

Strategic Plan 3850E

Chronic Obstructive Pulmonary Disease

Group: Pioneers

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Define Condition

COPD, or Chronic Obstructive Pulmonary Disease, is a progressive lung disease that makes it difficult to breathe (NIH,2024). It is primarily caused by long-term exposure to irritants that damage the lungs and airways, with the most common risk factor being cigarette smoking. Other contributors can include long-term exposure to air pollution, dust, and chemical fumes. This damage leads to inflammation, breakdown of the alveolar membrane, and excessive mucus that blocks airflow, making it hard to breathe (NIH,2024). Relevant symptoms for COPD include wheezing, chest tightness, or fatigue. A cross-sectional study found that 92.5% of COPD patients experienced at least one symptom, with 33% to 50% reporting daily impacts from their symptoms (Miravitlls et al., 2017). COPD severity stages are based on spirometry results measuring the Forced Expiratory Volume in one second (FEV1). FEV1 measures the air exhaled in one second, helping assess airway obstruction. Stage 1 occurs when FEV1 is at 80% or higher. Stage 2 is identified when FEV1 falls between 50% and 79%. Stage 3 is marked by an FEV1 range of 30% to 49%. Stage 4 is the most severe stage, with FEV1 below 30% (Cleveland Clinic,2025). Nonetheless, COPD severity can be assessed not only through staging but also by using symptom-based groupings; further, individuals in Group A experience mild symptoms and face a low risk of exacerbations. Group B includes patients with more pronounced symptoms, yet they also maintain a low risk of exacerbations. Additionally, Group E identifies those at a high risk for exacerbations (Cleveland Clinic,2025). Furthermore, the disease encompasses two primary conditions: chronic bronchitis and emphysema (NIH,2024). Chronic bronchitis involves long-term inflammation of the bronchial tubes, leading to increased mucus production and a persistent cough (Mayo Clinic, 2024). The excessive mucus can obstruct airflow, making breathing difficult. However, emphysema is a condition marked by the destruction of the alveoli,

the tiny air sacs in the lungs responsible for gas exchange (Mayo Clinic, 2024). The breakdown of these structures reduces the lungs' surface area, lowering oxygen absorption and carbon dioxide elimination.

Epidemiological Significance and Population at Risk

COPD was the sixth leading cause of death for people in the United States in 2021 and the fourth leading cause of death worldwide (CDC, 2023). There is an elevated risk for women, adults over 40, those who live in rural areas, adults with a lower education level, and those who smoke or are former smokers (CDC, 2019). Symptoms for COPD begin at the age of 40, as the airways naturally get smaller with age (NHLB, 2024). Exposure to lung irritants (smoking, home cooking, heating fuels) over the course of a person's life increases the risk of developing COPD.

Risk Behavior and Prevention

Chronic Obstructive Pulmonary Disease (COPD) is primarily caused by long-term exposure to lung irritants and exposure to environmental pollutants that can lead to chronic inflammation. The major risk behavior that increases the prevalence of COPD is tobacco use, including cigarette smoking, second hand smoking exposure, and vaping. Additionally, individuals exposed to poor air quality or who may have a history of frequent respiratory infections may be at greater risk for COPD. Physical inactivity and poor health management can accelerate the severity of the disease, leading to reduced quality of life.

Health Theory: Health Belief Model

The health theory that would best apply in the situation of addressing COPD would be the Health Belief Model (HBM). This is how the model and its constructs would be applied to COPD:

