

IMPAIRMENT RECOGNITION

A TROOPERS PERSPECTIVE

MMTA/APTA
TRANSPORTATION SAFETY CONFERENCE
SEPTEMBER 21, 2019

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Purpose

Familiarize commercial vehicle safety officers with the concept that impaired drivers may be impaired by alcohol, drugs or a combination of both.



Objectives

- » Safety personnel should be able to identify observable signs associated with various drug categories
- » Safety personnel should recognize when it is appropriate to request toxicology tests
- » Safety personnel should also gain an introductory understanding of common drug trends, prescription drug abuse, and medical conditions that mimic drug impairment.

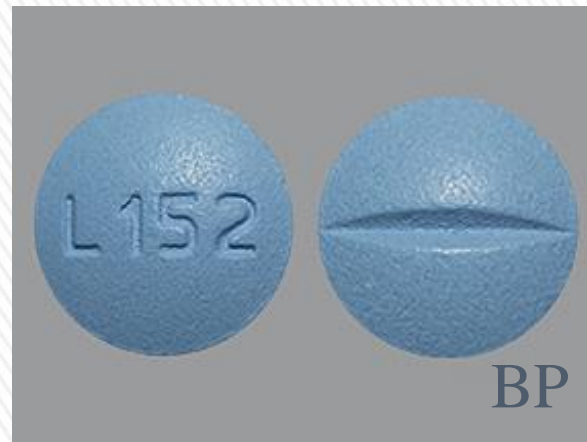
Objectives

- » Define the term “drug” in the context of (OUI) enforcement
- » Identify the 7 major categories of drugs
- » Identify the observable signs generally associated with major drug categories
- » Identify medical concerns related to drug impairment.

Objectives

- » Identify common drug trends and prescription drug abuse
- » Identify appropriate procedures for dealing with drug-impaired or medically-impaired suspects
- » Understand the impact with states who previously legalized marijuana

What Is A “Drug”?



What Is A "Drug"?



Would you consider these drugs?



Working Definition of “Drug”

Any substance which, when taken into the human body, can impair the ability of the person to operate a vehicle safely.

- » Title 29-A 2401-13 defines “**under the influence of intoxicants**” as being under the influence of alcohol, a drug other than alcohol, a combination of drugs or a combination of alcohol and drugs
- » MRSA 29-A 2401-8 defines “**OUI**” as operating under the influence of intoxicants or with an excessive blood-alcohol level.

- » FMCSA 49 CFR 393.4 (Alcohol prohibition)
- » FMCSA 49 CFR 383. 51 (Enhanced penalties)
- » FMCSA 49 CFR 393.4 (Marijuana prohibition)

» What Else?



RESPONSIBLE DRIVERS



Unsafe driver?

- » 4,317 people killed in crashes involving large trucks in 2016.
- » Increase of 5% from the previous year (2015)
- » Over 10-year period there had been a 10% decrease.
- » In Maine 7.3% of the 206 vehicles involved were heavy trucks.

Traffic Safety Facts DOT HS 812 497

Fatal Stats

Drug Categories

- » For enforcement purposes in the DRE program, drugs are grouped according to their effects on the human body



7 DRUG CATEGORIES

1. CNS Depressants
2. CNS Stimulants
3. Hallucinogens
4. Dissociative Anesthetics
5. Narcotic Analgesics
6. Inhalants
7. Cannabis

The Eye Examinations

- » Tracking Ability
- » Pupil Size
- » Horizontal Gaze Nystagmus (HGN)
- » Vertical Nystagmus (VGN).





Drugs That Induce Nystagmus

- » CNS Depressants
- » Inhalants
- » Dissociative Anesthetics



Drugs Causing Pupil Dilation

- » CNS Stimulants
- » Hallucinogens
- » Cannabis.



Drugs Causing Pupil Constriction



» Narcotic Analgesics

Drugs That Usually Don't Affect Pupil Size

- » CNS **D**epressants
- » **I**nhalants
- » **D**issociative Anesthetics.

Most drugs either effect pupil size or cause HGN.

