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## Smoking Cessation Interventions Among African Americans: Research Needs

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### Introduction

Smoking is the leading cause of preventable death and disability in the United States, and African Americans (AAs) bear a disproportionate burden of the health consequences of smoking.<sup>1</sup> Compared with white smokers, AA smokers have a higher incidence and death rate for cancers of the oral cavity and pharynx, esophagus, cervix, larynx, stomach, pancreas, and lung.<sup>2,3</sup> The death rate from cerebrovascular disease is approximately twice as high among AAs compared with whites, and the 1998 Surgeon General's Report concluded that "cigarette smoking among AAs clearly appears to have a significant role in elevating the risks of stroke in this population."<sup>3</sup> Because of the health disparities attributable to smoking, smoking cessation among AAs has been identified as a national health priority.<sup>3</sup> However, the search for effective methods to reduce tobacco use among AA smokers is hampered by the paucity of high-quality, well-designed research in at least two key areas: (1) the efficacy of treatments among AA smokers, and (2) racial/ethnic differences that may affect treatment selection and outcome. This paper briefly summarizes the research needs in these two areas.

### Research on Smoking Cessation Interventions Among African Americans

The *Treating Tobacco Use and Dependence Clinical Practice Guideline*<sup>4</sup> concluded that "members of racial and ethnic minorities should be provided treatments shown to be effective in this guideline." However, that recommendation was based largely on the fact that most of the 192 studies included in the Guideline meta-analyses were conducted among heterogeneous study populations,<sup>5</sup> which have tended to consist of predominantly white, middle-class smok-

ers who volunteered for smoking cessation clinical trials.<sup>6</sup> Thus, even though the last several decades have produced an explosion of research on treatments for smoking cessation, and particularly so for pharmacotherapies, none of the 192 studies in the Guideline reported abstinence rates separately based on race/ethnicity, and "Guideline researchers were unable to conduct a meta-analysis to characterize the efficacy of even a single treatment with respect to gender or racial/ethnic status."<sup>5</sup>

In addition to this glaring lack of data directly addressing treatment efficacy among AA smokers, the evidence that does exist suggests that the efficacy of many standard treatment approaches among AA smokers is unclear.<sup>7,8</sup> For example, a recent review of smoking cessation treatments conducted in AA populations concluded that "church-based programs may provide an effective location for cessation interventions, but the studies to date did not demonstrate unequivocal effectiveness. In clinic programs, there do not appear to be any interventions that are particularly effective. In community-based interventions, there were no differences for African and Caucasian Americans."<sup>7</sup>

Finally, much of the treatment efficacy research conducted among AA smokers has been plagued by methodological weaknesses. A recent review of the effectiveness of behavioral smoking cessation treatments among minority populations, and AA smokers in particular, reported that only a third of those studies were randomized clinical trials and 70% failed to collect biochemical verification of abstinence.<sup>8</sup>

In sum, very few studies directly evaluate the efficacy of smoking cessation treatments among AAs,<sup>4</sup> and the results are not entirely supportive of treatment approaches commonly recommended and used in the field.<sup>7</sup> Thus, there is a desperate need for well-designed research on the efficacy of smoking cessation treatments among AAs (eg, utilizing randomized clinical trials, appropriate control groups, biochemical confirmation) with respect to standard treatments as well as new treatments.<sup>3,5</sup>

### Racial/Ethnic Differences Affecting Treatment Selection and Outcome

Another major barrier in the search for effective methods to reduce tobacco use among AAs is the limited number of studies investigating potential racial/ethnic differences that could influence the selection and outcome of treatment among AA smokers, despite some evidence suggesting that such differences may exist. For example, some studies suggest that AAs are less knowledgeable and hold weaker beliefs about the adverse health effects of smoking

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than do whites.<sup>9-13</sup> Qualitative data suggest that AAs believe quitting smoking is particularly difficult for them because they live in highly stressful environments, view smoking as effective in coping with that stress, and see little social support or resources for quitting.<sup>14</sup> Also, AA smokers appear more interested in using prayer to help them quit smoking.<sup>15,16</sup>

These findings suggest that compared to whites, AAs might be particularly likely to benefit from treatments aimed at changing beliefs about the adverse health effects of smoking, reducing stress, enhancing self-efficacy, increasing social support, and incorporating spirituality. Nevertheless, few studies have examined potential racial/ethnic differences in response to particular behavioral strategies, and the Surgeon General's Report concluded that "little is known about the psychosocial factors that influence cigarette smoking cessation among members of racial/ethnic groups" and "future research should focus on group-specific attitudes and expectancies."<sup>3</sup>

Similarly, data that address racial/ethnic differences on biological factors related to smoking cessation are limited, although the data that do exist are intriguing. Compared with whites, AAs smoke fewer cigarettes per day but appear to have a higher nicotine intake per cigarette and slower clearance of cotinine.<sup>17</sup> These differences could help to explain some of the disparities in the health effects of smoking and why AAs have higher cotinine levels per number of cigarettes smoked than do whites.<sup>18,19</sup> Moreover, these differences could also affect treatment selection and outcome. Because AAs smoke fewer cigarettes per day and clear out nicotine at a slower rate than do whites (ie, they display fewer peaks and valleys in blood nicotine in response to smoking than do whites), AA smokers may benefit relatively more from treatments targeted at maintaining steady state blood levels of drug (eg, patches, bupropion) than they do from rapid acting treatments (eg, sprays, inhalers). Other potentially important factors also remain unexplored. For instance, compared to whites, AAs are much more likely to smoke menthol cigarettes,<sup>20</sup> and there is a strong need for research addressing how menthol influences cessation and disease processes among AAs.<sup>21</sup>

In sum, there is at least suggestive evidence indicating that a number of biological and behavioral factors related to smoking cessation may differ among racial/ethnic groups. These factors could have important implications for more optimal targeting of treatments to specific racial/ethnic groups. Unfortunately, the scarcity of data on racial/ethnic differences on basic biological and behavioral factors that influence smoking cessation undercuts the development of treatment approaches targeting mechanisms of particular importance for AA smokers.

## Conclusions

There is evidence that AAs are disproportionately burdened by the adverse health effects of smoking, yet the efficacy of current treatment approaches in this group is unclear. A close examination of previous research demonstrates that there is a strong need for carefully designed studies in AA populations that specifically address (1) the efficacy of both standard and novel treatment approaches and (2) racial/ethnic differences on factors that may influence treatment selection and outcome.

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