



# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

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**Date:** November 29, 2004

**In reply refer to:** H-04-47

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Of the 291 million individuals living in the United States, approximately 191 million, or 65.6 percent, are licensed to drive. Every year, about 42,000 individuals die in traffic-related crashes. The National Highway Traffic Safety Administration estimated in 2000 that highway crashes cost U.S. society about \$230.6 billion a year, with each roadway fatality costing an average of \$977,000, and each critical injury crash costing an average of \$1.1 million.<sup>1</sup>

The National Transportation Safety Board is an independent Federal agency charged by Congress with investigating transportation accidents, determining their probable cause, and making recommendations to prevent similar accidents from occurring. We are providing the following information to urge your organizations to take action on the safety recommendation in this letter. The Safety Board is vitally interested in this recommendation because it is designed to prevent accidents and save lives.

This recommendation addresses the need for improved awareness and training for health care professionals, law enforcement, and the public regarding State medical oversight laws and practices. The recommendation is derived from the Safety Board's special investigation into the medical oversight of noncommercial drivers<sup>2</sup> and is consistent with the evidence we found and the analysis we performed. As a result of this investigation, the Safety Board has issued 12 safety recommendations, 1 of which is addressed to the Liaison Committee on Medical Education, the

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<sup>1</sup> L. Blincoe, A. Seay, E. Zaloshnja, T. Miller, E. Romano, S. Luchter, and R. Spicer, *The Economic Impact of Motor Vehicle Crashes*, 2000, DOT HS 809 446 (Washington, DC: NHTSA, 2000).

<sup>2</sup> For additional information, read National Transportation Safety Board, *Medical Oversight of Noncommercial Drivers*, Highway Special Investigation Report NTSB/SIR-04/01 (Washington, DC: NTSB, 2004).

American Osteopathic Association, and the Association of American Medical Colleges. Information supporting this recommendation is discussed below. The Safety Board would appreciate a response from you within 90 days addressing the actions you have taken or intend to take to implement our recommendation.

The act of driving requires the proper orchestration of sensory/perceptual, cognitive, and motor activities to be performed successfully. Certain medical conditions have been found to negatively affect one or more of these activities, thereby increasing the safety risk of drivers that suffer from them. The extent of the overall impact of medically impaired drivers is not known because data are not available (except for data on alcohol-related accidents) on the number of licensed drivers with high-risk medical conditions or on the number of accidents in which a driver's medical condition was a contributory factor. However, statistics on the number of Americans with one or more of the following high-risk medical conditions offer some perspective on the medical oversight issues that State licensing agencies face:<sup>3</sup>

- Epilepsy: 2.5 million (180,000 new diagnosed cases each year).<sup>4</sup>
- Diabetes: 18.2 million (1 million new cases diagnosed each year in those over 20).<sup>5</sup>
- Sleep Disorders: 50 to 70 million.<sup>6</sup>
- Cardiovascular Disease: 23.5 million (41.7 million additional have hypertension).<sup>7</sup>
- Alzheimer's Disease: 4.5 million (10 percent of those over 65 years and nearly 50 percent of those over 85 years suffer from the disease).<sup>8</sup>
- Arthritis: 40 million (over 7 million report limited activity due to the disease).<sup>9</sup>
- Eye Diseases: 5.5 million—cataracts, 2 million—glaucoma, and 1.2 million—later-stage macular degeneration.<sup>10</sup>
- Alcoholism: 14 million (alcohol linked to 40 percent of all automobile fatalities).<sup>11</sup>

The National Transportation Safety Board's interest in the medical oversight of noncommercial drivers stems from its examination of six noncommercial vehicle accidents in

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<sup>3</sup> See the American Medical Association's *Physician's Guide to Assessing and Counseling Older Drivers* (Chicago 2003), <<http://www.ama-assn.org/go/olderdrivers>>, for a more exhaustive list of medical conditions and medications that may impair driving.

<sup>4</sup> Epilepsy Foundation <<http://www.epilepsyfoundation.org/answerplace/statistics.cfm>>.

<sup>5</sup> National Diabetes Information Clearinghouse <<http://diabetes.niddk.nih.gov>>.

<sup>6</sup> U.S. Department of Health and Human Services, *2003 National Sleep Disorders Research Plan*, National Institutes of Health Publication No. 03-5209 (Washington, DC: HHS, 2003).

<sup>7</sup> U.S. Department of Health and Human Services, *Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2001*, Series 10, Number 218 (Washington, DC: HHS, 2004).