Central Nervous System Depressants

- » Alcohol
- » Valium/Xanax
- » GHB - Gamma-hydroxybutyrate
- » Rohypnol
- » Soma



Indicators of CNS

Depressant Impairment

General Indicators

- » Drunken behavior and appearance
- » Uncoordinated
- » Drowsy
- » Sluggish
- » Disoriented
- » Thick, slurred speech

Eye Indicators

- Horizontal Gaze Nystagmus
- Possible Vertical Nystagmus*
- Pupil size generally normal (but dilated by Soma or Methaqualone)

*With high doses for that individual



Central Nervous System Stimulants

- » Cocaine
- » Amphetamines
- » Methamphetamine
- » Ritalin & Adderall
- » Bath Salts
- » Caffeine (Energy Drinks)



Indicators of CNS Stimulant Impairment

General Indicators

- » Restlessness, Excitation
- » Talkative
- » Euphoria
- » Exaggerated Reflexes
- » Anxiety
- » Grinding Teeth
- » Redness to Nasal Area
- » Runny Nose
- » Body Tremors

Eye Indicators

- No Nystagmus
- Pupils will be noticeably dilated.



- » LSD
- » NBOMe
- » Psilocybin
- » MDMA (Ecstasy).



Hallucinogens

Synesthesia

Transposing of the Senses
“Seeing Sounds”
“Hearing Colors” .



Indicators of Hallucinogen Impairment

General Indicators

- » Hallucinations
- » Dazed Appearance
- » Disoriented, Uncoordinated
- » Body Tremors
- » Perspiring
- » Paranoia
- » Difficulty in Speech
- » Nausea
- » Piloerection (goose bumps)

Eye Indicators

- No Nystagmus
- Pupils will be noticeably dilated.

Dissociative Anesthetics

- » PCP
- » Ketamine
- » Analogs
- » Dextromethorphan.



Indicators of Dissociative Anesthetic Impairment

General Indicators

- » Warm to the Touch
- » Perspiring
- » Blank Stare
- » Repetitive Speech
- » Incomplete Verbal Responses
- » Confused
- » Muscle Rigidity
- » Possibly Violent and Combative

Eye Indicators

- **Horizontal Gaze**
Nystagmus often with Very Early Onset
- **Pupils Size Normal.**

2017 A North Carolina man was told he could face the death penalty on Tuesday for the murder of his wife after he told a 911 dispatcher he may have killed her after drinking too much cold medicine

He then said that he had taken too much Coricidin.





Ketamine



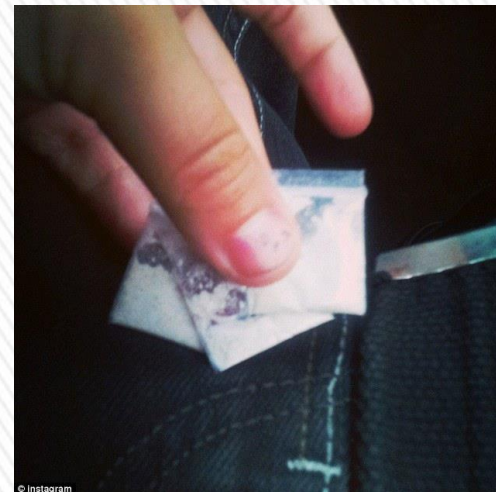
Narcotic Analgesics

- » Heroin
- » Morphine
- » Codeine
- » Synthetic Opiates
 - Demerol
 - Methadone
 - Suboxone
 - Fentanyl
 - Carfentanil.



The Concept of Tolerance for a Drug

- » The same dose of the drug will produce diminishing effects
- » A steadily larger dose is needed to produce the same effect



Indicators of Narcotic Analgesic Impairment

General Indicators

- » “On the Nod”
- » Droopy Eyelids
- » Depressed Reflexes
- » Dry Mouth
- » Facial Itching
- » Low, Raspy Speech
- » Possible Puncture Marks, “Tracks”

Eye Indicators

- No Nystagmus
- Pupils will be constricted.

- » Heroin (Fentanyl, Carfentanil as a cutting agent)
- » Methadone/ Suboxone
- » OxyContin/Oxycodone



Narcotic Analgesics Use



Inhalants

- » Toluene
- » Glue
- » Paint
- » Dust Off
- » Nitrous Oxide
- » Aerosols.



