



National Transportation Safety Board

Washington, DC 20594

Office of the Chairman

November 12, 2015

The Honorable Paul R. LePage
Governor of Maine
Office of the Governor
#1 State House Station
Augusta, ME 04333-0001

Dear Governor LePage:

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant accidents in other modes of transportation—railroad, highway, marine, and pipeline. We determine the probable cause of the accidents and issue safety recommendations aimed at preventing future accidents. In addition, we conduct special studies concerning transportation safety and coordinate the resources of the federal government and other organizations to provide assistance to victims and their family members impacted by major transportation disasters.

This letter addresses NTSB Safety Recommendations I-14-1 and -2. We issued these recommendations to the state of Maine on September 23, 2014, as a result of our safety study *Drug Use Trends in Aviation: Assessing the Risk of Pilot Impairment*, SS 14/01, available at <http://www.nts.gov/safety/safety-studies/Documents/SS1401.pdf>. For your convenience, the background and bases for the recommendations may be found on pages 36-38 of the report.

I-14-1

Include in all state guidelines regarding prescribing controlled substances for pain a recommendation that health care providers discuss with patients the effect their medical condition and medication use may have on their ability to safely operate a vehicle in any mode of transportation.

I-14-2

Use existing newsletters or other routine forms of communication with licensed health care providers and pharmacists to highlight the importance of routinely discussing with patients the effect their diagnosed medical conditions or recommended drugs may have on their ability to safely operate a vehicle in any mode of transportation.

We are interested in knowing whether and how our recommendations are implemented, both to ensure that the traveling public is provided the highest level of safety and to identify creative solutions that might be shared with others, and we normally expect actions to address our recommendations to be completed within 3 to 5 years. As we issued this recommendation more than a year ago and we have yet to hear from you regarding it, we would appreciate receiving a response within 90 days indicating actions you have taken or plan to take to implement it. In the meantime, the recommendation will retain its current classification of "Open—Await Response."

Please reply at correspondence@ntsb.gov. If your response, including attachments, exceeds 10 megabytes, please e-mail us at the same address for instructions. Please do not submit both an electronic and a hard copy of the same response.

If you have any questions, please contact Mr. Jeffrey Marcus, Safety Recommendation Specialist, at marcusj@ntsb.gov.

Thank you for your assistance in this matter.

Sincerely,



Christopher A. Hart
Chairman

cc: Dennis E. Smith, JD
Executive Director
Board of Licensure in Medicine
dennis.smith@maine.gov

Kim Esquibel, PhD, MSN, RN
Executive Director
Maine State Board of Nursing
kim.esquibel@maine.gov

Ms. Geraldine L. Betts
Board Administrator
Maine Department of Professional and
Financial Regulation
Office of Professional and Occupational
Regulation
Board of Pharmacy
pharmacy.board@maine.gov

Ms. Susan E. Strout
Executive Secretary
Maine Board of Osteopathic Licensure
osteop.pfr@maine.gov

to accurately assess the safety of this group of pilots. The NTSB also believes that requiring pilots without a medical certificate to periodically identify themselves as active pilots and report a summary of recent flight hours would provide the FAA with the minimum information necessary to assess the accident risk of this group. The NTSB is aware that on February 4, 2014, the FAA initiated a rulemaking effort, "Private Pilot Privileges without a Medical," to consider expanding the group of flight operations exempt from medical certification requirements. This rulemaking effort will provide an opportunity to address this important limitation to its current oversight of airmen certification. Therefore, the NTSB recommends that the FAA require pilots who are exempt from medical certification requirements to periodically report to the FAA their status as an active pilot and to provide a summary of recent flight hours.

4.2.3 Guidelines for Prescribing Controlled Substances for Pain

This study found an increasing proportion of fatally injured accident pilots had toxicological evidence indicating they had used controlled substances. Although not all controlled substances are potentially impairing, the majority are, and they all have the potential for misuse and abuse. There is no reason to believe that pilots who are willing to fly after using controlled substances are unwilling to drive in the same condition, and the NTSB has investigated accidents and made recommendations regarding impairment by drugs and medical conditions across all the modes. Although no similarly extensive toxicology study is currently possible among operators in other modes of transportation, these results are consistent with data for the general US population, which shows that sales of opioids and other controlled substances have increased substantially over the past 15 years.⁵⁵ This makes it highly likely that a similar trend exists across other transportation operators.