<sup>8</sup> National Institute on Aging, *Progress Report on Alzheimer's Disease, 1999*, NIH Publication No. 99-4664 (Bethesda, MD: National Institute on Aging, 1999).

<sup>9</sup> R.C. Lawrence, C.G. Helmick, F.C. Arnett, R.A. Deyo, D.T. Felson, E.H. Giannini, S.P. Heyse, R. Hirsch, M.C. Hochberg, G.G. Hunder, M.H. Liang, S.R. Pillemer, V.D. Steen, and F. Wolfe, "Estimates of the Prevalence of Arthritis and Selected Musculoskeletal Disorders in the United States," *Arthritis and Rheumatism*, 41(5) (1998): 778-799.

<sup>10</sup> University of Washington Department of Ophthalmology <<http://depts.washington.edu/opthweb/statistics.html>>.

<sup>11</sup> *Traffic Safety Facts 2003: Alcohol*, DOT HS 809 761 (Washington, DC: NHTSA, 2003).

which a driver's medical condition played a role.<sup>12</sup> Of the six medical impairment-related accidents, one involved a diabetic driver and five involved drivers who experienced seizures.

The Safety Board has also investigated a substantial number of commercial vehicle and school bus accidents involving drivers with impairing or potentially impairing medical conditions, such as cardiovascular disease, visual impairment, renal disease, and sleep disorders.

On March 18 and 19, 2003, the Safety Board held a public hearing<sup>13</sup> to discuss the factors that contribute to medically related accidents. Major topics included the:

- Current state of knowledge regarding potentially impairing medical conditions.
- Adequacy of procedures for reporting medically impaired drivers.
- State licensure and oversight of drivers with high-risk medical conditions.
- Programs to increase public awareness of State oversight laws and procedures.
- Rehabilitation and transportation options for medically impaired drivers.

The Safety Board learned during the course of the hearing and has detailed in its recent report on the medical oversight of noncommercial drivers<sup>14</sup> that the issues that encompass this subject are complex and will require the close cooperation of Federal, State, and private organizations to create an effective and uniform system that protects public safety while being sensitive to the needs of individual drivers.

Tens of millions of Americans have medical conditions that place them at risk of becoming incapacitated while driving. However, apart from alcohol addiction, the extent to which medical impairment contributes to the number of traffic accidents is not well defined. Safety Board investigations have shown that medical incapacitation can lead to traffic accidents. Research studies have found a correlation between certain medical conditions and an increased risk of accident involvement, although there is no agreement on the degree of risk posed by each type of condition. Nonetheless, research<sup>15</sup> shows that the accident risk associated with some medical conditions approaches or even exceeds that for alcohol and drug use. Based on the available research and the Safety Board's accident investigations, the Board concluded that many medical conditions associated with increased accident risk are incompatible with the unrestricted operation of motor vehicles.

During the Safety Board's public hearing on medical oversight, the medical advisor to the American Medical Association's (AMA's) Older Drivers Project stated that most of the 670,000 physicians involved with patient care are not knowledgeable about their State's reporting policies and procedures or about the evaluation of patients for their fitness to drive. This assessment is

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<sup>12</sup> For additional information, read National Transportation Safety Board, *Medical Oversight of Noncommercial Drivers*, Highway Special Investigation Report NTSB/SIR-04/01 (Washington, DC: NTSB, 2004).

<sup>13</sup> Information on this hearing, including the full transcript, is available at <[http://www.nts.gov/events/2003/med\\_noncomm/default.htm](http://www.nts.gov/events/2003/med_noncomm/default.htm)>.

<sup>14</sup> NTSB/SIR-04/01.

<sup>15</sup> E. Diller, L. Cook, E. Leonard, J. Reading, J.M. Dean, and D. Vernon, *Evaluating Drivers Licensed With Medical Conditions in Utah, 1992-1996*, DOT-HS-809-023 (Washington, DC: NHTSA, 1999).

supported by the research,<sup>16, 17</sup> which suggests that many physicians are unfamiliar with medical oversight laws pertaining to them and that a physician's specialty and practice location can influence his or her knowledge of these laws.

The AMA's *Physician's Guide to Assessing and Counseling Older Drivers (Physician's Guide)*<sup>18</sup> includes information to educate health care professionals about State reporting laws, identifying and assessing the driving fitness of patients, and proper counseling techniques. The *Physician's Guide* is an invaluable resource for those physicians who are aware of it. The AMA has also developed a training-of-trainers program, based on the *Physician's Guide*, to reach as many physicians and healthcare professionals as possible. As of September 2004, 24 health care professionals have completed all five modules of the training-of-trainers program and have taught about 40 seminars nationwide based on the *Physician's Guide*. Nevertheless, witnesses at the public hearing acknowledged that further efforts were needed to reach all physicians, including those that practice in rural areas. This testimony suggested that medical schools could do more to train students to be aware of how medical conditions can affect driver safety. Other testimony at the hearing indicated that this training should include proper assessment techniques because medical conditions can affect the safety of each driver differently.

