


Sleep—an Essential Component of Obesity Screening and Counseling: A Policy Analysis of the Affordable Care Act

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Abstract

The Patient Protection and Affordable Care Act (PPACA) has provided access to health care for millions of people in the United States. One of the most beneficial aspects of the PPACA is the obesity screening and counseling provision. Currently, it is estimated that over 39% of US adults are obese. Research has linked sleep disturbances to obesity and obesity-related behaviors. The purpose of this article is to advocate for evidence-based care through the inclusion of sleep disturbance screening and management under the PPACA obesity screening and counseling provision. An in-depth policy analysis of the PPACA was conducted to examine the feasibility of adding sleep screenings to the obesity screening and counseling provision available under current law. Findings suggest that the adoption of this policy would require stakeholder advocacy and educational reform. Implementation of the policy would require additional economic investments, but the long-term savings could be significant. A campaign to raise awareness regarding the association between sleep disturbance and obesity among the public and health care professionals would be essential. Policy implementation would require interprofessional collaboration when performing sleep disordered screening and management. Preventative health care for individuals who have not previously accessed the health care system has the potential to socially and economically benefit society if policies provide for evidence-based care. Sleep screening and counseling is essential under the PPACA to adequately address the US obesity crisis.

Keywords

policy making, sleep, obesity, Patient Protection and Affordable Care Act, evidence-based practice, counseling, adults, United States, health services administration

What do we already know about this topic?

Sleep is associated with obesity and weight-related behaviors; thus, sleep screenings should be included in any efforts aimed at reducing obesity rates.

How does your research contribute to the field?

This article provides a detailed overview of the importance of sleep screenings when performing obesity screenings and management under the Patient Protection and Affordable Care Act, including an outline for implementation of this policy.

What are your research's implications toward theory, practice, or policy?

This review provides evidence that sleep is associated with obesity and weight-related behaviors and outlines how the current PPACA fails to adequately address obesity by excluding sleep screenings as part of the obesity screening and management provision.

Introduction

According to the Centers for Disease Control and Prevention (CDC), approximately 39.8% of adults¹ and 18.5% of children² in the United States are obese. Currently, the Patient Protection and Affordable Care Act (PPACA) covers obesity screening and counseling under the provision for preventative and wellness services and chronic disease management.³

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The PPACA does not specifically address sleep disorders, however, which has been directly linked to behaviors that result in weight gain and an increased risk for diabetes,⁴⁻⁸ cardiovascular disease,⁹⁻¹¹ stroke,^{12,13} and obesity.^{6-8,12-14} Therefore, sleep evaluations should be included in the obesity screening and counseling provision presently afforded as part of the PPACA if the full benefits of these services are to be realized. Specifically, sleep quality and sleep duration should be included as part of obesity screenings to effectively reduce obesity rates in the United States.

The policy change advocated for in this article incorporates both the screening and management of physiological and behavioral sleep disturbances under the obesity screening and counseling provision in the PPACA. A primary focus of the PPACA is an improvement in the quality of care through collaboration of health care professionals and the adoption of evidence-based care practices.¹⁵ Incorporating sleep evaluations during obesity screening and counseling would allow health care providers to work collaboratively in addressing the prevention and treatment of obesity in an evidence-based manner.

As with any new policy, there will be associated costs and benefits. These costs and benefits need to be evaluated to anticipate needed resources and potential savings. The incorporation of new evaluations will result in an increased need for provider resources and will undoubtedly lead to an increased need for treatment and interprofessional collaboration. Furthermore, health care professionals will need to be educated on the importance and need for sleep evaluations in the treatment of obesity. There is no question that these efforts will have associated costs, but the effectiveness of treating sleep disorders should result in a decrease in obesity and obesity-related illnesses, thereby reducing health-related expenditures. Furthermore, this policy change should result in improved health for the nearly 20 million individuals who have gained health insurance coverage under the current legislation.¹⁶