Use of opioid pain relievers has contributed to a significant increase in the use of controlled substances over the last 20 years (The American Academy of Pain Medicine and the American Pain Society 1997). Opioids are also the largest contributor to the increased misuse of and fatal accidental overdoses from prescribed controlled substances. As a result, national guidelines for the prescription of chronic opioid therapy were developed by the American Pain Society and American Academy of Pain Medicine in 2009. These guidelines specifically recommend that "Clinicians should counsel patients on chronic opioid therapy about transient or lasting cognitive impairment that may affect driving and work safety. Patients should be counseled not to drive or engage in potentially dangerous activities when impaired or if they describe or demonstrate signs of impairment" (Chou and others 2009).

Some states have attempted to address misuse and overdose of opioids and other controlled substances by developing guidelines regarding prescribing these substances to treat painful conditions. Although some of these state guidelines include a specific recommendation that health care providers discuss transportation risks with patients when prescribing opioids or

(Private Pilot Privileges without a Medical)," was initiated on February 4, 2014. Information provided in the July 2014 Report on Significant DOT Rulemakings abstract for this effort states, "This rulemaking would consider allowing certain operations to be conducted by individuals exercising private-pilot privileges without holding a current FAA airman medical certificate. The intended effect of this action is to provide relief from having to obtain a medical certificate for pilots engaged in low-risk flying, such as private pilots operating a small, general aviation aircraft."

⁵⁵ For example, sales of prescription opioids more than tripled between 1999 and 2010 (Frieden 2013).

other controlled substances, others do not. For example, guidelines from Utah (Sundall 2009) and Washington (Washington State Agency Medical Directors Group 2010) discuss driving risks, but guidelines from Ohio (Ohio.gov 2013), Rhode Island (State of Rhode Island 2014), and Oregon (Oregon Medical Group 2014) do not. However, even when existing state guidelines address driving, they do not address risks in all modes of transportation.

The NTSB concludes that states' guidelines for health care providers regarding prescribing controlled substances for pain provide an opportunity to highlight the importance of discussing risks in all transportation modes when prescribing these medications. Therefore, the NTSB recommends that the 50 states, the District of Columbia, and the Commonwealth of Puerto Rico include in all state guidelines regarding prescribing controlled substances for pain a recommendation that health care providers discuss with patients the effect their medical condition and medication use may have on their ability to safely operate a vehicle in any mode of transportation.

4.2.4 Communicating the Transportation Safety Risks of Potentially Impairing Drugs and Medical Conditions

Although states are attempting to address concerns about prescribing controlled substances for pain, most of the drugs found in the toxicology results in this study were OTC or non-opioid prescription medication. Whether operating a car, truck, aircraft, train, or marine vessel, individuals are responsible for determining whether they are sufficiently alert and healthy enough to do so. However, without information regarding the risks of drug use in transportation, an individual may be unable to make a reasonable safety assessment or decision.

Individuals may obtain information on risks associated with regular or occasional use of a drug from a variety of sources. Such sources include written instructions from a health care provider, the internet, the drug's package label or insert, or the drug's FDA medication guide when required.⁵⁶ However, people without medical training may find various forms of written drug information difficult to comprehend (Shiffman and others 2011) and instructions related to driving hard to understand and recall (Smyth and others 2013).

Health care providers, such as doctors, physician assistants, nurses, and pharmacists, are involved in the process of patients obtaining prescription drugs and may be involved in the choice of OTC drugs. These interactions are opportunities for patients and their health care providers to discuss the potential risks any drug or medical condition poses to transportation safety.

It is not known how often these issues are discussed as part of health care providers' communications with patients. Although the increase in use of all types of drugs is well documented in the general population, no similarly extensive study of toxicology results has been performed outside of aviation. Increasing evidence of pilots' use of potentially impairing drugs suggests that the current level of communication has not been sufficiently effective to

⁵⁶ Drugs identified with specific risks are required to have an additional set of information known as a "medication guide." A list of such drugs and links to the guides are available at <http://www.fda.gov/drugs/drugsafety/ucm085729.htm>.

prevent use of these drugs by pilots near the time of flight. There is no reason to believe that this issue is unique to aviation, and it is unlikely that operators in any other modes of transportation are any better informed. The NTSB concludes that current written and oral communications are not effectively informing patients about the risks their medical conditions and drug use may pose when operating a vehicle in any mode of transportation. Therefore, the NTSB recommends that the 50 states, the District of Columbia, and the Commonwealth of Puerto Rico use existing newsletters or other routine forms of communication with licensed health care providers and pharmacists to highlight the importance of routinely discussing with patients the effect their diagnosed medical conditions or recommended drugs may have on their ability to safely operate a vehicle in any mode of transportation.