A physician-advisor for the North Carolina Driver Medical Evaluation Program, suggested that State reporting laws and procedures be taught as part of a physician's continuing medical education (CME). The training associated with the AMA's *Physician's Guide* would satisfactorily fill this need, and CME credits have been offered at these training sessions.<sup>19</sup> Three CME credits are also offered to those physicians who complete the self-administered test on the back of the *Physician's Guide*. Since most, but not all, States require their physicians to compile CME credits to stay licensed, associating the *Physician's Guide* training with CME credits provides a good incentive for this training.

Because physicians are often the primary information source for caregivers, family, and friends who have noticed deterioration in a driver's skills, physicians should be particularly knowledgeable of their States' medical oversight program, of driver assessment procedures, and of driver counseling. These individuals are generally not well informed about their States' reporting laws or the rehabilitation or transportation options available to medically high-risk drivers. Unfortunately, this information is not always readily available. For example, in a review of 16 State licensing agency Web sites, only 4 contained easily accessible and simple-to-understand information on medical oversight or on the resources available for those with high-risk medical conditions. Of the remaining 12 Web sites surveyed, 4 contained information on older drivers or medical impairment that was either too sparse, too difficult to find, or too difficult to understand to be useful, and 8 contained no pertinent information at all. The Safety Board concluded that healthcare providers and concerned citizens may not have adequate information on resource availability or on the medical oversight laws and procedures for their

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<sup>16</sup> K.K. Selmo, D.S. Asp, and D.C. Anderson, "Seizures and Spells: Physician Awareness of Minnesota Driving Laws," *Minnesota Medicine*, 80(5) (1997): 42-6.

<sup>17</sup> G. Cable, M. Reisner, S. Gerges, and V. Thirumavalavan, "Knowledge, Attitudes, and Practices of Geriatricians Regarding Patients with Dementia Who Are Potentially Dangerous Automobile Drivers: A National Survey," *Journal of the American Geriatric Society*, 48(1) (2000): 100-2.

<sup>18</sup> See *Physician's Guide to Assessing and Counseling Older Drivers* at <<http://www.ama-assn.org/go/olderdrivers>>.

<sup>19</sup> Dr. Claire Wang, telephone interview, March 16, 2004.

States to assist medically high-risk drivers, which impedes their ability to aid in the safety and well-being of medically high-risk drivers.

The Safety Board will advise the driver licensing agencies in the 50 States and the District of Columbia of the importance of making guidance information and medical oversight referral procedures easy to access and easy to understand.

Many practicing physicians are unaware of their States' medical oversight laws because they lack information and training. Although the AMA's *Physician's Guide* and accompanying training program will help, the concern is that this program might not reach all physicians, especially those who practice in rural areas or are not affiliated with a hospital. The medical community should be made aware of the thousands of fatalities and millions of injuries that occur annually on U.S. roadways, and of their responsibility in preventing medically high-risk drivers from further contributing to these numbers.

The Safety Board has also recommended that the Federation of State Medical Boards work with member organizations to ensure the CME requirements in all States include a course addressing the driving risks associated with certain medical conditions and medications, as well as the existence and function of State reporting laws and procedures regarding medically impaired drivers.

The National Transportation Safety Board recommends that the Association of American Medical Colleges, the American Osteopathic Association, and the Liaison Committee on Medical Education:

Require medical schools to teach students about the driving risks associated with certain medical conditions and medications, the existence and function of State reporting laws regarding medically high-risk drivers, and the methods and resources for counseling such drivers. (H-04-47)

The Safety Board also issued safety recommendations to the U.S. Department of Transportation, the National Highway Traffic Administration, the National Committee on Uniform Traffic Laws and Ordinances, the American Association of Motor Vehicle Administrators, the Commission on Accreditation for Law Enforcement Agencies, and the Federation of State Medical Boards.

In your response to this letter, please refer to Safety Recommendation H-04-47. If you need additional information, you may call (202) 314-6177.

Chairman ENGLEMAN CONNERS, Vice Chairman ROSENKER, and Members CARMODY, HEALING, and HERSMAN concurred in this recommendation.

By: Ellen Engleman Connors  
Chairman