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SPECIAL ARTICLES

## “Count on Sleep”: an OSA awareness project update

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Obstructive sleep apnea (OSA) is a common, chronic sleep-related breathing disorder that affects approximately 12% of the US adult population. Greater public awareness of OSA is necessary to decrease the number of people with undiagnosed or untreated OSA and reduce the negative health consequences of unrecognized OSA. In 2021, the American Academy of Sleep Medicine initiated the “Count on Sleep” project in partnership with key stakeholders with the objective of raising the awareness of OSA among the public, health care providers, and public health officials. Four workgroups implemented strategies and completed tasks focused on increasing OSA awareness in their targeted areas to address the objectives of the project including (1) Public Awareness and Communications, (2) Provider Education, (3) Tool Development and Surveillance, and (4) a Strategic Planning workgroup that coordinated efforts across the project. Over the first 2 years, workgroups made substantial progress toward project goals including holding “listening sessions” with representatives of communities disproportionately affected by OSA and its consequences, developing resources for primary care providers that can be easily accessed and used in practice, and developing a brief survey for use in estimating and tracking OSA risk across the population. Over the first 2 project years, workgroups made significant progress in advancing efforts to increase awareness of OSA in US communities. The third year of the project will focus on dissemination of campaign materials and resources for all targeted groups, including the public, health care professionals, and public health professionals.

**Keywords:** obstructive sleep apnea, public health, public awareness, health disparities

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### BRIEF SUMMARY

**Current Knowledge/Study Rationale:** Increased public awareness of obstructive sleep apnea is necessary to reduce the public health burden of this common sleep disorder. The “Count on Sleep” public awareness campaign developed strategies and resources to decrease the number of people in the United States with undiagnosed obstructive sleep apnea through increased awareness.

**Study Impact:** Over the first 2 project years, workgroups identified barriers and challenges to obstructive sleep apnea awareness and developed resources for use by the public, healthcare professionals, and public health professionals.

## INTRODUCTION

### Rationale and purpose

Obstructive sleep apnea (OSA) is a chronic sleep-related breathing disorder that involves a decrease or cessation in air-flow during sleep, despite an ongoing effort to breathe, and requires ongoing treatment and management.<sup>1</sup> An estimated 12% of the US adult population has OSA and approximately 80% of these individuals (23.5 million) are undiagnosed.<sup>2</sup> Untreated OSA increases the risk for hypertension, heart disease, stroke, diabetes, and depression. Due to increased physical and mental health care costs, work productivity losses, and increased accidents, undiagnosed OSA costs the United States more than \$149 billion annually.<sup>2</sup> The large number of undiagnosed people and the significant negative health and economic impact of untreated OSA demand a concerted, evidence-based, targeted approach to raise awareness among the public, health

care workers, and public health officials. Barriers to the prompt identification and treatment of OSA have been identified in health care workers and in patients,<sup>3–6</sup> and efforts to address those barriers through educational materials have been pursued. In this paper, we provide an overview of activities conducted by the American Academy of Sleep Medicine during the first 2 years of the 3-year “Count on Sleep” OSA Awareness project, which is funded through the Centers for Disease Control and Prevention.

### Project description

“Count on Sleep” is a collaborative, multiorganization project led by the American Academy of Sleep Medicine. The primary goal is to reduce the number of adults living with undiagnosed or untreated OSA in the United States through a comprehensive approach to OSA awareness. This project promotes awareness

of OSA in multiple informational domains, including evidence-based screening and testing, diagnosis and referral options, treatments, and long-term management options, with the goal of equipping health care workers and the public with key information regarding OSA recognition. A specific intent is to increase screening for OSA by primary care providers, who are the first point of health care contact for many patients. The goal of increasing awareness of public health data related to OSA is to spur public health stakeholders to address this issue with the communities most affected. The project specifically targets groups noted by the National Institute on Minority Health and Health Disparities who are experiencing health disparities. Finally, the project aims to increase knowledge regarding the prevalence of OSA risk across the United States by developing a brief survey instrument with enhanced specificity compared to prior estimation tools.

### Goals and objectives

The primary goal of "Count on Sleep" is to decrease the number of people with undiagnosed or untreated OSA in the United States by achieving the following outcomes:

- Increased awareness of OSA public health data among public health professionals and non-sleep health professionals.
- Development and dissemination of evidence-based public health strategies to address OSA.
- Increased awareness of OSA, testing options, referral options, and treatment/management options among public health professionals and non-sleep health professionals.
- Increased awareness of OSA, testing procedures, and evidence-based treatment/management options in the public, including specific communities affected by OSA-related health disparities.
- Increased use of sleep apnea screening tools/questions by non-sleep health professionals.
- Suggest a tool for nationwide use to gather specific prevalence data regarding OSA risk.

