Drug Trend Update

TZD 2016
Duluth, Minnesota
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Tipping Point =

The critical **point** in a situation, process, or system beyond which a significant and often unstoppable effect or change takes place.
Drugged driving is more complicated than drunk driving.

<table>
<thead>
<tr>
<th>DRUGGED DRIVING</th>
<th>DRUNK DRIVING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number: Hundreds of drugs</td>
<td>Alcohol is alcohol</td>
</tr>
<tr>
<td>Data on Use by Drivers &amp; Crashes: Limited</td>
<td>Abundant</td>
</tr>
<tr>
<td>Use by Drivers: Increasing</td>
<td>Decreasing</td>
</tr>
<tr>
<td>Impairment: Varies by type</td>
<td>Well-documented</td>
</tr>
<tr>
<td>Crash Risk: Varies by type</td>
<td>Precise</td>
</tr>
<tr>
<td>Beliefs &amp; Attitudes: No strong attitudes –</td>
<td>Socially unacceptable</td>
</tr>
<tr>
<td>public indifferent</td>
<td></td>
</tr>
</tbody>
</table>
40% of fatally-injured drivers with a known test result tested positive for drugs, almost the same level as alcohol at any positive BAC.

Source: 2013 Fatality Analysis Reporting System (FARS)
22% of all drivers in a recent roadside survey tested positive for some drug or medication.

Source: NHTSA 2013-2014 Roadside Survey
Marijuana

Legal recreational use:

Colorado
Washington
Oregon
Alaska
Washington D.C.

California
Massachusetts
Nevada
Maine
LESSONS LEARNED
AFTER 4 YEARS
of MARIJUANA LEGALIZATION

October 2016

Smart Approaches
to Marijuana (SAM)
Nationwide, overall use rates in states that have legalized marijuana outstrip those that have not

Last-month use, ages 12+

- "Recreational" use legalized as of 2014
- "Medical" use legalized as of 2014
- Neither "medical" nor "recreational" use legalized as of 2014

Source: NSDUH state estimates (2013-2014)
Youth use rates in states that have legalized marijuana outstrip those that have not

Last-month use, ages 12-17

- "Recreational" use legalized as of 2014
- "Medical" use legalized as of 2014
- Neither "medical" nor "recreational" use legalized as of 2014

Source: NSDUH state estimates (2013-2014)
Overall use in CO and WA is both higher than and rising faster than the national average.

% of pop. who used marijuana in last month:

- **U.S. average**: 7.13%
- **Colorado**: 7.40%
- **Washington**: 7.96%
- **Change per period**: 5.66%
- **Colorado**: 19.76%
- **Washington**: 12.28%
- **Change per period**: 11.92%
The same trend is seen among minors (ages 12-17)
EMERGENCY MARIJUANA-RELATED POISON CONTROL CALLS IN CO

<table>
<thead>
<tr>
<th>Year</th>
<th>ALL AGES</th>
<th>AGES 0-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2007</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2008</td>
<td>68</td>
<td>58</td>
</tr>
<tr>
<td>2009</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>2010</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>2011</td>
<td>86</td>
<td>86</td>
</tr>
<tr>
<td>2012</td>
<td>109</td>
<td>109</td>
</tr>
<tr>
<td>2013</td>
<td>123</td>
<td>123</td>
</tr>
<tr>
<td>2014</td>
<td>221</td>
<td>221</td>
</tr>
<tr>
<td>2015</td>
<td>227</td>
<td>227</td>
</tr>
</tbody>
</table>

Increase post-legalization (2012-2015): ALL AGES 108%, AGES 0-8 206%.

Avg. annual chg. 2008-2015: ALL AGES 22%, AGES 0-8 43%.

Source: Rocky Mountain Poison and Drug Center.
Poison Control Center Calls in Washington State have increased since legalization

Change since legalization (2012-2015):

67.9%

Source: Washington Poison Center
POSITIVE WORKPLACE ORAL DRUG TEST RESULTS

- 2011: 2.7%
- 2012: 4.0%
- 2013: 5.1%
- 2014: 6.0%
- 2015: 7.5%

**Average Annual % Change 2011-15**
- Marijuana: +29.1%
- Opiates: -5.3%
- Cocaine/ metabolite: +2.9%
- Amphetamine: +22.3%

**% Change 2011-15**
- Marijuana: +177.8%
- Opiates: -19.6%
- Cocaine/ metabolite: +12.2%
- Amphetamine: +124.0%

Source: Quest Diagnostics, 2015 data from over 900k tests from Jan to Dec 2015.
Accidents, injuries, absenteeism, and disciplinary problems among pot users all increase costs