1. **Perceived Susceptibility:** Perceived susceptibility is belief about getting a particular disease or condition; in terms of COPD, those who are most at risk for contracting COPD - i.e. smokers - may have a low perceived susceptibility. They might not believe they are likely to contract COPD. In this case, health promoters would focus more on educating the population on how risk factors greatly impact the risk of diseases.
2. **Perceived Severity:** Perceived severity is the belief about the seriousness of the condition, with the addition of leaving it untreated/dealing with the consequences. In terms of COPD, those at risk may think that COPD is not a serious condition. They may underestimate the severity of the symptoms and continue with their daily way of life. In this case, health promoters would educate those at risk on how debilitating COPD can be, as well as the damages it can do toward the body.
3. **Perceived Benefits:** Perceived benefits is the belief about potential positive aspects of a health action. In terms of COPD, those at risk would need to believe that quitting or leaving the things that make them most at risk for contracting COPD outweigh the actual actions. For example, those who smoke would need to be taught that the benefits of quitting smoking outweigh the actual action of smoking itself. How smoking cessation can improve life expectancy and reduce other adverse health effects. In this case, health promoters can educate those who are at risk of these benefits.
4. **Perceived Barriers:** Perceived barriers is the belief about potential negative aspects of a particular health action. In terms of COPD, those at risk may have trouble quitting or leaving the things that increase their risk of contracting COPD due to a factor of reasons. For example, those who smoke may have trouble with quitting due to addiction, or even lack of resources to curb said addiction. Also, if they are surrounded by smokers

themselves, that would increase the difficulty of quitting. Another example would be those who live in areas with low quality of air. For these individuals, it would be difficult to leave their homes/environments due to financial reasons. In this case, health promoters would need to address how to make it easier for people to access the resources they need.

5. **Cues to Action:** Cues to action are factors that trigger actions. In terms of COPD, this could include community or familial initiatives to improve conditions. In this case, health promotion educators could organize these initiatives in order to jump start other people's desire to start changing their lives.
6. **Self-Efficacy:** Self-efficacy is the belief that one person can achieve the behavior that is required of them to reach their desired outcome. In terms of COPD, this would be those at risk and how confident they are about sticking to their changes in order to avoid the increased risk of contracting COPD. For health promotion educators, this would involve surrounding them with people who have successfully quit/left things increasing their risk. This would serve as motivation to those who are currently struggling - shows them how their future could look like.

Summary of Lesson Plans

Setting: The classes will be taught in a number of community-based health clinics spread out over Georgia. These clinics assist people who lack insurance or have inadequate insurance, many of whom are more susceptible to chronic illnesses because they have less access to preventative treatment and are more likely to be exposed to environmental stresses. The Health Belief Model's

(HBM) emphasis on raising awareness and removing perceived barriers to care is in line with our ability to reach people in both rural and urban parts of Georgia by holding classes in community health settings.

Targeted Population: Adults 40 years of age and older are the primary target population of our program, particularly those who have smoked in the past or have been exposed to environmental or occupational toxins. Because of their higher perceived vulnerability to Chronic Obstructive Pulmonary Disease (COPD), this group was chosen. We can promote changes in behavior and have more productive discussions with them about risk if we acknowledge their susceptibility.

Understanding Goals:

The main objective is to inform participants about the causes, signs, and prevention of COPD, with an emphasis on risk factors that can be changed, like smoking and air quality. The HBM helped us set goals by guiding us to think about how people perceive their own risk (perceived susceptibility), how seriously they take the condition (perceived severity), and if they think changing their behavior will benefit them more than it will cost them.

For example, when talking about quitting smoking, we emphasize the short-term and long-term advantages of doing so, such as improved breathing, fewer hospital stays, and an overall higher quality of life. We encourage self-efficacy and reinforce cues to action by incorporating real-life success stories and connecting participants to easily available cessation resources, giving them confidence in their capacity to manage their health.

Lesson Objectives:

- Explain the causes and symptoms of COPD (perceived severity & susceptibility).
- List the advantages of clean air and quitting smoking (perceived benefits).
- Recognize and plan for expected smoking cessation challenges (perceived barriers).

- Establish personal objectives and make use of nearby resources (cues to action & self-efficacy).

