

Commercial Drivers: Over-the-Counter (OTC) & Prescription (Rx) Drugs

Background

In previous work conducted by the Federal Motor Carrier Safety Administration (FMCSA, 2006), it was found that 30 percent of commercial motor vehicle (CMV) drivers involved in one truck/one passenger-vehicle crashes had a related crash factor of prescription (Rx) drug use and 19 percent had a related crash factor of over-the-counter (OTC) drug use. However, this FMCSA study did not delve deeper into the relationship between crash involvement and the Rx and OTC drug use while driving. In this current study conducted by the National Surface Transportation Safety Center for Excellence (NSTSCE) titled *Prescription and Over-the-Counter Drug Use and its Relationship to Involvement in Safety-critical Events (SCEs)*, researchers used data from a naturalistic truck driving study (Blanco et al., in press) to conduct an analysis of the impact of truck driver Rx and OTC drug use on safety-critical events (SCE). The goal of this study was to address two main questions:

- What was the prevalence of Rx and OTC drug use among truck drivers?

and

- Was there an association between Rx and OTC drug use?

Frequently Used OTC & Rx Drugs

The most frequently reported Rx drug classification, as reported by 45 percent of the drivers, was cardiac medication, while the most frequently reported OTC drug was caffeine (a stimulant). Of all of the drugs taken by drivers, 61 percent of the Rx drugs had potential performance-degrading qualities, while only 1 percent of the OTC drugs had potential performance-degrading qualities. A total of 10 different classifications of drugs were taken by the CMV drivers who participated in this study. Caffeine was the drug reported with the highest rate of consumption.

The Drivers

A total of 100 CMV drivers participated in this study, with each driver participating for four weeks.

In addition to the driving data, each driver filled out a daily log book; 97 drivers completed the log books. Each day in the log book corresponded to a 24-hour time period, from midnight to midnight. Drivers self-reported each activity performed (e.g., on-duty driving) along with any medication taken, the amount taken, and the time of use. It is important to understand that caffeine is considered a stimulant and, therefore, was classified as an OTC drug.



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NSTSCE Study: Prescription and Over-the-Counter Drug Use and its Relationship to Involvement in Safety-Critical Events

Did You Know?

According to the study, CMV drivers that used caffeine were found to be half as likely to be involved in an SCE compared to CMV drivers that did not use caffeine.

In general, the results of this study indicate that Rx and OTC drug use by CMV drivers was not associated with an increased risk of being involved in an SCE. However, the researchers point out that these results should not be considered all-inclusive for all drugs, given the sample size of drivers using certain drug classifications. In some instances, certain drug classifications were only represented by a few drivers (e.g., one drug classification was only used by two drivers in this study). One drug classification that stood out in these results was the stimulant classification (due to the large number of drivers using caffeine). This is important to note, as CMV drivers typically work long, irregular hours and quite often drive at night. This is also consistent with previous studies that have found caffeine to be effective against driver fatigue, at least in the short term.

While this study was small-scale in nature (97 drivers), it did show the feasibility of using naturalistic data to assess the risk associated with Rx and OTC drug use while driving a CMV. Larger sample sizes of drivers could potentially yield more beneficial data regarding specific drug classifications and their relationship to SCEs. Another valuable insight gained from this study was the high percentage of CMV drivers that take some form of OTC and/or Rx drug. Nearly all (97 percent) of the CMV drivers reported taking an OTC drug during their driving shifts while 25 percent reported taking Rx drugs. From a safety and regulatory perspective, being able to fully understand the cause-and-effect relationships between different OTC and Rx drugs and how they affect CMV driving performance is a crucial piece of the puzzle to help further reduce the number of crashes involving heavy vehicles and, thus, save lives.

Final Report: Camden, M., Hickman, J., Soccolich, S., & Hanowski, R. (2014). Prescription and Over-the-Counter Drug Use and its Relationship to Involvement in Safety-Critical Events. Retrieved from: <http://vtechworks.lib.vt.edu/handle/10919/50549>

Resources:

Blanco, M., Hickman, J. S., Olson, R. L., Bocanegra, J. L., Hanowski, R. J., Nakata, A., . . . Bowman, D. (in press). Investigating Critical Incidents, Driver Restart Period, Sleep Quantity, and Crash Countermeasures in Commercial Operations Using Naturalistic Data Collection. Washington, D.C.: Federal Motor Carrier Safety Administration



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