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## INTRODUCTION

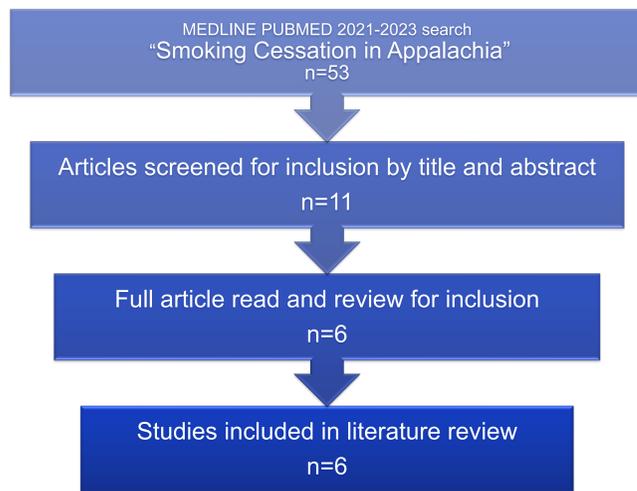
Smoking rates in the U.S. have declined significantly in the past 43 years with correlation between tobacco use and increase in comorbidities that result in mortality. The **Appalachian Region has the highest rate of adults who smoke in the US, at 25.2%**, which is more than a 50% increase of the national average of adults who smoke, according to a 2021 CDC report.

## PURPOSE OF STUDY

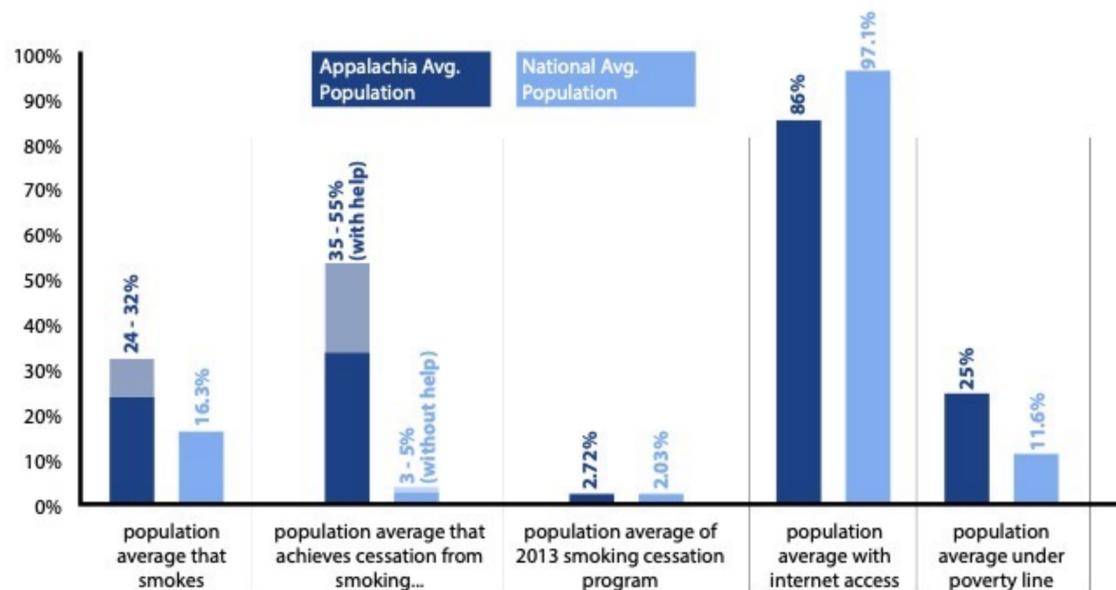
The aim of this study is to investigate potential reasons for high smoking rates in the Appalachian Region and to identify gaps between high smoking rates and successful smoking cessation programs, through a literature review.

## METHODS

Harvesting data for this literature review was done with an emphasis placed on the efficacy of tobacco cessation in the rural areas of the Appalachian region. According to the Appalachian Regional Commission (ARC) the Appalachian region stretches across 13 states and 423 counties. This defined parameter for the region was utilized with detriment to whether or not the literature that was searched would be utilized in this review. Studies that were not conclusively conducted in the Appalachian region and/or with study subjects from the region were culled from the original bank of studies, through a PubMed search, which included a total of 53 studies.