Indicators of Inhalant Impairment



General Indicators

- » Disorientation
- » Slurred Speech
- » Residue of Substance on Face, Hands, Clothing
- » Confusion
- » Possible Nausea

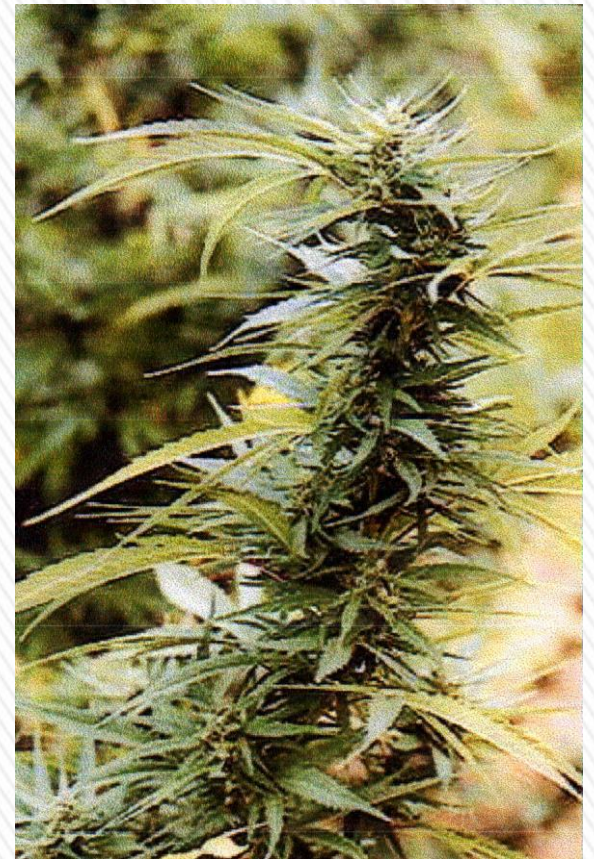
Eye Indicators

- Horizontal Gaze Nystagmus will be present
- Vertical Nystagmus may be present*
- Pupil size normal.

*High doses for that individual

Cannabis

- » Marijuana
- » Hashish
- » Hash Oil (BHO)
- » Synthetic Cannabis
- » Marinol.



Indicators of Cannabis Impairment

General Indicators

- » Body Tremors
- » Odor of Marijuana
- » Disoriented
- » Relaxed Inhibitions
- » Very bloodshot eyes, with pronounced veins in the eyeballs
- » Difficulty in dividing attention

Eye Indicators

- No Nystagmus (normally)
- Pupil size usually will be dilated - but may be normal.


Estimated Duration of Effects After Smoking or Ingesting THC

	Peak Effects (After last smoking episode)	Duration of Effects	Behavioral and psychological effects return to baseline	Residual Effects
Smoked	1-30 minutes	2-3 hours	3-5 hours	Up to 24 hours
Oral/Edible	1-3 hours	4-8 hours	Dose Dependent	Dose Dependent

A recent study showed that THC blood concentration decreased 73.5% in the first 30 minutes and 90.3% in first 1.4 hours (2.9 – 6.7% THC).

Hartman, R.L. et al., “Effect of Blood Collection Time on Measured 9-Tetrahydrocannabinol Concentrations: Implications for Driving Interpretation and Drug Policy.” Clinical Chemistry 62, no.2 (2016): 367-377.

- » Top Ten Misconceptions about Marijuana
- » 1. Marijuana is harmless
- » 2. Marijuana is medicine
- » 3. The Marijuana “high” only lasts a few hours
- » 4. Presence-in-system testing is unreliable
- » 5. Marijuana is not addictive
- » 6. Marijuana should be regulated like alcohol
- » 7. Marijuana is not a gateway drug

- 
- The background of the slide is a composite image. It features a green cannabis leaf with serrated edges. A metal pipe with a circular bowl is positioned diagonally across the center. Below the pipe is a fingerprint card with various labels in Dutch, including '3. middel', '2. wijsvinger rec', '1. duim', '4. ring', '5. kleine', '6. ring', '7. kleine', '8. middel', '9. ring', '10. kleine', '11. duim', '12. ring', '13. kleine', '14. ring', '15. kleine', '16. ring', '17. kleine', '18. ring', '19. kleine', '20. ring', '21. kleine', '22. ring', '23. kleine', '24. ring', '25. kleine', '26. ring', '27. kleine', '28. ring', '29. kleine', '30. ring', '31. kleine', '32. ring', '33. kleine', '34. ring', '35. kleine', '36. ring', '37. kleine', '38. ring', '39. kleine', '40. ring', '41. kleine', '42. ring', '43. kleine', '44. ring', '45. kleine', '46. ring', '47. kleine', '48. ring', '49. kleine', '50. ring', '51. kleine', '52. ring', '53. kleine', '54. ring', '55. kleine', '56. ring', '57. kleine', '58. ring', '59. kleine', '60. ring', '61. kleine', '62. ring', '63. kleine', '64. ring', '65. kleine', '66. ring', '67. kleine', '68. ring', '69. kleine', '70. ring', '71. kleine', '72. ring', '73. kleine', '74. ring', '75. kleine', '76. ring', '77. kleine', '78. ring', '79. kleine', '80. ring', '81. kleine', '82. ring', '83. kleine', '84. ring', '85. kleine', '86. ring', '87. kleine', '88. ring', '89. kleine', '90. ring', '91. kleine', '92. ring', '93. kleine', '94. ring', '95. kleine', '96. ring', '97. kleine', '98. ring', '99. kleine', '100. ring'.
- » 8. Marijuana is safer than cigarettes
 - » 9. There are no long-term effects
 - » 10. It is safer to drive with marijuana in your system.

