

# CHAPTER-09

## A RESEARCH TO EXAMINE CHRONIC OBSTRUCTIVE PULMONARY DISEASE TREATMENT METHODS IN UNITED STATES

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## **INTRODUCTION**

Chronic obstructive pulmonary disease (COPD), as defined by the Centers for Disease Control & Prevention, is a collection of disorders leading to airflow obstruction and breathing-related difficulties, encompassing emphysema and chronic bronchitis. This condition impacts approximately 16 million individuals in the United States, with a significant portion going undiagnosed. COPD stands as a prominent cause of mortality in the U.S., with billions of dollars dedicated to patient treatment annually. Projected expenditures for COPD patient treatment are expected to reach around \$49 billion by 2020 [1].

Beyond the economic burden, COPD entails substantial social challenges. According to the Global Burden of Disease research, COPD ranks as the second-largest cause of Disability-Adjusted Life Years (DALYs) lost, following only ischemic heart disease [2]. Symptoms of COPD include coughing, cyanosis, fatigue, wheezing, and excess phlegm production, with smoking identified as a significant risk factor by the American Lung Association. Other risk factors include air pollution, passive smoking, genetic predisposition (Alpha-1 deficiency), and exposure to chemicals and dust. Addressing this chronic condition, the Department of Health and Human Services' COPD National Action Plan outlines five key objectives, providing a comprehensive approach to tackling the challenges posed by COPD [3].

## **RESEARCH OBJECTIVES**

1. To identify barriers to achieving optimal treatment for COPD patients.
2. To study the most effective practices implemented by hospitals in the United States to reduce COPD-related readmissions.
3. To explore the prevalence of COPD in the United States.

## **RESEARCH METHODOLOGY**

The research method employed was a descriptive observational study conducted over a period of three months. Secondary research data collection involved utilizing sources such as the Behavioral Risk Factor

Surveillance System (BRFSS). Various tools, including research studies, posters, journal papers, and surveys, were employed for data collection. The collected secondary data from BRFSS was processed using Microsoft Excel to determine COPD prevalence, examining it at both national and state levels. To investigate impediments to optimal care for COPD patients, a literature assessment of five research papers and publications focused on healthcare delivery in the U.S. was undertaken. The findings were organized in a tabular format to present a comprehensive overview. Additionally, an examination of ten hospital institutions that implemented COPD readmission reduction initiatives was conducted to identify best practices. A thorough analysis of research, initiatives, and program results was undertaken, and the findings were tabulated to provide a structured representation of the techniques and outcomes.

## **RESULTS & DISCUSSION**

In the research conducted to explore COPD prevalence in the U.S., the 2020 Behavioral Risk Factor Surveillance System (BRFSS) survey revealed a COPD prevalence rate of 6.4 percent in the country. West Virginia exhibited the highest rate of COPD, while Hawaii had the lowest. The prevalence of COPD was most notable among individuals aged 55 to 64, and those with an annual family income of less than \$15,000. Social determinants of health, such as poverty and education, were identified as factors influencing the disease's prevalence.

Information from the 2018 West Virginia BRFSS report provided insights into the high frequency of COPD in the state. Notable points contributing to West Virginia's elevated COPD rates included an average household income of \$44,097, significantly lower than the national median of \$61,937. A considerable portion (19.1 percent) of the population in West Virginia lived in poverty, and 26.3 percent reported fair or poor health. The state had the highest rates of both physical and mental ill-health in the country. Additionally, 19.5 percent of adults in West Virginia lacked a personal healthcare provider, and the state reported the highest frequency of cardiovascular illnesses at 14.6 percent. Tobacco usage, a significant COPD risk factor, was the second highest in the state at 28.4 percent.

## **CONCLUSION**

Chronic obstructive pulmonary disease (COPD) stands out as one of the leading causes of mortality and morbidity in the United States. The BRFSS study indicates a COPD prevalence of 6.4 percent, with West Virginia reporting the highest frequency. The elevated occurrence of COPD can be linked to various societal factors such as limited education, low-income levels, and tobacco use. In contrast, states like Hawaii, South Dakota, and Minnesota exhibit the lowest rates of COPD. Managing COPD, a persistent condition, requires a comprehensive approach involving a multidisciplinary team of professionals, including physicians, pulmonologists, respiratory therapists, and nurses. Challenges in delivering optimal care encompass factors like insufficient patient education, inadequate follow-up visits, noncompliance with therapy, and a lack of coordination in care.

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