity to utilize the guidelines in the practice setting were compared to results immediately following the intervention.
- Although findings show an improvement of comfort level in all items (T3) compared to immediately before and after the intervention took place (T1,T2), data did not meet statistical significance of a p value < 0.05. However, there was a greater increase in comfort level comparing surveys T1 to T3 then that of T2 to T3.
  - A post ad hoc analysis showed a medium effect size (T1:T3), indicating a clinical significance (r = - 0.51).

Results: T1:T3

Table 3: T1, T3 Wilcoxon by item

Test Statistics[a]

	T3 item one - T1 item one	T3 item two - T1 item two	T3 item three - T1 item three	T3 item four - T1 item four	T3 item five - T1 item five	T3 item six - T1 item six	T3 item seven - T1 item seven	T3 item eight - T1 item eight	T3 item nine - T1 item nine	T3 item ten - T1 item ten	T3 item eleven - T1 item eleven	T3 item twelve - T1 item twelve	AVG SUM OF T3 - AVG SUM OF T1
Z	-1.289[b]	-1.131[b]	-.577[b]	-1.105[b]	-1.857[b]	-1.604[b]	-.816[b]	-1.890[b]	-1.633[b]	-1.841[b]	-1.890[b]	-1.633[b]	-1.826[b]
Asymp. Sig. (2-tailed)	.197	.258	.564	.269	.063	.109	.414	.059	.102	.066	.059	.102	.068

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Results: Quality of Education

- The purpose of this evaluation was to assess the effectiveness of the overall delivery of the educational session.
- The results were positive, with all participants rating the educational delivery of the subject as “excellent”.

Results: Quality of Education

6 weeks post survey analysis qualitative analysis:

To assist us in evaluating the effectiveness of this activity and to make recommendations for future educational offerings, please take a few moments to complete this evaluation form. Your response will help ensure that future programs are informative and meet the educational needs of all participants. **CE credit letters will only be issued upon receipt of this completed evaluation form.**

	A=Excellent	B=Good	C=Fair	D=Poor	E=N/A
This educational activity increased my knowledge of GOLD's combined assessment process used in the management of patients with COPD. A=5 via qualtrics; A=2 paper format	◉	○	○	○	○
This activity improved my skills of the use of the digital FEV1 monitor necessary for the application of EBP guidelines regarding the management of the patient with COPD. A=5 via qualtrics; A=2 paper format	◉	○	○	○	○
This activity improved my ability to use the EBP guidelines for the management of patients with COPD by way of a time saving's application tool. A=5 via qualtrics; A=2 paper format	◉	○	○	○	○
The presenter was knowledgeable about the subject	◉	○	○	○	○
The presenter was orderly and understandable A=5 via qualtrics; A=2 paper format	◉	○	○	○	○
The presenter used effective teaching methods (eg: case study and video demonstration) A=5 via qualtrics; A=2 paper format	◉	○	○	○	○
Overall, I found the learning experience valuable for my practice. A=5 via qualtrics; A=2 paper format	◉	○	○	○	○

Table 13: Quality of Education Questioner

Results: Integration into Practice

- An additional qualitative item:
  - The fill in the blank statement instructed: “List the changes in practice you will make as a result of this education”. The following statements provided by participants’ (*n* = 5) indicate the desire to continue using these guidelines in practice:
    - early identification of optimum management for COPD patients, and more detailed explanations to patient to engage compliance
    - use of lifestyle modifications
    - increased my knowledge of the guidelines
    - attempt to get FEV1 to make the best choices for my patient
    - continue to use the GOLD (2017) guideline app on managing COPD patients

Limitations

- Due to the small sample size, further analysis for correlation could not be conducted, as the data did not meet parametric assumptions. Therefore, one cannot assume this study could be replicable to similar populations.
  - The first site: 100% (2 of 2) of qualifying participants completed T1:T2 (one completed T3)
  - The second: 50% (3 of 6) of qualifying participants completed T1:T2 (two completed T3)
  - Third site: 50% (7 of 14) of qualifying, interested participants completed T1:T2 (two completed T3)
- Incentives, such as the continuing education credit of 1 hour offered during implementation could have swayed participants to answer the post evaluation positively.
- External variables such as years of experience, level of education and experience working with patients diagnosed with COPD might have affected each participants' level of comfort in clinical decision making regardless of the study's intervention.

Discussion/Implications

- All practice site champions recognized the need for comprehensive COPD management and intend to continue to include this training during orientation of future employees to ensure longevity.
- PCPs received tips regarding documentation of care delivered (reflective of the PQRS system requirements), ensuring the highest possible re-imbursement rates by CMS for the management of COPD, thus helping to sustain the practices.

Discussion/Implications

- This study could improve health care practice at the systems level by helping to increase the utilization of evidence-based practice thereby improving patient outcomes and preventing future exacerbation of patients' COPD. While the period of this project did not allow for measuring theses outcomes, the design of this study permits longitudinal research in the future.
- Finally, the implementations of this project helped overcome future challenges for the utilization of best practice regarding the management of COPD in sites where implementation occurred as indicated by the six-week post follow up survey.

