**Marihuana and DUI Drivers in Fatal Crashes by Crash Factor and Age**

Alfred Crancer, B.S., M.A.; Alan Crancer, B.S.; Phillip Drum, Pharm.D.

**Abstract**

Marijuana, legally available to less than 10% of all drivers and already involved in 15% of fatal crashes, at ½ the level of alcohol at 31%, shows that it is a very dangerous hallucinogen. Marihuana and alcohol impaired drivers were found to be speeding and to veer off the road and overturn. The median age of marihuana drivers was 6 years younger than DUI drivers.

The data in this study suggests that the increasing legalization of marihuana will result in a tsunami of marihuana-induced fatalities. It is not a harmless hallucinogen, but one that may soon rival alcohol as the leading cause of preventable traffic fatalities. 2014 data for this study was from the NHTSA FARS Query System.

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**Purpose and Background**

This report compares fatal crash drivers impaired by marihuana and alcohol to drivers with no alcohol for selected crash factors and age to identify factors that may be useful to enforcement to reduce fatal crash involvement. The information might also be of interest to those considering the pros and cons of legalizing marihuana in their state.

**First Harmful Event leading to Fatal Crash**

Table 1 summarizes US 2014 fatal crash data for the “First Harmful Event” from the crash reports for three groups of drivers.

 1. Drivers with marihuana (THC) in their system from Drug Test 1,

 2. Drivers with 0.08+ BAC, and

 3. Drivers with no alcohol, at 0.0% BAC.

The time frame for the data is 6pm to 6am to more closely resemble the time in which the bulk of marihuana and alcohol impaired fatal crashes occur. Data for 24 hours overweighs the results for no alcohol drivers hitting pedestrians and vehicles due to more traffic during the daylight hours.

Fatal crash drivers with marihuana in system are statistically and significantly different than non-drinking drivers with no alcohol, and are very similar to drivers 08+.

Non-drinking drivers with no alcohol in their system are more likely to collide with other vehicles, pedestrians, and bicyclists while marihuana and alcohol impaired drivers are more likely to rollover/overturn and veer off the road into posts, trees and into ditches. Further, the marihuana and alcohol impaired drivers were speeding much more often than non-drinking drivers.

This furthers the evidence that marihuana drivers have a speed perception problem along with an attention span problem that quite often leads to going off the road, striking non-moving objects and rolling over.

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|  **Table 1. First Harmful Event and Speeding for Drivers in Passenger Vehicle/ Light Truck Fatal Crashes 6pm to 6am, with No Alcohol, 08+, and Marihuana, 2014 FARS Data** |
| **First Harmful Event** | **No Alcohol** | **Drivers 08+** | **Marihuana (Drug test 1)** |
| # | % |   | # | % |   | # | % |   |
| **Hit Motor Vehicle** | **1,766** | **44.3%** | higher | **1,050** | **26.0%** | lower | **307** | **31.5%** | lower |
| **Hit Ped/Bike** | **694** | **17.4%** | higher | **152** | **3.70%** | lower | **47** | **4.80%** | lower |
| **Rollover/Overturn** | **233** | **5.8%** | lower | **422** | **10.4%** | higher | **98** | **10.1%** | higher |
| **Guardrail Barriers Posts** | **215** | **5.4%** | lower | **411** | **10.2%** | higher | **94** | **9.7%** | higher |
| **Culvert Ditch embank** | **342** | **8.6%** | lower | **787** | **19.5%** | higher | **155** | **15.9%** | higher |
| **Tree (Standing Only)** | **308** | **7.7%** | lower | **554** | **13.7%** | higher | **145** | **14.9%** | higher |
| **Total of selected events** | 3558 |   |   | 3376 |  |   | 846 |  |   |
| **Total Drivers** | **3,918** | **98.2%** |   | **4,044** | **100.0%** |   | **974** | **974** | **100.0%** |
| **Speeding** | **1,015** | **27.1%** | lower | **1,747** | **44.0%** | higher | **926** | **44.5%** | higher |
| All differences between No Alcohol and 08+ and Marihuana drivers are statistically different at p< .05 |  |  |

**Age Differences for Marihuana and DUI Drivers**

As shown in Table 2, the median age of marihuana drivers is statistically and significantly younger than 08+ drivers by 6 years. Further, marihuana drivers are about the same age as non-drinking drivers in fatal crashes. Further, the marihuana drivers are very much the same as non-drinking drivers when we look at the 3 highest involved age categories, 18-20 years of age vs. 19-21 years.

Clearly the age in which marihuana is becoming a fatal crash problem is younger than alcohol.