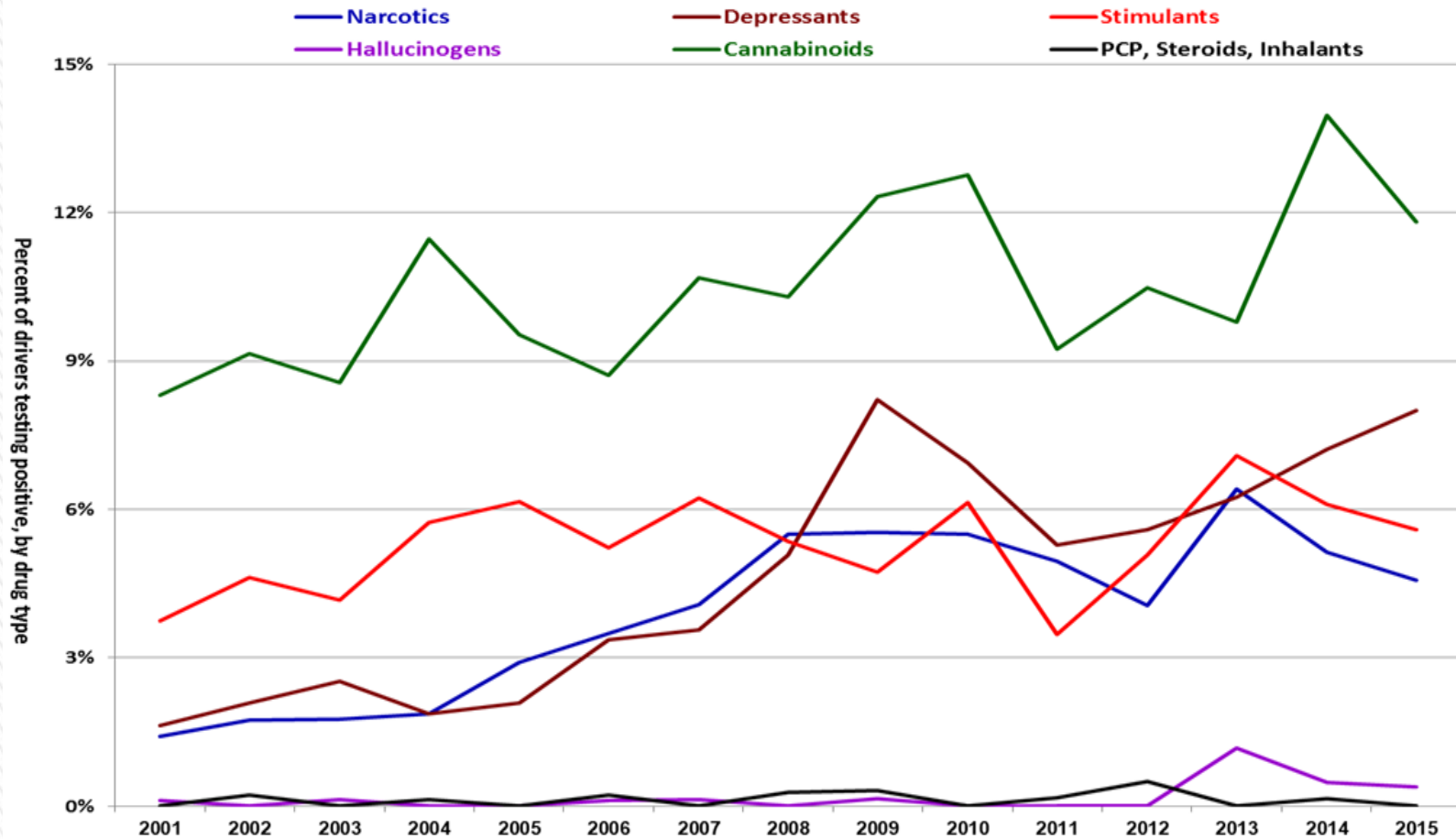
Anything else that we should add?