Estimated Resources

- Resources Needed
  - Lap Top (personal) with Microsoft Excel and SPSS already installed
  - Continuing Education Credits from the NJSNA
    - Eligibility &100.00
    - 1 contact hour $125.00
  - Handouts (including laminated ABCD tool)
    - $500.00
  - Lunch
    - $80.00 X 5 sessions = $400.00
  - Digital meters
    - $28.00 each X 12 (1case) = $336.00
    - 100 disposable mouth pieces = $32.00
  - Reimbursement of Mobile Application
    - 2.99 each, for a total of $92.69

- Total Cost = $1,585.69

Actual Cost and Reimbursement

Projects Consolidated View With Task & Expenditure

Time run: 4/10/19 8:31 AM

Project Number	Project Name	Project Organization	Principal Investigator
824007	Assoc Community Health Nursing - DNP project fall 2018 - 824007	14050256435	Davina Ann Soernssen
Grand Total			

RAW COST
115.16
6.97
6.34
42.64
289.62
26.65
193.60
153.35
150.00
984.33

Expenditure Type Description	Budget	Raw Cost	F&A Cost	Total Actual Cost	Commitments	Available Balance	Revenue Amount	Invoiced Amount	Actual Balance
			0.00			0.00	1,000.00		1,000.00
Dining Food & Concessions		115.16	0.00	115.16		-115.16			-115.16
Office Supplies Postage & Shipping		13.31	0.00	13.31		-13.31			-13.31
Other Supplies General		705.86	0.00	705.86		-705.86			-705.86
Other Supplies Projects	1,000.00		0.00			1,000.00			0.00
Travel Conference & Convention Registration Fees		150.00	0.00	150.00		-150.00			-150.00
	1,000.00	**984.33**	**0.00**	**984.33**		**15.67**	**1,000.00**		**15.67**

Tables 14-16: Actual Cost of Project

2018 ACHNE EBP Project Grant

- Presented at the ACHNE 2018 Annual Institute, June 7-9, 2018 in New Orleans, Louisiana
- A check for $1000.00 written to Rutgers University, Camden.
  - Requirements:
    - Acknowledge ACHNE as a funding source in any research presentation or publication that arises from research
    - Submitted final report the ACHNE Research Committee including phase of scientific process, reportable changes as defined by your institution or partnering agencies and budget.
    - Submitted an abstract to the ACHNE Annual Institute within two years of the award, presenting findings of the study.
      - Abstract excepted for podium presentation on June 1, 2019 in Phoenix, Az.

DNP Essentials

- Essential I
  - Evidence has been applied to this structured project based in EBP during every phase of its process
- Essential II
  - Leadership for improvement in the quality of care of patients with known COPD at the organizational level.
  - Collaboration demonstrates organizational and systems leadership
  - Promotion of patient safety and excellence in practice

DNP Essentials

- Essential V, VI and VII:
  - Outcomes are directly tied to the United States' healthcare reform policies, the Patient Protection and Affordable Care Act, to improve population health overall.
  - Encourages improvement of each provider's documented quality care rendered, as measured by the CMS PQRS annual reporting.
    - By increasing quality indicators, providers can receive the highest amount allowed for reimbursement for Medicare part B patients, thus sustaining the practices.
      - Project's time frame will not allow direct measurement of these outcomes: potential for future study

DNP Essentials

Finally, this project met the definition of advanced nursing practice by the implementation of interventions to participants providing care that will indirectly influence the health outcomes of the population with COPD.

The project helped to support nursing associations, practice owners and their administrators to provide financial, technical and clinical support to the providers; thereby, creating the process of sustainable change within each healthcare organization.

Conclusion

Findings support the utilization of EBP guidelines to improve providers' comfort in clinical decision making.

The data from this DNP project showed an improvement in PCP's comfort level of clinical decision-making required for the management of patients with COPD.

Most importantly, the clinical implications of this project displayed sustainability when participants' revealed intent to apply these guidelines into their personal practice.

Finally, in practice sites where implementation occurred, there is potential for future studies measuring patients outcomes.

Permissions/Copyright

- Permissions granted:
  - GOLD copyright received 3/19/17
  - Dolan's PDPAI tool received 8/21/17
  - Chronic Care Model picture received 4/4/17
  - Site permissions
    - #1 received 2/21/17
    - #2 received 4/27/2018
    - #3 verbal 4/26/2018; email received 5/3/2018

Questions?

Retrieved from: https://www.google.com/search?q=questions+mark&source=lnms&tbm=isch&sa=X&ved=0ahUKEwir9-ex1sHaAhWFmeAKHTZZCVgQ_AUICigB&biw=1920&bih=974#imgrc=DUDnCQtCWRO5GM:

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