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Driving While Sleepy Should Not Be A Criminal Offense: The Case for Caution

Michael J. Sateia, M.D.

Dartmouth Medical School and Section of Sleep Medicine, Dartmouth-Hitchcock Medical Center, Lebanon, NH

On the morning of July 27, 1997, Maggie McDonnell, a New Jersey college student, was killed in a motor vehicle accident when her car was struck by an oncoming van. The oncoming vehicle was driven by an individual who had been awake for the past 30 hours and admitted to having smoked crack cocaine prior to the accident. The driver of the van, which crossed 3 lanes of traffic before striking Ms. McDonnell's car head-on, had fallen asleep at the wheel. After 2 trials, in which the jury was instructed that driver fatigue could not be considered in their deliberations, the driver received a $200 fine and suspended jail sentence. Maggie's mother, Carole McDonnell, was at a loss to understand how it was that the individual responsible for her daughter's death, through reckless and irresponsible behavior, had received so minimal a punishment. As a result, she began a campaign with the goal of preventing such tragic loss of life on the highway due to drowsy driving. Her work culminated in the passage of the now well-known "Maggie's Law,"[1] which allows for conviction and significant prison sentence for a driver responsible for vehicular death in the state of New Jersey as result of driving while "knowingly fatigued." The statute specifically defines fatigued as "having been without sleep for a period in excess of 24 consecutive hours."

On August 18, 2005, a 26-year-old New Jersey man became the first person to be prosecuted and sentenced under Maggie's Law.[2] The man, who has a long criminal history, was sentenced to 5 years in prison for the 2004 vehicular homicide of Thomas Herring Jr. The driver had been awake for more than 24 hours and was reportedly weaving in and out of traffic prior to striking Mr. Herring's vehicle. Like the individual responsible for Ms. McDonnell's death, he was also found to have cocaine in his system at the time of the accident.

Events such as these are particularly dramatic examples of the tragedy that occurs on our nation's highways as a result of negligent and reckless operation of a motor vehicle due to fatigue and drowsiness. There seems little disagreement that grossly irresponsible behavior of this sort, resulting in loss of life, should be punishable by law. However, before sleep medicine as a field embraces legislation as a primary means of preventing such tragedies, it is essential that we carefully consider our position, the strategies and priorities that will best address the problem, and the possible unintended consequences of legislation.

Drowsy driving is a serious problem in this and other nations. In the past decade, the issue has been the subject of numerous studies and reports that, by and large, come to similar conclusions.[3-5] The oft-cited New York State survey found that over ½ of those surveyed reported driving while drowsy at least once in the past 12 months.[6] Nearly 1 in 4 admitted to falling asleep at the wheel, while almost 5% had experienced a crash as a result of driving drowsy or falling asleep at the wheel. Similar data were derived from a recent survey in Ireland as well as studies in other European nations and Australia.[7-11] The problem appears to be universal, in industrialized nations at least. The National Highway Traffic Safety Administration has estimated that about 100000 crashes per year are related to operator drowsiness, with approximately 76000 resulting injuries and 1500 deaths. Other studies report higher rates of sleep-related motor vehicle accidents. Many experts suggest that these statistics may underestimate the extent of the problem, due to the inherent difficulty in identifying drowsiness as the cause of motor vehicle accidents.

Recent studies of this issue have characterized the nature of drowsy driving accidents.[3-5] Individuals involved in such accidents are most often sleep-deprived young males or shift workers. The accidents tend to occur at high-risk times - during the night or mid- to late-afternoon. They are frequently single vehicle accidents, serious in nature, and involve individuals who are chronically as well as acutely sleep-deprived. Much higher percentages of sleep-related crash drivers admit to having fallen asleep at the wheel previously.

Several additional factors are noteworthy in these analyses. A majority of drivers involved in sleep related crashes indicate that they were unaware of being drowsy or fatigued prior to the crash. Many employ strategies for staying awake that have no proven effectiveness as a countermeasure to drowsiness at the wheel. Of particular note to sleep medicine clinicians, and to the issue of legislation on this issue, is that the AAA Foundation report found that only about 1 in 13 drowsiness related accidents involved drivers with an identified sleep disorder.[4] Moreover, odds ratios for sleep-related crash were not significantly elevated for snorers and those who have been told that they stop breathing in sleep. These data, of course, must be interpreted in light of a number of other studies that have demonstrated increased risk for accidents among those with diagnosed obstructive sleep apnea.[12-15]