Myths about weed

- » Maine Marijuana Update 2017
- » * Recreational use 21 y/o >
- » * May possess up to/transport 2 ½ oz
- » *Transfer up that amount to others 21 y/o>
- » *Can use in private residence/property
- » *Operator/passenger can not use on public way
- » *Civil offense for 18-20 y/o
- » *Juvenile Crime <18 y/o

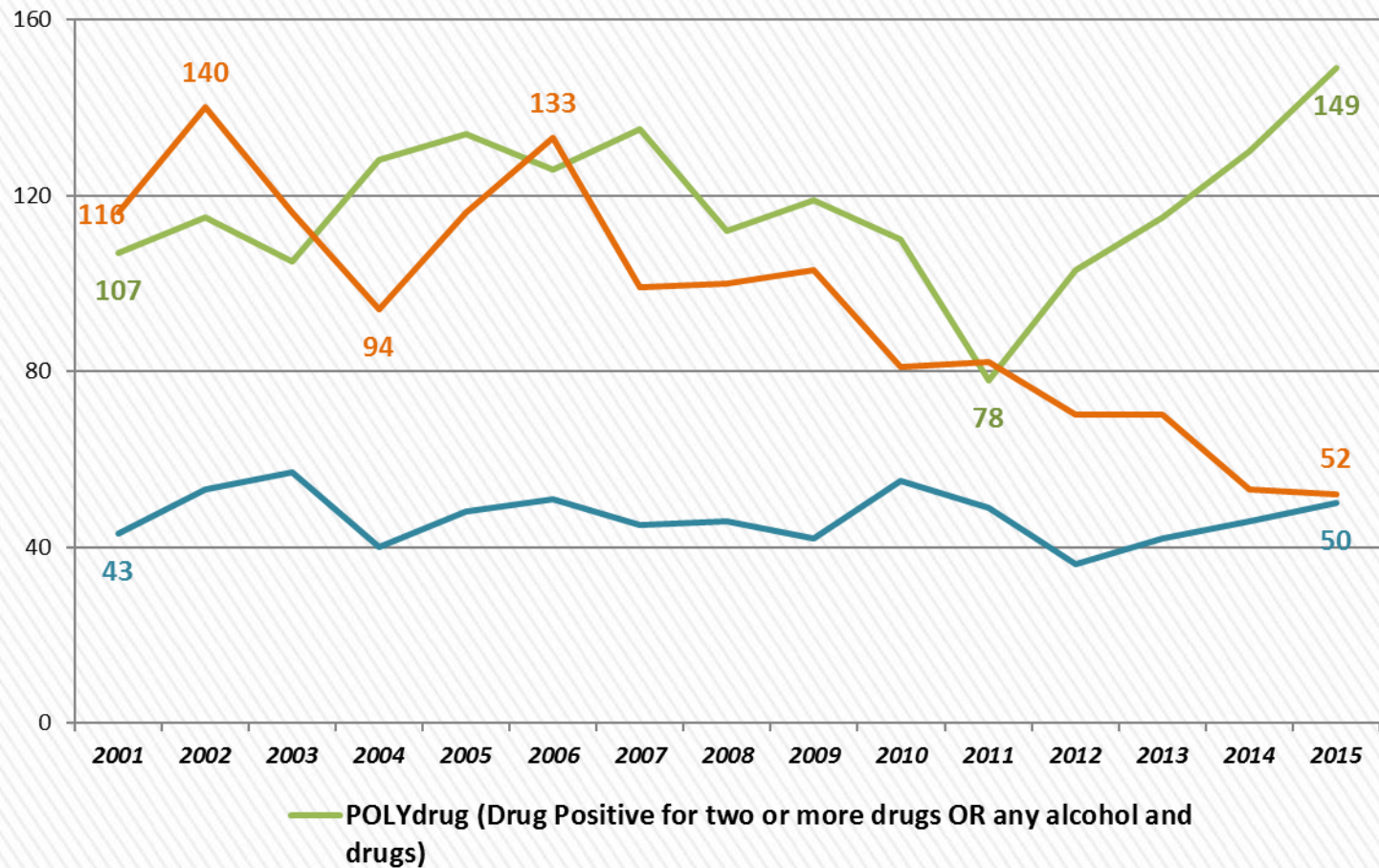
Drug-Test Results of Drivers in Fatal Crashes, 2001-2015pre