Background

The evaluation of sleep quality and sleep duration is critical to identify the underlying causes of behaviors associated with obesity, including poor food choices and decreased physical activity. It is recommended that adults achieve a minimum of 7 hours of sleep per night and recommendations for teenagers (8 hours) and children (9 hours) are slightly higher.¹⁷ Yet, within the United States, only 64.8% of adults achieve recommended sleep durations¹⁸ while middle-school and high-school students perform poorer at 42.2% and 27.3%, respectively.¹⁹ This is a concern because over two-thirds of US adults are overweight or obese,¹ and according to the CDC,²⁰ obesity-related health care costs the United States approximately \$147 billion per year. Thus, adoption of the PPACA makes this an ideal time to ensure that efforts aimed at thwarting the negative health consequences of obesity are thorough and evidence based.

The PPACA requires that all health plans, both inside and outside the state and federal health care exchanges, provide individuals with coverage for 10 essential health benefits. The goal of this portion of the law is to ensure that all individuals have access to quality health care at an affordable cost.²¹ Providing individuals with basic preventative care is expected to decrease the incidence of chronic health conditions and reduce health care expenditures.

Although the PPACA has been politically controversial, there should be no argument regarding the need for improved evidence-based care aimed at promoting health and decreasing costs. As the political establishments continue to adapt and respond, ongoing evaluation of the PPACA will be compulsory to determine the effectiveness of the current policy. A part of this evaluation should include determining which elements of health care necessitate additional coverage. These evaluations should be clear to assess the impact of the law on health outcomes and aim to adopt modifications grounded in research. An evaluation of the effectiveness of programs aimed at the prevention/reduction of obesity will need to include a review of the link between obesity and associated risks such as inadequate/poor sleep.

The US CDC recently declared insufficient sleep a public health epidemic.²² This report is not surprising given the demanding lifestyles most US citizens lead. Competing life demands such as work, family, social activities, and school can lead individuals to choose sleeping less to make time for other activities.²³ In addition, poor sleep has been linked to increased body weight.²⁴ Data collected from 2013 to 2014 reflected that more than one-third of US adults were obese, with body mass index (BMI) scores ≥ 30 kg/m².²⁵

Poor sleep and short sleep duration are linked to cardiovascular disease,⁹⁻¹¹ depression,^{14,26,27} anxiety,²⁸ obesity,^{6-8,12-14} and diabetes.⁴⁻⁸ Sleep deficiencies are also associated with hormonal changes affecting metabolic functioning, including increased insulin resistance,⁴ increased glucose,⁵ and elevated glycated hemoglobin (HbA1c).²⁹ Rudnicka and colleagues⁵ found an inverse relationship between sleep duration and insulin resistance. Sawamoto et al³⁰ reported that in overweight and obese women undergoing a weight loss intervention, insulin resistance rose as the number of waking episodes increased.

Sleep deficiency results in changes in the release of the hormones, leptin and ghrelin, which affect metabolism.^{31, 32} Leptin acts as an appetite suppressant and ghrelin is an appetite stimulant. As sleep duration and sleep quality decrease, leptin also decreases and ghrelin increases. In young children and adolescents, leptin levels were lower in those who reported shorter sleep duration.³¹ Broussard and colleagues³² found that sleep restriction resulted in a significant increase in ghrelin levels compared with normal sleep. Conversely, the directional movement of ghrelin was inconsistent based on sleep duration in Reynolds and colleagues³³ study indicating that a variety of factors may contribute to hormonal release, and it may be difficult to control the large number of

confounding factors to isolate the effect of sleep on these hormones.