Given the wholesale morbidity and mortality associated with

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Address correspondence to: Michael J. Sateia, M.D., Dartmouth-Hitchcock Medical Center, One Medical Center Drive, Lebanon, NH 03756; Tel: (603) 650-7534; Fax: (603) 650-7820; E-mail: msateia@dartmouth.edu

drowsy driving, it is essential that sleep medicine, as a specialty, address this problem in a meaningful and effective manner. However, the critical question is how we can best go about accomplishing this. Resources are limited and whatever strategies are chosen, however well-intended, must be carefully thought out, subjected to outcome assessment and implemented in a manner that will not result in more harm than good. There are a variety of potential interventions that might be considered. Broadly, these can be broken down into 2 categories: prevention of drowsy driving and the use of countermeasures when drivers are drowsy - for example, rumble strips and monitoring/alerting devices. Preventive measures include, but are not limited to, legislation that criminalizes drowsy driving, preventive educational programs, and therapeutic interventions for sleep disorders, as well as societal and industrial engineering that aims to address fundamental causes of sleep deprivation and excessive sleepiness in industrialized nations.

At present, there is very limited information concerning the effectiveness of any of these strategies. There are data indicating that highway rumble strips effectively reduce the occurrence of drowsy driving crashes.[16-18] Considerable research has been directed to development of effective alerting devices. Although none has yet emerged as a consistently reliable product, it is likely that a countermeasure of this sort will be available within the near future.

Currently, New Jersey is the only state that has specific legislation that addresses the issue of drowsy driving. Legislation calling for a number of preventive and education efforts has been introduced at the national level. The recently enacted omnibus transportation and highway bill does call for a number of driving safety and education measures that address the drowsy driving issue. These include such things as inclusion of education about the dangers of driver fatigue in driver training programs, additional highway rumble strips and education of law enforcement officers on recognition of drowsy driving as a potential contributing factor in crashes. The Massachusetts legislature is currently reviewing a bill that would create criminal penalties for drowsy driving. Specifically, the bill proposes to add "driving while sleeping" to the list of violations that includes reckless driving, driving under the influence of alcohol or drugs, and the like. Other states, including New York, Maryland, Illinois and Michigan have similar bills pending. These bills, although varied in their language, seem intended to address primarily those persons who are drowsy as a result of sleep deprivation. Some specify prior sleep deprivation, usually of at least 24 hours duration, as the primary basis for presumption of drowsiness and reckless driving. Others cite the crime of vehicular homicide due to driving "while knowingly fatigued," while still others make no specific mention of the rationale for presumption of driver drowsiness. Such language is open to highly varied interpretation and the extent to which such legislation can be effectively and evenly enforced is open to question.

In considering legislation to criminalize drowsy driving, it is essential that the intent of any bills be defined carefully. Specifically, is legislation such as this being introduced to target the population of individuals who voluntarily sleep deprive themselves for prolonged periods prior to operation of a motor vehicle? Would legislation include the millions of shift workers whose sleep deprivation is, at least in certain respects, involuntary? Such measures, of course, would include tens of thousands of medical trainees and health care workers who regularly drive home following prolonged work shifts with no sleep. A key issue in any proposed legislation is the status of individuals who are sleepy as a result of diagnosed or unrecognized sleep disorders. Do we intend to support legislation that will send obstructive sleep apnea patients to jail for drowsy driving accidents related to a condition that may be unrecognized or in the process of being treated? And, finally, how should the system deal with a person who fits none of the above categories but who falls into the group of hundreds of millions of people who are partially sleep deprived and susceptible to at least occasional attentional lapses or drowsiness while driving?

The issue of defining exactly what constitutes criminality with respect to drowsy driving is most difficult. New Jersey's law, which specifically defines drowsy driving as operation of a vehicle, resulting in vehicular homicide, in a "fatigued" state (as evidence by greater than 24 hours of prior wakefulness), is a narrow application that seems at least reasonably enforceable. However, the law has been in effect for over 2 years and there has been 1 individual prosecuted to date. It seems likely that such legislation will apply to only the most egregious cases of drowsy driving resulting in death. Enforcement of legislation that attempts to broaden the definition of drowsy driving to less well-defined conditions becomes problematic. As noted above, high percentages of individuals involved in probable drowsy driving crashes indicate that they were not aware of drowsiness prior to the crash. Is it possible or appropriate to prosecute such individuals? How likely are drivers to acknowledge drowsiness or fatigue once they are aware of the potential for criminal prosecution? While some proposed legislation calls for increased education of law enforcement officers in recognition of "fatigue-related accidents," such recognition is, at best, an inexact science at present and, in many cases, a doubtful basis for reliable prosecution.[19]

