

IMPROVING AWARENESS, PREVENTION, AND MANAGEMENT OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) AMONG AFRICAN AMERICAN ADULTS AGED 40–65

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Module : Practice-Based Research

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Introduction/Rationale

- **COPD as a public health issue:** COPD remains a major public health concern in the U.S. (Ejike et al., 2019; Regan et al., 2023).
- **High-risk group:** African Americans aged 40–65 who smoke or used to smoke face higher risks of missed diagnosis, late treatment, and worse outcomes. (Ejike et al., 2019; Regan et al., 2023).
- **Diagnostic limitations:** COPD is often missed in minorities because tests don't consider racial lung differences. (Balte et al., 2019).
- **Contributing factors:** Low awareness, poor healthcare access, money issues, and lack of culturally relevant information make disparities worse. (Putcha et al., 2014).
- **Systemic inequities:** Ongoing healthcare unfairness increases COPD rates in minority groups. (CDC, 2024).
- **Program limitations:** Public health initiatives often fail to effectively reach or adapt to African American communities (NHLBI, 2023).

Research Questions

1. How well do current public health programs reach African American adults aged 40–65 who are current or former smokers, and how effective are they in raising awareness about COPD and preventing it?
2. What challenges do African American adults aged 40–65 face in managing COPD, and what strategies could help improve their quality of life?

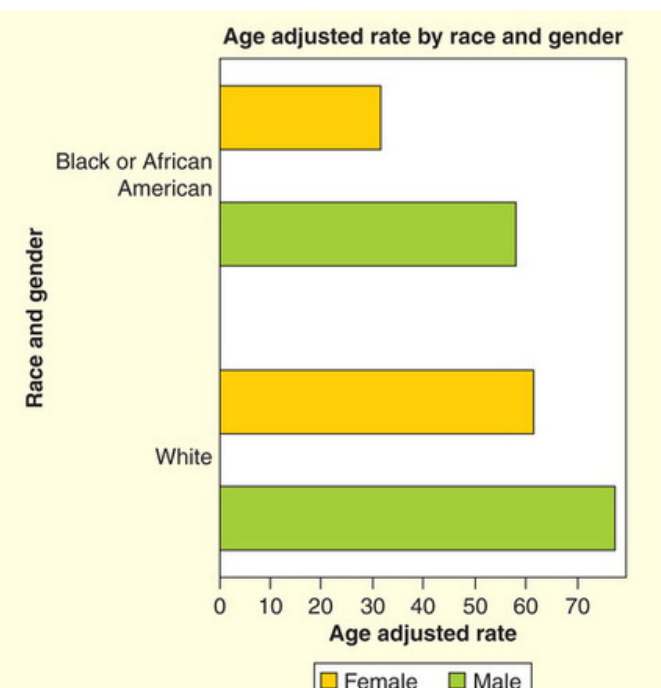


Figure 1. Age-adjusted COPD rate by race and gender in the United States (Mehari and Gillum, 2015).

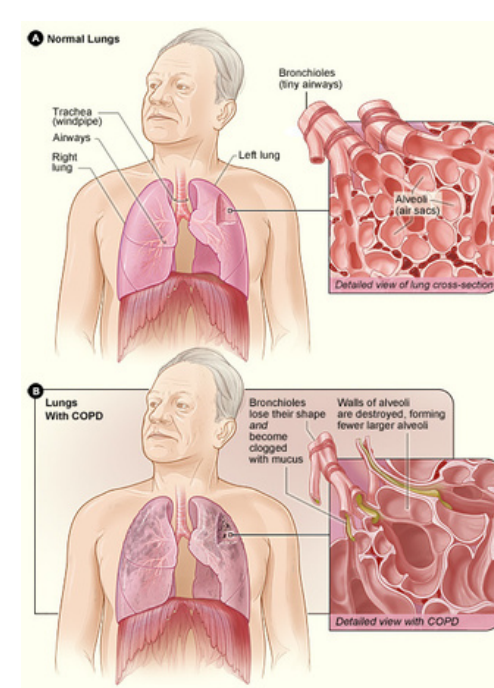


Figure 2. Normal lungs and lungs in a person who has COPD. Figure A shows the location of the lungs and airways in the body. Figure B shows lungs damaged by COPD.

Research Impact

- **Focus population:** African American adults aged 40–65 are often overlooked in lung disease research.
- **Goal:** Improve awareness, prevention, and management of Chronic Obstructive Pulmonary Disease (COPD) in this group.
- **Underdiagnosis:** African Americans who currently or formerly smoke are often underdiagnosed compared to white adults, missing early treatment opportunities (George et al., 2018; Thakur et al., 2020).
- **Social determinants:** Poverty, limited healthcare access, and living in disadvantaged neighborhoods worsen breathing problems and health outcomes (Johns Hopkins Medicine, 2020).
- **Care access:** Fewer African Americans participate in pulmonary rehabilitation or COPD care programs, showing that services are not reaching everyone in need (Pessoa Gingerich, 2019; Ohar et al., 2021).