<table>
<thead>
<tr>
<th>Condition</th>
<th>Control Group (%)</th>
<th>Pot Users (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Accidents</td>
<td>100%</td>
<td>155%</td>
</tr>
<tr>
<td>Disciplinary Problems</td>
<td>100%</td>
<td>155%</td>
</tr>
<tr>
<td>Absenteeism</td>
<td>100%</td>
<td>178%</td>
</tr>
<tr>
<td>Injuries</td>
<td>100%</td>
<td>185%</td>
</tr>
</tbody>
</table>

SOURCE: NSDUH Tables
PERCENTAGE OF PEOPLE WHO MISSED WORK DURING THE PAST 30 DAYS “BECAUSE [THEY] JUST DIDN’T WANT TO BE THERE”

- Overall Population: 7.4%
- Alcohol Users: 7.9%
- Marijuana Users: 15.0%

Source: NSDUH tables
**DRIVING WHILE HIGH: A SERIOUS AND GROWING PROBLEM IN LEGALIZED STATES**

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>32.7%</td>
</tr>
<tr>
<td>2014</td>
<td>28.0%</td>
</tr>
<tr>
<td>2013</td>
<td>24.7%</td>
</tr>
<tr>
<td>2012</td>
<td>18.6%</td>
</tr>
<tr>
<td>2011</td>
<td>20.2%</td>
</tr>
<tr>
<td>2010</td>
<td>19.4%</td>
</tr>
<tr>
<td>2009</td>
<td>18.2%</td>
</tr>
</tbody>
</table>

The percentage of DUI cases relating to driving while high has risen considerably in Washington State since legalization.

Percentage of WA traffic fatalities where driver tested positive for recent marijuana use more than doubled the year recreational marijuana sales began.

Source: AAA Foundation for Traffic Safety
Percentage of all traffic fatalities in CO where the operator tested positive for marijuana

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>21.0%</td>
</tr>
<tr>
<td>2014</td>
<td>19.3%</td>
</tr>
<tr>
<td>2013</td>
<td>14.8%</td>
</tr>
<tr>
<td>2012</td>
<td>16.5%</td>
</tr>
<tr>
<td>2011</td>
<td>14.1%</td>
</tr>
<tr>
<td>2010</td>
<td>10.9%</td>
</tr>
<tr>
<td>2009</td>
<td>10.11</td>
</tr>
<tr>
<td>2008</td>
<td>7.9%</td>
</tr>
<tr>
<td>2007</td>
<td>7.0%</td>
</tr>
<tr>
<td>2006</td>
<td>6.9%</td>
</tr>
</tbody>
</table>

Source: Fatality Analysis Reporting System and Colorado Department of Transportation (CDOT), as reported in Rocky Mountain HIDTA report #4 (September 2016)
Medical marijuana

28 states and Washington D.C.
Florida
ND
AK
28 LEGAL MEDICAL MARIJUANA STATES AND DC

SOURCE: medicalmarijuana.procon.org/view.resource.php?resourceID=000881
“…cannabis is a dangerous drug and as such is a public health concern...the sale of cannabis should not be legalized.”

- American Medical Association (AMA)
Marijuana is a Schedule I Drug

The drug or other substance has a **high potential for abuse**.

The drug or other substance has **no currently accepted medical use** in treatment in the United States.

There is a **lack of accepted safety for use** of the drug or other substance under medical supervision.

Schedule I substances include heroin, gamma hydroxybutyric acid (GHB), lysergic acid diethylamide (LSD), marijuana, and methaqualone.
The DEA recommended that marijuana continue to be maintained in Schedule I of the CSA. . . with support of and the Department of Health and Human Services (HHS) and The Food and Drug Administration (FDA).

Marijuana meets the three criteria for placing a substance in Schedule I of the CSA under 21 U.S.C 812(b)(1)

Accordingly, HHS recommends that marijuana be maintained in Schedule I of the CSA.
FDA’s Center for Drug Evaluation and Research’s current review of the available evidence and the published clinical studies on marijuana demonstrated that since our 2006 scientific and medical evaluation and scheduling recommendation responding to a previous DEA petition, research with marijuana has progressed. However, the available evidence is not sufficient to determine that marijuana has an accepted medical use. Therefore, more research is needed into marijuana’s effects, including potential medical uses for marijuana and its derivatives.
Marijuana

Marijuana is a Schedule I Drug under the Federal Controlled Substances Act

- Medical practice
- Law enforcement
- Banking
- Interstate commerce
- Drug free workplace laws
Marijuana Variations

“The new marijuana”
Synthetic THC products

Anxiety attacks
Agitation
Elevated heart rates
Elevated blood pressure
Vomiting, paranoia
Hallucinations
Hospitals Report Hundreds of Cases of Illness Caused by Synthetic Marijuana

April 28th, 2015

Hospitals across the country have been reporting hundreds of cases of seriously ill people coming to the emergency room after using synthetic marijuana. In New York City, more than 120 cases were reported in a single week, according to NPR.