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| **Table 2. Age of Fatal Crash Drivers\* with Marihuana\*\*, 0.08+, and No Alcohol, 2014 FARS Data** |
| **Group** | **No Alcohol** | **marihuana** | **08+** |
| **Median age** | **26 years** | **26 years** | **32 years** |
| **3 highest years**  | **18-20** | **19-21** | **21-23** |
| \* Passenger Vehicle/Lt trucks. \*\* Drug Test 1 |

In summary, marihuana drivers in fatal crashes, and like DUI drivers, are more likely to be speeding and going off the road into non-moving objects and rolling over. Also the median age involvement in fatal crashes of marihuana drivers is 6 years younger than DUI alcohol drivers.

Table 3 shows involvement of marihuana in 15.3% of the fatal crash drivers that have been tested for drugs. At 15%, it is already half the percentage of alcohol, 31%, with 23 states sanctioning legal sale or use for medical purposes. Also note the level of involvement of marihuana in fatal crashes in California, the first-approved medical marihuana state, and Colorado and Washington where we have marihuana available for both medical and recreational use since 2013. Especially troublesome is the level in Washington State at 27%, almost at the present level of alcohol of involvement at 29%.

Further data shows that marihuana drivers are also heavily involved in drinking with 40% of the US drivers with marihuana also DUI at a BAC of 0.08% or higher. Washington State also is at 40%.

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| **Table 3. Marihuana Involved in US Fatal Crashes, Selected States & US, 2013 vs. 2014, FARS Data** |
|   | **CA** | **CO** | **WA** | **US** |
| 2013 |
| Total drug tested | 1167 | 176 | 217 | 11906 |
| Marihuana found | 206 | 30 | 41 | 1729 |
| **% marihuana** | **17.70%** | **17.00%** | **18.90%** | **14.50%** |
| 2014 |
| Total drug tested | 1193 | 216 | 262 | 12411 |
| Marihuana found in drug test | 233 | 42 | 71 | 1900 |
| **% Marihuana**  | **19.50%** | **19.40%** | **27.1%**  | **15.30%** |
| Increase '14 vs. '13 | **10.60%** | **14.10%** | **43.40%** | **5.40%** |

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**Availability and Use of Marihuana and Alcohol by Drivers**

Alcohol availability is widespread in the US with estimated per capita alcohol consumption of 2.33 gallons for adults over the age of 14 in 2012. This is more than 1 ounce per day per person. It is difficult to drive a city block in urban America and not find a place to buy alcohol. As we have mentioned, this availability has led to 31% of the motor vehicle fatalities related to DUI driving.

Contrast this to the availability of marihuana to the same group of persons**. 4 states** (Colorado, Washington, Alaska, and Oregon) + Washington DC - **have recreational use approved, but only two had it available in 2014. Another 23 states** andWashington DC**, have medical mj approval:**

This is a miniscule amount of availability that has already climbed to 15% of the drivers in fatal crashes, about half the DUI driver percentage. Basically, marihuana is not legally or easily available now for use by the vast majority of US citizens and drivers.

With alcohol legally available in all fifty states and marihuana use in possibly 10% of the US population mainly for medical use, it is shocking to see the level of marihuana-induced motor vehicle fatalities already created with legal availability in less than half of all states.  It appears that marihuana is a very dangerous hallucinogen when it is mixed with driving.

**Summary**

With many calling for the legalization of marihuana, they might want to consider recently released data from the NHTSA website. The 2014 data shows that in Washington State, a state where marihuana is legal for both recreational and medical use, the drivers in fatal crashes with known marihuana in their system has risen to 27%, nearly the level of DUI driving at 29%. This is what happen in just the first full year of the new WA law with recreational dispensaries opening on July 8, 2014. Compare this to the national data where marihuana has risen to 15%, about half of the national level of 31% for DUI driving, with only two states (WA and CO) having recreational sales being legal in 2014. Oregon began recreational sales on 10/1/15 and in Alaska has yet to set a date for recreational sales.

Further data shows that marihuana driver’s impairment in fatal crashes is very much like that of DUI alcohol drivers and not at all like non-drinking drivers. Non-drinking drivers are more likely to collide with other vehicles, pedestrians, and bicyclists while marihuana and alcohol impaired drivers are more likely to rollover/overturn and veer off the road into posts, trees and into ditches. Further, the marihuana and alcohol impaired drivers were speeding much more often than non-drinking drivers.

This furthers the evidence that marihuana drivers have a speed perception problem along with an attention span problem that quite often leads to going off the road and rolling over.

We believe that the data shows the dangerousness of marihuana and driving and the potential for large increases in motor vehicle fatalities as marihuana becomes more popular and is legalized for use in other states. It is not a harmless hallucinogen, but one that may soon rival alcohol as the leading cause of preventable traffic fatalities. The data in this study suggests that the increasing availability marihuana will result in a tsunami of marihuana-induced fatalities.

----------------------------------------------------------------------------------------------------------------------------------------------------------2014 data for this study was from the NHTSA FARS Query System.

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