

from the Federal Air Surgeon's
PERSPECTIVE...

BY JAMES R. FRASER, MD, MPH

NEW NTSB STUDY SHOWS INCREASING DRUG USE IN PILOTS

On September 9, I attended the National Transportation Safety Board (NTSB) public meeting to consider their safety study entitled *Drug Use Trends in Aviation: Assessing the Risk of Pilot Impairment*.¹ The findings in this report were not surprising. Multiple studies done at the Civil Aerospace Medical Institute (CAMI) have reported similar findings. However, the significance of the NTSB study, as reported in a highly visible and public forum, is such that I believe all of us involved in the practice of aerospace medicine should be aware of the findings. Although the NTSB staff is currently making final revisions to the report, the following excerpt provides a high-level review of the findings.

The use of over-the-counter (OTC), prescription, and illicit drugs is increasing in the US population. The NTSB is concerned about the possible safety implications of increased drug use in all modes of transportation. Yet, in most modes of transportation, data about drug use by vehicle operators is limited to a small proportion of operators and a short list of drugs.

Aviation is the one mode in which the regulatory authority, the FAA, routinely conducts extensive post-accident toxicology testing on fatally injured pilots. This study used the results from this testing to assess drug use in aviation. By assessing evidence of fatally injured pilots' drug use prior to flying and the associated potential for impairment, this study addressed a serious aviation safety issue and a growing transportation safety concern.

This study examined trends in the prevalence of OTC, prescription, and illicit drugs identified by toxicology testing of fatally injured pilots between 1990 and 2012. The goals of this study were to describe the prevalence of OTC, prescription, and illicit drug usage among fatally injured pilots over time and evaluate the need for safety improvements related to pilots' use of drugs.

The study data were from the CAMI toxicology database and the NTSB aviation accident database. Toxicology tests were used to identify recent use of a wide variety of drugs.

The test results were categorized by drug type and potential for causing impairment. This study assessed the prevalence and trends in accident pilots with evidence of recent drug use; it did not reassess the likelihood of pilot impairment in any of these accidents. Also, due to the complexities of interpreting the source of ethanol identified in the body after death, toxicology results for ethanol and other alcohols were not analyzed in this study.

The majority of pilots in this study were flying in general aviation operations when their fatal accident occurred because very few fatal accidents involve air carrier operations. Study results showed increasing trends in pilots' use of all drugs, potentially impairing drugs, drugs used to treat potentially impairing conditions, drugs designated as controlled substances, and illicit drugs. As has been shown in multiple previous CAMI studies, the most common potentially impairing drug pilots used was diphenhydramine, a sedating antihistamine and an active ingredient in many OTC allergy formulations, cold medicines, and sleep aids. Although evidence of illicit drug use was found only in a small number of cases, the percentage of pilots testing positive for marijuana use increased during the study period, mostly in the last 10 years.

Pilots who did not have a medical certificate or whose certificate had expired were more likely than those with a medical certificate to have used potentially impairing drugs, drugs used to treat potentially impairing conditions, and drugs designated as controlled substances. The number of pilots without a current medical certificate has been increasing since 2005, and the trend is likely to continue. However, there has not been an increasing trend in the proportion of accidents for which the NTSB cited impairment from drugs or medical conditions over the study period.

Further research is needed to understand the complex relationships among positive toxicology findings, impairment, and accidents. Also, because the FAA does not collect information about the number of pilots flying without a medical certificate, the accident rate of these pilots cannot currently be determined.

THE STUDY IDENTIFIED a number of safety-related issues, but the major take-home message for me was that we should improve the precautionary information about potentially impairing drugs for various medical conditions we presently provide to pilots.

We can do better and we must. To do so, we need your help. In addition to reviewing the possible aeromedical side effects of the medications listed by pilots on their Form 8500-8, I ask that you take the time to talk to them about how important it is to maintain continuous medical fitness, and enlighten them about potentially impairing drugs or illnesses that could not only be disqualifying—but lead to disaster.

Better yet, some AMEs encourage airmen to consult with them whenever they take a new medication. I realize this may not always be practical, so we will be working with the aviation advocacy groups to develop better online resources to advise pilots.

Together, we can make a difference by reducing the pilot's use of impairing medications, thereby reducing the fatal mishap rate. Thanks for all that you do!

—Jim

¹[HTTP://WWW.NTSB.GOV/DOCLIB/SAFETYSTUDIES/SS1401.HTML](http://www.ntsb.gov/DOCLIB/SAFETYSTUDIES/SS1401.HTML)