The effects of sleep deficiency on increased food consumption and decreased physical activity is consistent across many studies.³⁴ Kruger et al³⁵ found that in adolescents, sleeping less than the recommended 8 hours per night made them less likely to consume fruits and vegetables and more likely to eat fast food. Likewise, among adult women, shorter sleep duration and poorer sleep quality have been linked to increased stress and emotional eating.³⁶ Among type 2 diabetic patients, poor sleep quality has been found to be associated with negative physical functioning.³⁷

Sleep deficiency contributes to weight gain in a variety of populations.^{38,39} This effect is often based on behavioral responses resulting from physiological changes caused by sleep deficiency. Sleep deficiency can lead to hormonal and metabolic changes that negatively influence behaviors, such as excess food intake and decreased physical activity.⁴⁰ These behaviors are particularly detrimental in a population susceptible to weight gain such as low-income individuals and minorities. Furthermore, weight loss interventions frequently fail because they do not get to the root cause of why individuals overeat,⁴¹ and sleep management interventions have been shown to decrease weight.⁴² Given these findings, it is important to incorporate sleep management into interventions aimed at prevention of weight gain. Health promotion interventions incorporating sleep management into obesity programs will require the support of many stakeholders because the impact of obesity on health and economic outcomes is significant.

Policy Analysis

Several political, civil, and health care organizations would be affected by the adoption of a policy that incorporates both the screening and management of physiological and behavioral sleep disturbances under the obesity screening and counseling provision in the PPACA. According to the Centers for Medicare and Medicaid Services, health care expenditures are predicted to climb to nearly 20% of the gross domestic product in the United States by 2025.⁴³ This makes the impact of any policy change related to health care particularly far reaching and sweeping. Therefore, the multitude of stakeholders affected by any policy must be considered before attempting to advocate for change.

Politically, the addition of services under the PPACA would be controversial. Politicians are sensitive to the prospect of increased budgetary demands. It is difficult in the current political environment to advocate for plans that increase the need for resources when many safety net services have been cut financially. Johnson et al⁴⁴ note that at least 46 states were forced to cut services to the most vulnerable because of declining tax revenues and drained budget reserves resulting from the 2008 financial crisis. Research to support any additions to services is essential and projections regarding long-term savings need to be specified.

Attaining political support to add services to the PPACA would be difficult in the current political environment. To garner political support for the proposed policy, those in leadership positions would have to be willing to vote for the provision of additional services. Therefore, it may be prudent to begin with raising awareness among advocacy groups and the citizenry before approaching law makers. The use of public pressure to convince politicians to adopt new policies has been successful in passing a variety of laws related to civil rights and social programs. Pacheco and Maltby⁴⁵ found that state lawmakers have depended on shifts in the public support of policies to guide their votes related to state-level health care policies since passage of the PPACA. Thus, identifying advocacy groups that support the proposed law and using their resources and voice to raise awareness are methods supporters could use to increase public pressure.

Several advocacy groups support the promotion of health care aimed at reducing obesity and decreasing associated chronic conditions. They include the American Diabetes Association (ADA), the American Heart Association (AHA), the American Association of Nurse Practitioners (AANP), the American Nurses Association (ANA), the American Association of Family Physicians (AAFP), the Institute for Healthcare Improvement, the Institute of Medicine (IOM), the American Academy of Nursing (AAN), the Academy of Nutrition and Dietetics, and The Obesity Society. These groups identified the importance of sleep in preventing chronic health conditions. Unifying these organizations around the proposed policy change may lead to increased public pressure. Table 1 outlines the breakdown of the more than 500 000 professional members that belong to the identified advocacy groups. In addition to these organizations, the American Association of Retired Persons also identified sleep as an important contributor to overall health.⁴⁵ With over 37 million members, gaining an endorsement from this organization could also assist in moving the proposed policy forward.

Two important government agencies are focused on the promotion of health and the prevention of obesity and obesity-related illnesses. The World Health Organization and the CDC have both identified sleep as an important issue facing the health of the US and International public.^{46,47} In January 2014, the CDC identified insufficient sleep as a public health epidemic.⁴⁸ As a result, sleep surveillance has been increased and new collaborations regarding the identification of sleep-related disorders are being formed.