As sleep medicine clinicians and researchers, we must be particularly cognizant of the impact that drowsy driving legislation may have on individuals with sleep disorders. Current data indicate that these individuals play a relatively small role in drowsiness-related crashes.[4] Drowsy driving legislation which includes persons with sleep disorders in the population susceptible to prosecution runs the risk of unleashing a plethora of civil lawsuits for wrongful injury or death against these patients and quite possibly their physicians. In light of the added vulnerability to civil litigation, there is reason for concern that physicians will be forced to operate in an increasingly defensive manner with respect to the issue of sleepiness and "fatigue" in their patients. This defensive posture may translate to wholesale prohibition of driving for patients who present with complaints of sleepiness or, perhaps, even fatigue. One outcome of this, which has already been seen anecdotally among highly regulated groups such as pilots or air traffic controllers, is avoidance of the medical system for fear of loss of driving rights, license and livelihood as a result of seeking help for their disorder. Thus, legislation may have the unintended effect of discouraging individuals from seeking help for the very disorders that put them and other motorists at risk.

While we, as clinicians, have an ethical responsibility to address the dangers of driver impairment due to sleepiness in our patients, this approach must be balanced with the real-world issues of occupational status and livelihood. One approach to legislation that would address these concerns is incorporation of an exemption for individuals whose sleepiness is secondary to a medical condition, including a specific sleep disorder. Language to this effect has been offered as a revision to the proposed legislation in Mas-

sachusetts but the outcome of that bill remains uncertain at this time. Such language would by no means be intended to absolve individuals of the moral and practical responsibility to ensure safe operation of a vehicle. It would, however, help to ensure access to evaluation and treatment for such individuals without fear of reprisal or loss of livelihood.

The questions and concerns raised here are not intended to suggest that we should ignore what is a serious problem, or that we should excuse the reckless behavior of individuals who are responsible for senseless vehicular deaths. Rather, they are intended to draw attention to the fact that legislating this issue is highly complex and fraught with serious problems of intent, interpretation and enforcement. Every driver is responsible for ensuring that he or she is sufficiently alert and otherwise functionally capable before getting behind the wheel. It is our duty to educate our patients regarding this responsibility and to instruct them based on our assessment of the degree of impairment. There are unquestionably patients for whom the appropriate instruction is that they should not drive, or at least should eliminate driving under certain conditions, until they have been successfully treated. Discussion of appropriate prevention and countermeasures for drowsy driving on a case-by-case basis is essential. On a larger scale, we must develop, support and participate in broad educational programs that will inform the population regarding the risks of drowsy driving and the appropriate preventive steps and countermeasures to take. Most of the studies and consensus panels convened to examine this issue have stressed this educational approach as the critical strategy in combating the problem. It seems clear that the group that should be targeted most aggressively is the young, sleep-deprived (especially male) population. This will require increased efforts to incorporate education into the schools, driver training programs, and highway safety initiatives. A "Mother's Against Drowsy Driving" or its equivalent may help to increase public awareness, especially among the young drivers most at risk for falling asleep at the wheel. It is also essential that we begin to examine the problem of shift worker driving safety more closely and engage industry, including our own health care industry, in the exploration of programs that will reduce the likelihood of impaired driving and associated morbidity and mortality. At a societal level, there remains an enormous need for public health education about sleep and the importance of adequate sleep to good health, function and safety, including driving safety. Educational programs such as those of the American Academy of Sleep Medicine, National Sleep Foundation and others are a start but it is clear that we have much more to do.

Thus, while it may be the case that carefully-crafted and narrowly-defined legislation may have a limited role in redressing the most reckless and catastrophic cases of drowsy driving, it seems unlikely that this approach will prove effective or enforceable on a large scale. Moreover, there is risk of unintended outcomes that may discourage individuals from seeking help for sleep disorders. Any drowsy driving legislation that is contemplated should focus primarily on those persons who engage in voluntary, prolonged sleep deprivation resulting in reckless driving. An exemption should at least be made for those whose sleepiness is secondary to a medical condition. Our time and resources are limited and we should focus our efforts not on legislation but on educational initiatives that can enhance awareness and produce a fundamental change in perspective on this important issue.

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