References

- Balte, P.P. et al. (2019) 'Race and the Underdiagnosis of Airflow Obstruction in the United States', American Journal of Respiratory and Critical Care Medicine, 199(4), pp. 447–458. doi:10.1164/rccm.201804-0620OC.
- CDC (2023) Chronic Obstructive Pulmonary Disease (COPD) Data and Statistics. Available at: <https://www.cdc.gov/nchs/products/databriefs/db529.htm> (Accessed: 3 November 2025).
- CDC (2024) Health Disparities in Chronic Respiratory Diseases. Available at: https://www.cdc.gov/pcd/issues/2024/24_0109.htm (Accessed: 3 November 2025).
- Ejike, C.O., Dransfield, M.T., Hansel, N.N., Putcha, N., Raju, S., Martinez, C.H. & Han, M.K. (2019) 'Chronic Obstructive Pulmonary Disease in America's Black Population', American Journal of Respiratory and Critical Care Medicine, 200(4), pp. 423–430. doi:10.1164/rccm.201810-1909PP.
- Ford, E.S., Croft, J.B., Mannino, D.M., Wheaton, A.G. & Zhang, X. (2013) 'COPD Surveillance — United States, 1999–2011', Morbidity and Mortality Weekly Report (MMWR), 62(Suppl 3), pp. 1–16.
- George, M., Orehek, J., et al. (2018) 'Race and Gender Disparities Are Evident in COPD Underdiagnoses Across All Severities of Measured Airflow Obstruction', Chronic Obstructive Pulmonary Diseases: Journal of the COPD Foundation, 5(4), pp. 228–230.
- Johns Hopkins Medicine (2020) For Blacks with Respiratory Ills, Individual and Neighborhood Poverty Yield Worse Outcomes. Newsroom, 8 December. Available at: <https://www.hopkinsmedicine.org/news/newsroom/news-releases/2020/12/research-story-tip-for-blacks-with-respiratory-ills-individual-and-neighborhood-poverty-yield-worse-outcomes> (Accessed: 3 November 2025).
- Mehari, A. and Gillum, R. F. (2015) 'Chronic obstructive pulmonary disease in African- and European-American women: morbidity, mortality and healthcare utilization in the USA', Expert Review of Respiratory Medicine, 9(2), pp. 161–170. doi: 10.1586/17476348.2015.1016502.
- National Heart, Lung, and Blood Institute (NHLBI) (2023) Making Strides to Address COPD in Rural Communities. Available at: <https://www.nhlbi.nih.gov/news/2023/making-strides-address-copd-rural-communities> (Accessed: 3 November 2025).
- National Heart, Lung, and Blood Institute (NHLBI) (2024) COPD — Causes and Risk Factors. Available at: <https://www.nhlbi.nih.gov/health/copd/causes> (Accessed: 3 November 2025).
- Ohar, J. A., Donohue, J. F., & Brooks, J. I. (2021) Disparities in diagnosis and management of COPD: the role of clinician bias and communication. International Journal of Chronic Obstructive Pulmonary Disease, 16, pp.1807–1818.
- Pessoa Gingerich, C. (2019) 'Pulmonary Rehab Rates for African Americans Remain Low', HCPLive, 26 May. Available at: <https://www.hcplive.com/view/pulmonary-rehab-rates-african-americans-remain-low> (Accessed: 3 November 2025).
- Putcha, N., Han, M.K., Martinez, C.H., et al. (2014) 'Comorbidities of COPD Have a Major Impact on Clinical Outcomes, Particularly in African Americans', Chronic Obstructive Pulmonary Diseases: Journal of the COPD Foundation, 1(1), pp. 105–114. doi:10.15326/copdf.1.1.2014.0112.
- Regan, E., et al. (2023) 'COPD May Go Undiagnosed in African Americans Due to Lung Differences', COPD News Today, 17 July. Available at: [https://copdnewstoday.com/news/copd-may-go-undiagnosed-african-americans-due-lung-differences/#:~:text=In%20African%20Americans%2C%20%E2%80%9CCOPD%20is,said%20in%20a%20hospital%20press\(Ac](https://copdnewstoday.com/news/copd-may-go-undiagnosed-african-americans-due-lung-differences/#:~:text=In%20African%20Americans%2C%20%E2%80%9CCOPD%20is,said%20in%20a%20hospital%20press(Ac) (Accessed: 3 November 2025).
- Thakur, N., Barcelo, N. E., Bime, C., Benson, P., & Castro, M. (2020) Environmental exposures, structural racism, and racial disparities in COPD. Chest, 158(4), pp.1511–1520.
- Weeks, J.D. & Elgaddal, N. (2025) Chronic Obstructive Pulmonary Disease in Adults Aged 18 and Older: United States, 2023. NCHS Data Brief No. 529. Available at: <https://www.cdc.gov/nchs/data/databriefs/db529.pdf> (Accessed: 3 November 2025).

Aim & Objective

The aim of this research is to raise awareness of COPD among African American adults aged 40–65 who are current or former smokers, identify gaps in existing services and policies, and evaluate the effectiveness of current management strategies to improve outcomes for this population.

- To assess the level of awareness among African American adults aged 40–65 and healthcare professionals about the causes, symptoms, and prevention of COPD.
- To identify gaps and challenges in current healthcare services and policies related to the diagnosis, treatment, and support of COPD patients within this population.
- To evaluate the effectiveness of existing COPD management programs for African American adults aged 40–65 and recommend strategies for improving patient outcomes and quality of life.

Prevalance

- About 3.8% of U.S. adults have COPD, and rates rise sharply after age 40. (Weeks & Elgaddal, 2025).
- Data show COPD remains a steady burden for adults over 40 in all racial groups, highlighting its long-term nature (Ford et al., 2013).
- COPD affects about 3.5% of Black adults and 4.4% of White adults, but African Americans often have worse outcomes and more hospitalizations (Centers for Disease Control and Prevention [CDC], 2023).
- Studies show African Americans who smoke or used to smoke are often underdiagnosed compared to White adults, causing delays in treatment and worse disease (George et al., 2018).
- African Americans take part less in lung rehab programs, which hurts long-term management and recovery (Pessoa Gingerich, 2019).