Synthetic Cannabinoid POISON CENTER Calls:

2013 – 2,668

2014 – 3,682

2015 – 7,794

Marijuana Concentrates

Wax, honey oil, budder, butane hash oil, butane honey oil (BHO), shatter, dabs (dabbing), shatter, and glass.
Marijuana Concentrates

Butane hash *oil* or *honey oil*—a gooey liquid

*wax* or *budder*—a soft solid with a texture like lip balm

*shatter, glass* —a hard, amber-colored solid

These extracts can deliver *extremely large amounts of THC* to users, and their use has sent some people to the emergency room.

Another danger is in preparing these extracts, which usually involves butane (lighter fluid). A number of people who have used butane to make extracts at home have caused fires and explosions and have been seriously burned.
Marijuana Concentrates
Marijuana Concentrates
Effects of short-term MJ use

- Impaired short-term memory (making it difficult to learn and retain information)
- Impaired motor coordination (heightening risk of injury and accidents)
- Altered judgment
- In high doses, paranoia and psychosis
Effects of long-term or heavy MJ use

- Addiction*
- Altered brain development*
- Poor educational outcome* (increased drop-out risk)
- Cognitive impairment* (lower IQ function among frequent adolescent users)
- Diminished life satisfaction and achievement*
- Symptoms of chronic bronchitis
- Increased risk of chronic psychotic disorders (including schizophrenia) in predisposed individuals

* the effect is strongly associated with initial MJ use in early adolescence
Clinical conditions with symptoms that may be relieved by MJ/cannabinoids:

- Epilepsy
- Glaucoma
- Nausea
- Multiple Sclerosis
- AIDS associated wasting syndrome
- Chronic pain
- Inflammation
Marijuana: The changing public opinion

58% of Americans favor legalization
OTHER NEWS
They’re the most powerful painkillers ever invented.
And they’re creating the worst addiction crisis America has ever seen.

By Massimo Calabresi
Prescription Drug USE in the US (past 30 days)

48.7% of people use at least one Rx drug

21.8% of people use three or more Rx drugs

10.7% of people use five or more Rx drugs

Source: Health, United States, 2015, table 79 [PDF - 9.8 MB]
67% of physician office visits involve drug therapy

Most frequently prescribed therapeutic classes:

• Analgesics
• Antihyperlipidemc agents
• Antidepressants

Source: National Ambulatory Medical Care Survey: 2012 Summary Tables, tables 23, 24, 25
54 million Americans have misused a Rx drug at least once

Most commonly misused medications:

**Opioids**—usually prescribed to treat pain

**CNS depressants** (this category includes tranquilizers, sedatives, and hypnotics)—used to treat anxiety and sleep disorders

**Stimulants**—most often prescribed to treat ADHD

SOURCE: NIDA.
The U.S. consumes 80% of opioids worldwide

Opioid prescriptions dispensed by US retail pharmacies: 1991 - 2013
Opioid and heroin overdose deaths: 2000 - 2014

Most people who need specialized treatment for a drug or alcohol problem do not receive it.

23.2 million persons (9.4 percent of the U.S. population) aged 12 or older needed treatment for an illicit drug or alcohol use problem in 2007.

Of these, only 2.4 million (10.4 percent of those who needed treatment) received treatment at a specialty facility (i.e., hospital, drug or alcohol rehabilitation or mental health center).

OF PEOPLE WHO NEED TREATMENT

do not receive it
CPDs = controlled Rx drugs

<table>
<thead>
<tr>
<th>Year</th>
<th>Kilograms</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>2,763</td>
</tr>
<tr>
<td>2011</td>
<td>3,733</td>
</tr>
<tr>
<td>2012</td>
<td>4,391</td>
</tr>
<tr>
<td>2013</td>
<td>4,502</td>
</tr>
<tr>
<td>2014</td>
<td>6,321</td>
</tr>
<tr>
<td>2015</td>
<td>6,722</td>
</tr>
</tbody>
</table>

Source: National Seizure System
Addressing a drug epidemic:

- Law enforcement/curtail supply
- Prevention
- Access to evidence-based addiction treatment services
Addressing the **OPIOID** epidemic:

Changes medical practice:

- Require education about addiction and pain
- Screening for SUDs
- Develop new pain management tools
- Rx monitoring programs
RELATED
NEWS
Fentanyl NFLIS reports

Figure 5  Fentanyl reports in NFLIS, by State, January–June 2009

Figure 6  Fentanyl reports in NFLIS, by State, January–June 2014
Fentanyl seizures increased almost 400% from 2013 to 2014. 80% of Fentanyl seizures came from 10 states: Florida, Kentucky, Ohio, Maryland, New Hampshire, New Jersey, Maryland, Massachusetts, Pennsylvania and Virginia (CDC, 2015).
Counterfeit Pharmaceuticals

Counterfeit pharmaceuticals are fake products manufactured illegally in clandestine labs that resemble legitimate pharmaceutical drugs.

These synthetic opioids in tablets and powders dramatically increase the risk of overdose among people using them because their actual ingredients and dosage amounts are unknown.
Reports of counterfeit Rx drugs in the US and Canada include OxyContin® tablets, Percocet® tablets, Xanax® tablets, and Norco® tablets.

These tablets often contain a synthetic opioid different from the active substance users believe is present.

Novel synthetic opioids that have been used in these products are fentanyl and fentanyl analogues.

Other substances that have been used or might be used include W-18, U-47700, AH-7921 and MT-45.
DEA Issues Carfentanil Warning to Police and Public

Dangerous opioid 10,000 times more potent than morphine and 100 times more potent than fentanyl

SEP 22, 2016 (WASHINGTON) –

DEA has issued a public warning to the public and law enforcement nationwide about the health and safety risks of carfentanil. Carfentanil is a synthetic opioid that is 10,000 times more potent than morphine and 100 times more potent than fentanyl, which itself is 50 times more potent than heroin. DEA, local law enforcement and first responders have recently seen the presence of carfentanil, which has been linked to a significant number of overdose deaths in various parts of the country. Improper handling of carfentanil, as well as fentanyl and other fentanyl-related compounds, has deadly consequences.
DEA Issues Carfentanil Warning to Police and Public

**Dangerous opioid 10,000 times more potent than morphine and 100 times more potent than fentanyl**

SEP 22, 2016 (WASHINGTON) –

“Carfentanil is surfacing in more and more communities.” said DEA Acting Administrator Chuck Rosenberg. “We see it on the streets, often disguised as heroin. It is crazy dangerous. Synthetics such as fentanyl and carfentanil can kill you. I hope our first responders – and the public – will read and heed our health and safety warning. These men and women have remarkably difficult jobs and we need them to be well and healthy.”
Carfentanil

Exercise extreme caution.

Be aware of any sign of exposure. Seek IMMEDIATE medical attention.

Be ready to administer naloxone in the event of exposure.

Remember that carfentanil can resemble powdered cocaine or heroin.
Carfentanil
OTHER NEWS
Kratom

Kratom a Southeast Asian plant often used to self-treat opioid withdrawal, chronic pain, anxiety, and PTSD. Also used recreationally.

Kratom is being studied at Columbia University, Memorial Sloan Kettering Cancer Center, and the UCSF. It appears to cause less respiratory depression than opioid painkillers.
Kratom

- DEA reconsidered its ban on the herbal supplement kratom

- More public comment period
OTHER NEWS
Synthetic drugs

- Manufactured in China
- Sold online
- Labeled “not for human consumption”
- Unknown chemical compounds
- Unknown & unpredictable effects
- State and Federally banned
- Chemists develop new compounds
- DEA reports 5 - 6 new ones /month
“Bath Salts”

3,4-Methylenedioxymethcathinone

**Substituted cathinones**

- “Molly”
- Methylone
- MDPV
- FLAKKA

Produce effects like MDMA and amphetamines
“Research chemicals”

• Depicted as research chemicals to be used by fellow researchers

• Most contain phenylethylamines – long-acting hallucinogens

• 2-CB “Nexus”
  2C-E “Europa”
  2C-I/2 C-T-7,
  NBOMe.
Can result in “excited delirium” which involves psychotic or violent behavior, kidney failure and an extreme increase in body temperature.

"These are really guinea-pig drugs, and the population that's now taking what they think is MDMA is consuming literally poisons.”

Jim Hall
Nova SE University
Ft Lauderdale, FL
OTHER NEWS
Tipping Point =

The critical **point** in a situation, process, or system beyond which a significant and often unstoppable effect or change takes place.
Meatloaf
Outside the Pan

Carol Falkowski
Meatloaf in a League of Its Own

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This beer’s served warm.

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