### Structure/partners

Several organizations have partnered with the American Academy of Sleep Medicine on this project including the Sleep Research Society, the Alliance of Sleep Apnea Partners, the American Academy of Dental Sleep Medicine, the American Academy of Otolaryngology – Head and Neck Surgery, the American College of Chest Physicians, the American Society for Metabolic Surgery, the American Thoracic Society, and the National Sleep Foundation.

Individuals participating in the project are organized into 4 workgroups: Public Awareness and Communications, Provider Education, Tool Development and Surveillance, and Strategic Planning. Members in each of these workgroups implement strategies and complete tasks focused on increasing OSA awareness in their targeted areas to address the objectives of the project. The Strategic Planning workgroup provides oversight of the project and guidance to the other workgroups. Each workgroup is composed of members of the project partner

organizations and is chaired by an American Academy of Sleep Medicine member.

## PUBLIC AWARENESS AND COMMUNICATIONS WORKGROUP

### Goals and activities

The Public Awareness and Communications workgroup focuses on the creation, dissemination, and communication of project messaging and materials through various media, communication, and collaborator channels with the goal of increasing public awareness. The overarching goal is to encourage individuals with undiagnosed/untreated OSA to speak to a health care professional regarding their symptoms to facilitate eventual diagnosis and treatment. These public awareness strategies have 2 separate foci: a widespread public-facing national campaign and targeting priority communities that are significantly affected by health disparities.

The project focuses on National Institute on Minority Health and Health Disparities designated health disparity populations including African American/Black populations, Hispanic/Latinx populations, and Native American/American Indian populations.<sup>7</sup> Available data indicate an elevated prevalence of OSA in these communities,<sup>8,9</sup> suggesting a need for culturally competent public health interventions in sleep health. In collaboration with community partners, specific messaging and materials are being developed for these identified communities. To effectively reach these communities, stakeholders representing these priority communities provided insights into how best to integrate messaging about OSA into public awareness programming during the first 2 years of the project. Implementation of community-based programming and culturally relevant messaging is a primary goal for year 3. To engage the voices of these communities in message development, the workgroup held 3 summit/listening sessions with community stakeholders to gain perspective on how best to approach OSA messaging and to underscore the importance of recognizing symptoms and seeking assistance from a health care professional. The workgroup will continue to engage these stakeholders through the end of the project.

### Barriers and solutions

#### *Knowledge of OSA is limited in the public*

Because OSA can be a difficult disorder to understand and explain, the workgroup determined the public campaign should focus on a common, easily identifiable, and understandable symptom of OSA: snoring. The national "More than a Snore" campaign launched in February 2023 as an appeal to the public to recognize that snoring can be a symptom of OSA and should be discussed with a health care professional.

#### *Collaboration with community organizations is challenging due to time and budget constraints*

Many community organizations have limited resources, including staff and funding, to address the myriad of community programs they offer. Most of these organizations have a limited

range of topics that they can address within the communities they serve. As a result, the workgroup found establishing relationships with these organizations difficult. To address this, the project leaders widened the search of organizations to include all sizes of organization (local through national) and focus areas (beyond health care–centered) and persisted in communications until the workgroup secured sufficient stakeholder collaborations.

### Key outcomes

- The Count on Sleep website ([www.countonsleep.org](http://www.countonsleep.org)) was created and houses all project materials, and provides educational content to the public, health care providers, and public health professionals.
- The "More than a Snore" campaign messaging has been viewed by thousands of people through the public awareness and marketing activities (website, social media, advertising, partner communications) conducted through this project.
- The workgroup determined that culturally appropriate, easily accessible programming is needed to reach communities that experience health disparities.

## PROVIDER EDUCATION WORKGROUP

### Goals and activities

The Provider Education Workgroup determines educational and informational needs and creates appropriate provider education beyond basic OSA information to address gaps in available OSA resources for non–sleep specialist health care professionals. The workgroup focuses on the creation of educational materials that assist health care providers in screening, diagnosing, treating, and referring patients with OSA with a focus on resources that can be implemented in daily practice.

### Barriers and solutions

#### ***Primary care health care professionals have limited time to address OSA***

The workgroup created short, easy-to-use resources (videos, flowcharts, templates, algorithms, screeners) to help health care professionals add OSA-related care into their practice.

### Key outcomes

- The workgroup determined that there is a lack of practical, hands-on resources for primary care or non–sleep specialist health care professionals and created materials to address this gap.
- Sixteen provider education resources were created and disseminated, including 6 webpages, 4 downloadable algorithms, 3 videos, 6 clinical vignettes, screening tools, and other templates/resources, which can all be found on the Count on Sleep website (<https://sleepeducation.org/get-involved/count-on-sleep/providers/practice-resources/>).
- Materials/messaging have been disseminated through social media and ads, as well as directly through

conference exhibiting including at the American College of Physicians and American Academy of Family Practitioners annual meetings.