Health care professionals will also need to be convinced of the need for policy implementation, much like politicians. Health care workers would be notably impacted by the expansion of services related to obesity screening and counseling in a variety of ways. Physicians, nurse practitioners, and physician assistants would need to extend the time required to complete a health history if sleep evaluations were added to assessments. They would also require enhanced education regarding the different types of sleep disorders, appropriate

Table 1. Estimated Membership of Identified Advocacy Groups.

Organization	Individual professional members
American Diabetes Association	16 000
American Hospital Association	32 000
American Association of Nurse Practitioners	50 000
American Nurses Association	180 000
American Association of Family Physicians	97 600
The Obesity Society	2500
Institute for Healthcare Improvement	200 000
Institute of Medicine	1800
American Academy of Nursing	2200
Academy of Nutrition and Dietetics	100 000

treatment and/or referrals for each one, and the association between sleep and obesity. It is possible that there may also be an increased need for sleep medicine specialists if routine evaluations became part of the required PPACA coverage. Furthermore, additional policies addressing insurance coverage may need to be addressed. Currently, most health insurance coverage does not provide for continuing care once a patient receives an evaluation and treatment plan for sleep apnea. This is not adequate, as many individuals with sleep apnea also experience other sleep disorders.

Policy Recommendations

1. Support the addition of screening and management of physiological and behavioral sleep disturbances under the obesity screening and counseling provision in the PPACA.
2. Facilitate interprofessional collaboration in the screening and treatment of sleep disturbances.
3. Integrate the evaluation of sleep disturbances into health professionals' educational curricula.
4. Promote public awareness regarding the need for healthy sleep in preventing chronic health conditions including obesity and related illnesses.

Implementation

The first step in implementing the proposed policy would be to raise awareness regarding the association between inadequate/poor sleep and obesity. A variety of venues would need to be addressed. The first group to target for awareness raising would be professional organizations such as the ANA, AANP, AAN, AAFP, IOM, AHA, ADA, and the Obesity Society. A focused effort to unify these organizations around the need for better recognition of sleep disorders and the need for further research aimed at identifying the underlying biologic processes linking sleep disorders to obesity would be a start in promoting the proposed policy. This effort could be led by individuals invested in the proposed policy change.

Presentations at conferences and articles in organization publications would lead to a higher level of awareness among professional members.

Next, public outreach and education about the association between sleep disorders and obesity would be essential. This could be accomplished through partnerships with entities such as AccentHealth, a patient education channel produced by CNN and commonly shown in physician waiting rooms. Partnerships with CNN student news would also be an approach to reach children. CNN student news is shown around the United States in public school classrooms. Introducing the topic to children would allow them to share information with their parents and would also begin the process of educating the young on the importance of sleep in preventing obesity.

Finally, the process of convincing politicians to adopt the proposed policy would begin during the awareness raising phase. Politicians, along with health insurance providers, should be targeted with information regarding the association between poor/inadequate sleep and obesity. Educating decision makers regarding the potential costs associated with poor/inadequate sleep while raising awareness in the community would be the first step to ensure implementation of this policy.

The second step in implementing the proposed policy would be to explore strategies for improving interprofessional collaboration in the screening and management of sleep disorders. Once physicians, nurses, dietitians, health insurance providers, and consumers are aware that poor/inadequate sleep is associated with obesity, groups of stakeholders could be brought together to identify what role each should play in the identification and treatment of such problems. Nurses, often the first to identify sleep problems, would be primed to take the lead in these efforts. It would also be important to include sleep medicine, as they primarily treat patients for obstructive sleep apnea, but can also be included in the care of other sleep disorders.

Once stakeholders determined their role in identifying and treating sleep disorders, the third step of implementation would be to integrate the identification and treatment of sleep disorders into health professions education programs. Currently, most health professions education programs provide information on identifying and treating sleep disorders, but it is often narrow in scope and does not emphasize the impact of sleep on obesity and obesity-related illnesses. The best way to ensure that this content becomes a consistent part of programs would be to lobby accrediting bodies such as the American Association of Colleges of Nurses, the Liaison Committee on Medical Education, and the Accreditation Council for Education in Nutrition and Dietetics. Advocating for inclusion of this content in the standards and essential graduate outcomes would ensure that schools consistently included this content in program curricula.