Performance Tasks:

- Participants' perceived susceptibility will be directly engaged via a self-assessment tool that asks them to think about their own smoking behaviors or exposures to air quality.
- In order to help participants understand the perceived severity, group discussions will examine the seriousness of COPD consequences such as chronic dyspnea or oxygen dependency.
- Reflective activities will highlight perceived benefits by enabling participants to think about the benefits of changing their lifestyle, such as financial savings, improved breathing, and prevention of future illness.
- Participants will identify structural and personal barriers to quitting and practice problem-solving techniques through brainstorming sessions in small groups.
- Participants will be urged to select an achievable goal to accomplish at the conclusion of the session, such as contacting a quitline or attempting to quit smoking using an app. The purpose of these cues to action is to encourage prompt participation.
- Activities that involve role-playing and goal-setting will boost self-efficacy by giving participants the impression that they can improve.

Materials and Resources:

- To improve understanding of the severity and susceptibility of COPD, educational pamphlets and infographics offer realistic scenarios of the disease's course.

- Risk self-assessments reinforce personal relevance by enabling participants to consider their own behavior and risk of sickness.
- Smoking cessation resource list and clean air guidance emphasize the advantages and reduce barriers by providing practical, affordable alternatives.
- Self-efficacy is increased and strong cues of action are provided by videos of ex-smokers sharing their success stories.
- Offering free samples of nicotine replacement therapy (NRT) and showcasing smartphone apps for quitting aids in removing technical or financial obstacles and promotes skill development.

Activities:

- Interactive Workshops: Participants in the interactive class will get knowledge about COPD in a way that resonates with them personally. The disease's progression will be illustrated through case studies and visual aids, highlighting the perceived severity and susceptibility.
- Support Groups: Support groups offer an atmosphere for exchanging stories, resolving issues, and listening to successful people who quit. By demonstrating that change is achievable with assistance, these discussions reduce barriers, work as cues to action, and increase self-efficacy.
- Physical Activity Routine: Participants can experience the advantages of mild exercise for respiratory health through the inclusion of a small physical activity demonstration, which strengthens perceived benefits and demonstrates that people can achieve even with limited mobility or stamina (self-efficacy).

Evaluation Plan:

- Surveys to assess participants' self-reported changes in risk behavior and their understanding of COPD before and after the training program. We want to focus our evaluation on what the participants learned about understanding their risk of COPD.
- Evaluation of long-term behavioral changes, such as rates of quitting smoking and increases in physical activity, by follow-up surveys conducted at 1, 3, and 6 months.
- Gather feedback regarding the program's effectiveness and suggestions for improvements.
- For specific learning objectives:
 - The goal of this lesson is that the participants understand their risk of COPD, the steps they can take to prevent it, and the resources they have to help quit smoking.
 - This will be measured by giving participants a short multiple-choice knowledge quiz on COPD before and after the program to see what they learnt. After the initial score, participants would receive a score but not see what questions they may have gotten wrong. At the end of the program, participants would receive a similar test and success would be considered as any improvement in quiz scores.
 - Example Questions:
 - What does COPD stand for?
 - What are risk factors for COPD?
 - What are ways to prevent COPD?
 - What are symptoms of COPD?
 - True/False: COPD is a curable disease

- Offer participants practical ways to lower their risk of developing COPD, such as quitting smoking, staying away from pollutants, and enhancing their general lung health.
 - Behaviour change will be measured through tracking smoking behaviours in participants throughout the program. Success would be measured by acknowledging participants intentions to change behavior, understanding the risk associated with smoking behaviors, and actually changing their behavior.
- Provide participants with local support systems and services to help them manage their COPD and stop smoking.
 - This will be measured by individual evaluation by participants (Anonymous evaluation of the program and if participants felt supported in managing their COPD and reducing smoking habits and if there were any particular reasons they may have felt unsupported during this program). Success in the program would be considered by participants feeling supported in managing their COPD and to stop smoking.

Infographic Description

- The purpose of the infographic is to provide people information on COPD including what it is, symptoms of COPD and the risky behaviours that can lead to its development. We also want to provide information on resources for people who have COPD or are participating in risky behaviours and want to make a change before COPD symptoms begin developing.