## TOOL DEVELOPMENT AND SURVEILLANCE WORKGROUP

### Goals and activities

The Tool Development and Surveillance Workgroup assesses the ongoing, systematic collection, analysis, interpretation, and dissemination of sleep health data for use in public health, including creation of a National Indicator Report, and recommendations for public health survey questions to address gaps in data collection.

### Barriers and solutions

#### ***Public health programs that address OSA are scarce***

Large public health programs have not addressed OSA in the past so proven strategies for OSA education by public health entities do not exist. The National Indicator Report therefore drew from the best available evidence to provide a basis for public health entities to build new programs.

#### ***Due to the complex nature of OSA, succinct surveying is difficult***

The workgroup reviewed questions from existing large-scale, comprehensive national health surveys that contained questions about sleep and questions from focused, detailed surveys specifically designed to assess OSA risk in clinical and research settings. The group selected questions they deemed most likely to improve specificity of survey instruments in identifying OSA risk, while also maintaining brevity, and preferentially included questions that were validated previously.

### Key outcomes

- The workgroup compiled a document of best practices for addressing OSA to inform project-wide messaging and materials.
- The workgroup published a National Indicator Report on OSA (<https://sleepeducation.org/wp-content/uploads/2023/03/obstructive-sleep-apnea-indicator-report.pdf>), providing the public health community and health care providers with comprehensive information about OSA including prevalence, symptoms, risk factors, diagnosis and treatment, risks associated with untreated OSA, costs of OSA, and other topics relevant for public health professionals.
- The workgroup developed survey questions to guide future collection of OSA-related risk distribution across the United States.

## STRATEGIC PLANNING WORKGROUP

The Strategic Planning workgroup provides overall strategic direction for the project and sets and monitors project

**Table 1**—Key lessons about OSA awareness for target groups.

Public	Public messaging should be easy to understand and include a call to speak directly to a health care professional.
	Negative stereotypes and myths about OSA, snoring, and treatment options must be dispelled before people act.
	Connecting OSA to other comorbid conditions that people are more familiar with or already treating, such as high blood pressure, diabetes, or heart disease, resonates with the public.
	Culturally competent messaging and imaging is important to reach different communities, including those that experience health disparities such as African American/Black communities, Hispanic/Latinx communities, and American Indian/Alaskan Native communities.
Health care professionals	Primary care or other non-sleep-related health care professionals must first recognize the symptoms of OSA and screen patients that have a high probability of OSA.
	Strategies for primary care professionals must be succinct and easy to integrate into everyday practice.
	Providers need information about all available treatment options as some patients may not tolerate/are noncompliant to treatment with continuous positive airway pressure.
Public health professionals	80% of OSA cases are undiagnosed, contributing to other major health conditions.
	Widespread public health programs are needed to increase awareness of OSA with professionals, policy makers, and communities.
	More data are needed on OSA prevalence in specific subgroups, longitudinal trends in national/regional communities and social determinants of sleep health.

OSA = obstructive sleep apnea.

outcomes. The group reviewed and approved major campaign components (including the National Indicator Report, public campaign themes, provider education algorithms) as well as all required grant documentation and reporting. **Table 1** summarizes key lessons learned for each of the target audiences for public health messaging within this project.

### FUTURE DIRECTIONS AND NEXT STEPS

#### Final project year

During year 3, the project will focus on continuing to address identified gaps in awareness through dissemination of campaign materials and resources for all targeted groups, including the public, health care professionals, and public health professionals. The tasks will be to:

1. expand public health messaging and distribution channels
2. create additional educational materials for health care workers, including a continuing medical education opportunity for non-sleep health professionals
3. distribute sleep health data (the National Indicator Report) to public health departments and other stakeholders
4. finalize survey question recommendations and submit them to the Centers for Disease Control and Prevention for consideration and
5. create and distribute messaging and programming to communities that experience health disparities related to OSA, including African American/Black communities, Hispanic/Latinx communities, and American Indian/Alaskan Native communities.

These strategies will meet the primary goal of the project and achieve the critical outcome of increasing awareness of OSA.

#### Future considerations

Upon completion of this project, we plan to determine additional needs to raise awareness for OSA, apply lessons learned to other sleep disorders, and maintain collaborations among organizations interested in public awareness activities. Additional research is needed to determine how best to increase awareness among communities that experience OSA-related health disparities. These efforts would allow communities with disproportionate rates of undiagnosed OSA and its related morbidity to seek care and encourage public health efforts to increase access to care. Without access to vital health care services, these individuals continue to remain at risk for negative health-related consequences of untreated disease, and the public continues to experience risk including driving accidents and greater economic burden due to health effects, safety risks and loss of work productivity. Increased awareness of OSA is an essential first step in improving population sleep health in the United States.

### ABBREVIATIONS

OSA, obstructive sleep apnea

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