4.2.5 Statement on Marijuana Policy

Although illicit drug use has historically been identified in only a small percentage of accident pilots, the results of this study indicate that marijuana use recently increased among fatally injured pilots. Illicit drug use is particularly concerning to transportation safety because, unlike typical therapeutic use of drugs in which impairment is often an undesired side effect, illicit drug users are often actively seeking the impairing effects of the drug. Not surprisingly, there is evidence showing that taking illicit drugs significantly elevates the risk of having an aviation accident.⁵⁷

Even though the DEA defines marijuana as a Schedule I drug on its controlled substances list, some states have taken steps to allow the possession, sale, and use of marijuana within their borders. As of August 2014, marijuana has been approved for medical use in 23 states and the District of Columbia, decriminalized in 16 states and the District of Columbia, and legalized by Washington and Colorado (National Conference of State Legislatures 2014). In addition, National Survey on Drug Use and Health results indicate that marijuana use in the general population has increased over the last decade (SAMHSA 2013).

The DOT has issued statements clarifying that despite recent legal changes, positive drug tests for marijuana among transportation operators subject to routine preemployment, random, and postaccident testing will not be considered acceptable even with a prescription (DOT 2009; DOT 2014). However, in this study, most pilots with toxicological evidence of marijuana use were not engaged in flight operations subject to DOT drug and alcohol testing requirements.

In addition to the general prohibition regarding civil aircrew members' drug use "contrary to safety," at 14 CFR 91.17, the FAA's medical certification regulations at 14 CFR 67.107, 67.207, and 67.307 identify substance dependence as a disqualifying condition and specifically include dependence on marijuana.⁵⁸ However, the FAA has no other specific

⁵⁷ Using data from random drug testing and postaccident testing among employees of 14 CFR Parts 121 and 135 air carrier operators, Li and others (2011) estimated that the odds of involvement in an aviation accident were increased 10-fold among pilots who tested positive for an illicit drug compared with those who did not test positive for drugs. The authors estimated that about 1.2% of commercial aviation accidents were attributable to illicit drug use.

⁵⁸ These regulations define dependence as "increased tolerance; manifestation of withdrawal symptoms; impaired control of use; or continued use despite damage to physical health or impairment of social, personal, or occupational functioning."

regulations or publically available policies regarding medical or recreational marijuana use by airmen who are not subject to routine DOT drug testing.

Based on data showing an increasing trend in marijuana use among adults in the United States in general, changing state laws and federal enforcement policies regarding marijuana use, and study results that indicate increasing prevalence of marijuana use among study pilots, the NTSB concludes that there is a gap in the FAA's policies regarding marijuana that may lead to confusion about the agency's position on marijuana use by pilots not subject to mandatory DOT drug and alcohol testing requirements. The NTSB therefore recommends that the FAA develop and distribute a clear policy regarding any marijuana use by airmen regardless of the type of flight operation.

4.2.6 Future Research Needs

This study examined trends in the prevalence of drugs used by pilots who died as a result of an aviation accident. The results indicate that fatally injured pilots are increasingly showing evidence of having used a wide variety of drugs. The increasing use of potentially impairing drugs, drugs that indicate potentially impairing medical conditions, controlled substances, and illicit drugs among fatally injured pilots as discussed in this study suggest a potentially serious aviation safety problem.

However, this study found no reliable relationship between the evidence of drug use and the circumstances of the fatal accident. The differences between the NTSB's determination of probable cause and the recent GAJSC analyses of NTSB data from loss-of-control accidents mentioned earlier in this report highlight the complexity of interpreting the relationships among evidence of a drug's use, its effects, the effects of underlying medical conditions, and the risk of a transportation accident.⁵⁹

The next step in understanding the relationships between drug use and accidents is to compare the prevalence of drug use among fatally injured pilots with the prevalence in pilots flying without having an accident. Further research may identify increased accident risk associated with some drugs or combinations of drugs, which would support improved guidance or limitations on use of those drugs while flying. Conversely, some drugs believed to be "potentially impairing" may not be correlated with accident risk and concerns about their specific effects may be reduced.

The NTSB concludes that additional research is required to assess the complex relationship between pilots' use of drugs and associated accident risk. Therefore, the NTSB recommends that the FAA conduct a study to assess the prevalence of OTC, prescription, and illicit drug use among flying pilots not involved in accidents, and compare those results with findings from pilots who have died from aviation accidents to assess the safety risks of using those drugs while flying.

⁵⁹ See section 4.2.1, "Providing Pilots More Information about Potentially Impairing Drugs," of this report.