



**National Transportation Safety Board**  
Washington, DC 20594

**Safety Recommendation**

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**Date:** September 23, 2014

**In reply refer to:** I-14-1 and -2

The Honorable Terry McAuliffe  
Governor of Virginia  
State Capitol  
1111 East Broad St.  
Richmond, VA 23219

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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 carry out 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 affected by major transportation disasters. We are providing the following information to urge the Commonwealth of Virginia to take action on the safety recommendations being issued in this letter.

On September 9, 2014, we adopted our safety study, *Drug Use Trends in Aviation: Assessing the Risk of Pilot Impairment*.<sup>1</sup> Additional information about this topic and the resulting recommendations may be found in the study, which can be accessed at our website, <http://www.nts.gov>, under report number SS-14/01.

As a result of this safety study, we issued six new recommendations, including four recommendations to the Federal Aviation Administration and the following two recommendations to the 50 states (including the Commonwealth of Virginia), the District of Columbia, and the Commonwealth of Puerto Rico:

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

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<sup>1</sup> *Drug Use Trends in Aviation: Assessing the Risk of Pilot Impairment*, September 9, 2014, SS-14/01.

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.

An informational article that could be distributed to fulfill Safety Recommendation I-14-2 is enclosed for your consideration.

Acting Chairman HART, and Members SUMWALT, ROSEKIND, and WEENER concurred in these recommendations.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate receiving a response from you within 90 days detailing the actions you have taken or intend to take to implement them. When replying, please refer to the safety recommendations by number. We encourage you to submit your response electronically to [correspondence@ntsb.gov](mailto:correspondence@ntsb.gov). If it exceeds 10 megabytes, including attachments, please e-mail us at the same address for instructions. Please do not submit both an electronic copy and a hard copy of the same response.

By:  Christopher A. Hart  
Acting Chairman

Enclosure

cc: William L. Harp, MD  
Executive Director  
Virginia Board of Medicine

Jay P. Douglas, MSM, RN, CSAC, FRE  
Executive Director  
Virginia Board of Nursing

Ms. Caroline D. Juran  
Executive Director  
Virginia Board of Pharmacy

## **Evidence That Pilots Are Increasingly Using Over-the-Counter, Prescription, and Illicit Drugs**

The National Transportation Safety Board (NTSB) recently analyzed toxicology tests from 6,677 pilots who died in a total of 6,597 aviation accidents between 1990 and 2012. The results demonstrate a significant increase in the use of a variety of potentially impairing drugs.

The study found significantly increasing trends in pilots' use of all drugs, potentially impairing drugs (those with a US Food and Drug Administration warning about sedation or behavior changes in routine use), controlled substances, and illicit drugs (those defined as Schedule I by the US Drug Enforcement Administration). The final report, *Drug Use Trends in Aviation: Assessing the Risk of Pilot Impairment*, is available on the NTSB's [Safety Studies](#) web page under report number SS-14/01.

In this study, the pilot was considered to be positive for a drug if it could be qualitatively or quantitatively identified in blood or tissue; drugs identified only in urine or used as part of resuscitative efforts were excluded.

Overall, 98% of the study pilots were male and 96% were flying privately rather than for commercial purposes. The average age of study pilots increased from 46 to 57 years over the study period.

Over the course of the study, for fatally injured pilots, the following was found:

The proportion of pilots testing positive for at least one drug increased from 10% to 40%.

More than 20% of all pilots from 2008-2012 were positive for a potentially impairing drug, and 6% of all pilots were positive for more than one potentially impairing drug.

Overall, the most common potentially impairing drug pilots had used was diphenhydramine, a sedating antihistamine (the active ingredient in many Benadryl and Unisom products).

During the most recent 5 years studied, 8% of all pilots tested positive for controlled substances; hydrocodone and diazepam each accounted for 20% of the positive findings.

The percentage of pilots testing positive for marijuana use increased to about 3% during the study period, mostly in the last 10 years.

The large increase in the proportion of fatally injured pilots with evidence of potentially impairing drugs suggests an increasing risk of impairment in general aviation. Aviation is the only transportation mode in which a fatally injured operator (pilot) routinely undergoes extensive toxicology testing; no similar testing is routinely performed for fatally injured operators of boats, trains, trucks, or cars. Given the general increase in drug use in the population, it is likely that there has been a similar trend in drug use among operators across all modes of transportation.

These results highlight the importance of routine discussions between health care providers and pharmacists and their patients about the potential risks that drugs and medical conditions can create when patients are operating a vehicle in any mode of transportation.