- Although there is a lot of information we aim to provide, we don't want to overwhelm or lose the attention of the reader. We aim to provide the critical information necessary to draw the reader's attention but not overwhelm the infographic with more text than images. We would include major statistics and health related icons and images to keep the mood of the infographic calm but informative.

Reaching a Target Audience

- Our target audience primarily would be anyone over the age of 40 that participate in behaviors that increase the chance of developing COPD. These risk behaviors include smoking and exposure to chemicals and other lung irritants. Targeting this audience will include those at the highest risk of developing COPD.

Placement

- The infographic will be placed in as many public settings as we could get them including bulletin boards, YMCA's/Public Gyms, Grocery stores etc. We would also distribute them to local hospitals and clinics to be placed in waiting rooms for patients to read while waiting. We also aim to upload the infographic to various social media platforms so the information can be shared and reposted by readers. Platforms would include Facebook, instagram, X (Twitter), and local community apps/websites such as Nextdoor.

Partner Organizations

Several organizations and national nonprofits would be interested in utilizing our infographic, particularly departments that focus on smoking cessation programs, lung cancer screening, and community health initiatives **targeting adults 40 and older - a population especially at risk for developing chronic lung conditions such as COPD.**

1. American Lung Association (ALA)

- a. The American Lung Association's Better Breathers Club program provides people living with lung disease, particularly those over 40, with resources such as education, support, and a safe space for people to share their lived experiences. Since Better Breathers Club provides in person and virtual meetings for those to cope with lung conditions such as COPD, the infographic would supply individuals with additional educational materials. Since the club is accessible nationwide, the infographic can be utilized in every state.
- b. **Distribution Strategy:** We plan to contact regional Better Breathers Club coordinators via email and the infographic would be included in their resource handouts or displayed during group sessions. ALA also has a virtual library so submitting the infographic through ALA's digital content submission portal would spread awareness about COPD tips.

2. National Heart, Lung, and Blood Institute (NHLBI) - COPD Learn More Breathe Better Program

- a. This program is a national health education program that increases awareness and understanding of lung diseases and conditions. They increase awareness of the prevention, treatment, and management of lung and respiratory diseases affecting Americans adults aged 40 and older. By utilizing the infographic, this organization can raise awareness of COPD in their communities and educate health professionals who diagnose and treat lung diseases and conditions.
- b. **Distribution Strategy:** We would contact the NHLBI's public engagement and resource outreach teams via their contact platforms and submit the infographic for them to review. By posting the infographic on social media, we can tag the program's social media pages and share the infographic in advocacy spaces.

3. **Georgia Department of Public Health (GDPH)**

- a. The Georgia Department of Public Health has created the Georgia Tobacco Use Prevention Program (GTUPP) which works to reduce disease, disability, and death related to tobacco use by addressing four goal areas:
 - i. Preventing the initiation of tobacco use among young people
 - ii. Promoting quitting among young people and adults
 - iii. Eliminating nonsmokers' exposure to environmental tobacco smoke
 - iv. Identifying and eliminating the disparities related to tobacco use and its effects among different population groups
- b. The Tobacco Use Prevention Program could use the infographic for local smoking cessation initiatives in GA and target adults aged 40 and older.

- c. **Distribution Strategy:** We plan to connect with regional tobacco prevention coordinators and contact different departments in GA to distribute the infographic. It can also be proposed for use in the program's newsletters or educational packets in clinics and public events.

4. COPD Foundation

- a. The COPD Foundation helps millions of people live longer and healthier lives by advancing research, advocacy, and awareness to stop COPD and lung disease. The foundation fosters an online community where adults, primarily over the age of 40, seek support and education. This foundation is a non-profit, tax-exempt organization that allows members to share thoughts and ideas, ask questions, start discussions, read and comment on articles and blogs and communicate with peers and community managers. This organization can utilize the infographic as a valuable addition to the community education efforts.
- b. **Distribution Strategy:** We intend to submit the infographic to the foundation's education term and request it to be shared in their COPD360 social platform and educational blog. The foundation also has discussion threads where resources are directly exchanged, so posting the infographic would reach members that regularly check discussion forums.