The final step would be to garner political support for the inclusion of the proposed provision under the PPACA. In this

last phase which would most likely take the most time, politicians would need to be convinced about the importance of both the screening and management of physiological and behavioral sleep disturbances under the obesity screening and counseling provision in the PPACA. This step could only be successful if the first 3 steps of implementation were completed and the support of professional, consumer, and governmental organizations was evident.

Discussion

Political Implications

There are many political implications surrounding the adoption of the proposed policy. The proposed policy would initially increase the cost of health care for individuals covered under the PPACA. Thus, it is important to understand that the proposed policy could only be introduced once preliminary support has been obtained from stakeholders and the political climate has cooled.

It is also important to recognize that there will be political tension among health care professionals related to the proposed policy. Sleep medicine is an area that has only recently begun to be defined, and the training and scope of practice for sleep specialists is evolving.⁴⁹ It will be important for all health care professionals involved in the screening and treatment of physiologic and behavioral sleep disorders to come together and define appropriate roles and responsibilities. In addition, health care professionals should also have a voice in developing fee schedules for these services.

Economic Implications

The addition of health care services will undoubtedly have economic implications. Initially, there will be costs associated with campaigns aimed at garnering support and raising awareness of the need for the proposed policy. Advertising campaigns targeting professional organizations and the public will need to be coordinated and professional. These campaigns will be widespread and lengthy.

Once endorsements are obtained, there will be costs associated with educating health care professionals on the importance of screening and treatment of physiological and behavioral sleep disorders. Grants will be needed to support curriculum development and promote the distribution of exemplars. These costs will all be realized before the policy is implemented.

The final costs will involve lobbying of politicians. Professional organizations and nonprofit organizations will need to be prepared to devote funds aimed at endorsing the proposed policy. Organizations will be taking a risk by fronting money that may or may not lead to the intended outcomes.

The expectation is that the proposed policy will ultimately result in cost savings. The association between inadequate/poor sleep and obesity has been widely documented. The enormous financial burden caused by obesity in the United

States is a problem that scientists are attempting to address through a variety of means. The complex nature of obesity requires that all facets of human life be examined to identify those things that contribute to weight gain. As a result, any intervention that reduces the likelihood of obesity will assist in reducing the \$147 billion spent on associated health care costs annually.

Conclusion

As with most health care policies, health care workers would be impacted significantly if the proposed policy was adopted. Health care workers at all levels will be responsible for screening, management, and education regarding sleep needs. This will require additional education and an increased scope of practice in some cases. In addition, improvements in provider to nurse, nurse to nurse, and provider/nurse to patient collaborations will be needed.

Higher education will also need to respond to the proposed policy by better educating health care workers to screen for and manage sleep disorders. Baccalaureate programs would be the ideal location for this education to begin. A better understanding of the influence sleep plays in the development of obesity and obesity-related illnesses would be essential. In addition, graduates of health care programs would need to be better prepared to screen, treat, and seek referrals for clients experiencing inadequate/poor sleep. One way this could be achieved would be to include training on use of the Sleep Health Index, developed by the National Sleep Foundation,⁵⁰ in educational curricula.

Finally, nurses must act as leaders by promoting, organizing, and participating in interprofessional collaborations. As noted in the *Future of Nursing* report,⁵¹ nurses are in a prime position to lead teams in providing high quality health care. Nurses provide care in a holistic manner that requires interaction with every member of the health care team. Therefore, nurses are often the best individuals to act as advocates for patients and to inform team members of the social context in which care is provided. Without the support and leadership of nurses, the proposed policy may well end up as a footnote on a piece of legislation doomed to never impact patient care in a significant way.

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