## RESULTS



The systematic review titled, 'Smoking Cessation Interventions in Appalachia: A systematic review and meta-analysis' revealed promising results. The study found that smoking cessation programs in the Appalachian region were effective, with a pooled result of 2.33, indicating their efficacy in achieving cessation. Notably, approximately 1 out of every 9 participants successfully quit smoking. Furthermore, the review highlighted the effectiveness of individual behavior counseling and internet-based programs in promoting smoking cessation. Specifically, nicotine-replacement therapy trials demonstrated a significant 50-60% success rate in helping individuals achieve cessation.

The study titled, 'Facilitated Smoking Cessation in America's Highest Risk Population: Community-centered Interventions in Rural Appalachian Kentucky,' examined various smoking interventions, including community-based programs, internet-based contingency management, healthcare provider facilitated interventions, and policy measures such as tobacco tax increases. While the community-based programs demonstrated moderate effectiveness, the most favorable outcomes were observed when tobacco cessation initiatives were accessible in convenient and familiar settings, supplemented by support groups and encouragement from family and friends.

The research article titled, 'Tobacco Use Among Appalachian Adolescents: A policy in Urgent Need for Virtual Scale out of Effective Interventions' revealed that weaker tobacco control policies are directly associated with increased access and exposure to tobacco among adolescents. The study proposes that implementing virtual tobacco interventions could effectively mitigate these unique barriers prevalent in the Appalachian region.

The study titled, 'Promoting Smoking Cessation Among Lesbian and Bi-Sexual Women: Lessons Learned from a Location-Based Media Campaign in Western North Carolina' involved the display of advertisements over a span of four years. The outcome revealed an engagement rate of 0.16% to 0.63% among viewers who interacted with the ads and clicked through to access additional information on smoking cessation.

In the study titled, 'Tobacco Cessation and Referral to the National Quitline,' findings revealed that out of the 24 participating employees, 66.7% utilized the medication provided to assist in tobacco cessation. The study reported a cessation rate of 12.5% and a notable 21% decrease in the quantity of cigarettes consumed among participants.

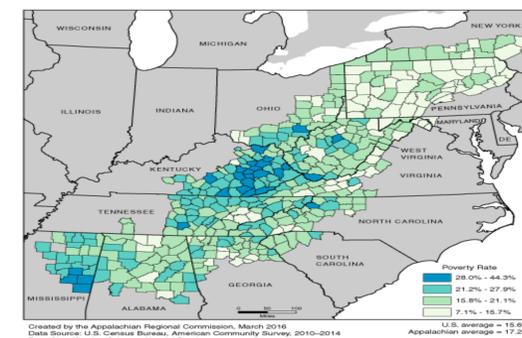
The study titled, 'Appalachian Disparities in Tobacco Cessation Treatment Utilization in Medicaid' revealed notable trends. Between 2013 and 2015, Kentucky Medicaid enrollees witnessed an 11.86% increase in tobacco-related diagnoses, juxtaposed with a significant 1.6% decline in participation in smoking cessation treatments during the same period. Moreover, Appalachian residents had a 0.69% higher rate of receiving smoking cessation treatment compared to non-Appalachian residents in 2013.

## SUMMARY OF RESULTS

The study findings highlight several effective facilitators of smoking cessation, including community-based support, smoking cessation programs, individual behavioral counseling, virtual smoking cessation programs, tobacco tax increases, utilization of the national Quitline, nicotine-replacement therapy, and targeted advertisements. Additionally, the literature review conducted by the study underscores the significant disparities experienced in Appalachia, such as high levels of poverty, limited post-secondary education, lack of access to resources, inadequate social support, and reduced internet access. These disparities pose formidable barriers to achieving successful smoking cessation outcomes in the region.

## DISCUSSION

There are multiple cessation modalities that show promising results. In Appalachia, there is a need for a tailored approach in navigating socioeconomic barriers including availability and access to cessation treatments. Data shows 86% of Appalachians have internet and telephone access which provides opportunity to circumvent these issues. Strategies such as focused recruitment, targeted advertisements, and medication assisted cessation programs seem to provide higher rates of success.



## CONCLUSION

Addressing these barriers requires tailored approaches that consider the unique socioeconomic, cultural, and geographical factors present in rural Appalachian communities. Future implications for studies include, expanding and enhancing community centered interventions, targeting specific populations, long-term follow up of study subjects, and education and awareness regarding associated health risks that are directly related to smoking. These findings will serve as a platform for regional healthcare systems to possibly improve or implement in the Appalachian region they serve. Each of these implications have potential to further the data needed to achieve higher smoking cessation rates in Appalachia and find the missing link to success.

## REFERENCES