Social Media Use and Hashtags

Since the target audience for this initiative is adults ages 40+, particularly those with a history of smoking or exposure to air pollutants, they are most likely to use the following social media platforms,

1. Facebook

- a. This social media platform is widely used among adults aged 40+, especially for community-based groups, health awareness campaigns, and support networks.

Facebook groups could share the infographic for COPD education and awareness.

2. Instagram

- a. Even though younger demographics utilize Instagram, reels and visual content can be used to reach family members and patients with COPD.

3. Tiktok

- a. With the surge in users using Tiktok as a means of gathering information and seeking lifestyle tips, this social media platform can be used for health tips and interactive content, such as exercise routines, recipe videos for healthy meals, and smoking cessation initiatives.

The organizations listed above, such as the American Lung Association (ALA), National Heart, Lung, and Blood Institute (NHLBI), and Georgia Department of Public Health (GDPH) are highly active on social media platforms. ALA (@LungAssociation) is active on Facebook and Instagram and frequently posts smoking cessation resources. NHLBI (@nih_nhlbi) use

Instagram with the hashtag #BreatheBetter to promote COPD awareness. GDPH (@GaDPH) uses Facebook for public health updates, including tobacco cessation initiatives.

Effective hashtags to increase engagement and awareness would be:

COPD and Lung Health:

- #COPDAwareness
- #BreatheBetter
- #LungHealth
- #HealthyLungs
- #COPDHealth

Smoking Cessation & Prevention:

- #QuitSmoking
- #TobaccoFree
- #LungStrong
- #SmokeFree

Engagement & Call to Action:

- #TakeADeepBreath
- #EveryBreathCounts
- #BetterBreathers

Understanding by Design Table

Lesson Topic: Health Risks for COPD

Population: Adults ages 40+, particularly those with a history of smoking or exposure to air pollutants

Length of Lesson: 45 min

Stage 1- Desired Results

Understanding Goals:

Audience will understand the causes of COPD and the tools to prevent the disease. By understanding the causes and utilizing preventive tools, this community can work towards reducing the incidence of COPD and improving overall lung health.

Student Objectives:

Audience will be able to understand their risk of COPD, the steps they can take to prevent it, and the resources they have to help quit smoking. Additionally, offer the audience practical ways to lower their risk of developing COPD, such as quitting smoking and staying away from pollutants. Lastly, give the audience local support systems and services to help them manage their COPD and stop smoking.

Stage 2- Assessment Evidence

Performance Task:

Participants will assess their own levels of physical activity, environmental influences, and smoking behaviors. During a group discussion, we will examine the symptoms of COPD and ways to prevent it. We will practice techniques for managing stress and resisting temptations associated with quitting smoking. Additionally, we will go over the resources available in the community, including smoking cessation programs and initiatives focused on promoting clean air.

Stage 3- Learning Plan

Learning Activities:

Interactive Workshop: Participants will engage in an informative session about COPD, exploring its causes, symptoms, and prevention methods, particularly emphasizing strategies for quitting smoking.

Support Groups: Form small support groups to offer continuous encouragement for smoking cessation and to regularly track progress.

Physical Activity Routine: Begin with basic exercises that promote lung health and overall fitness, highlighting the importance of an active lifestyle in managing COPD.

Stage 4- Evaluation Plan

How will we evaluate our audience to see if they met the objectives?

Evaluation of long-term behavioral changes, such as rates of quitting smoking and increases in physical activity, by follow-up surveys conducted at 1, 3, and 6 months.

- Participants will take a brief multiple-choice quiz on COPD before and after the program to evaluate their learning. They will receive their initial scores without

feedback on incorrect answers. A similar test at the end will measure score improvements to indicate success.

- Behavior change will be measured by tracking smoking habits in participants. Success will be assessed through participants' intentions to change, their understanding of smoking risks, and actual behavioral changes.
- Success will be measured through anonymous evaluations by participants regarding their feelings of support in managing COPD and quitting smoking, as well as any reasons they may have felt unsupported.

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