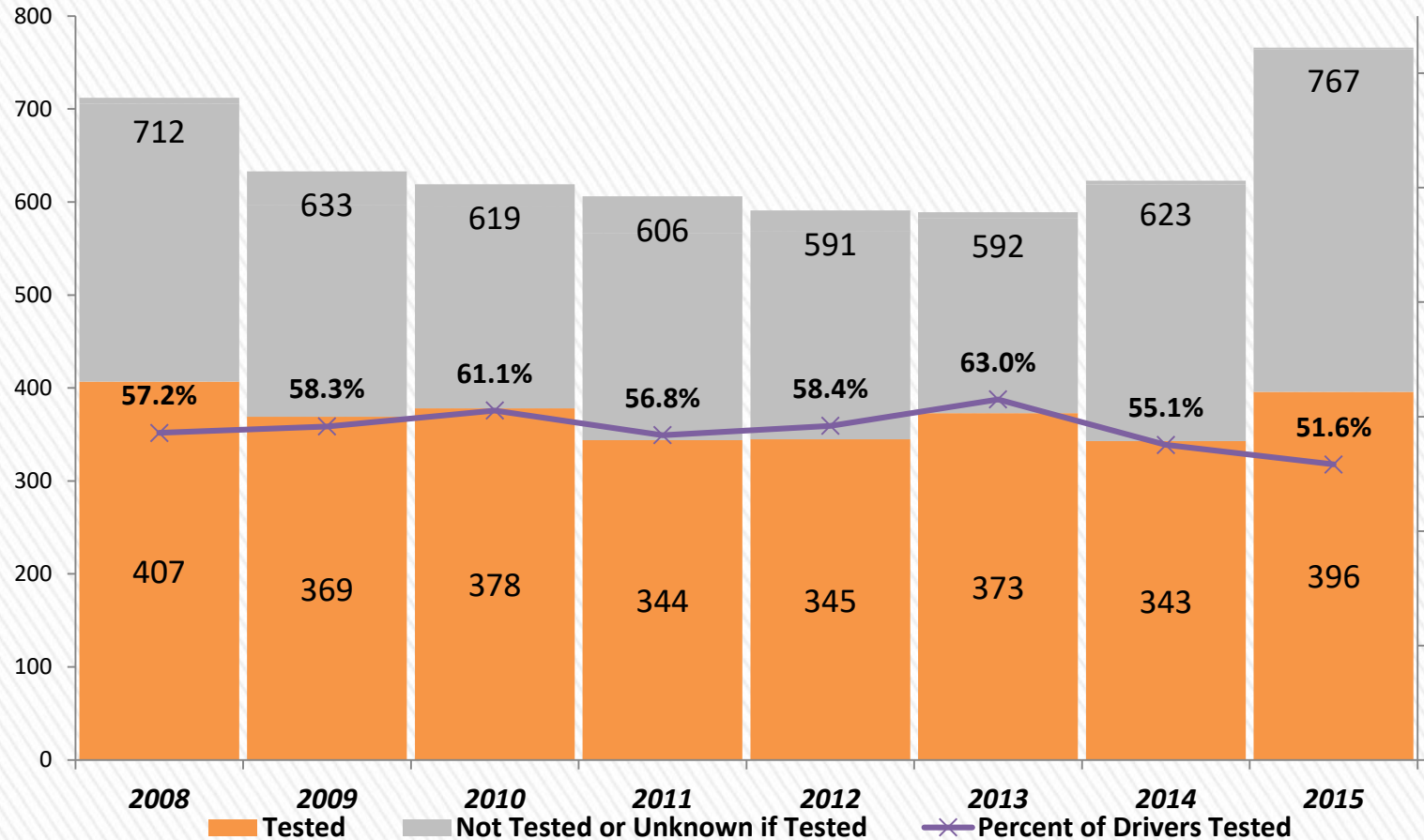
By Year and Drug Class



Marijuana at the top in fatal crashes
In Washington State.

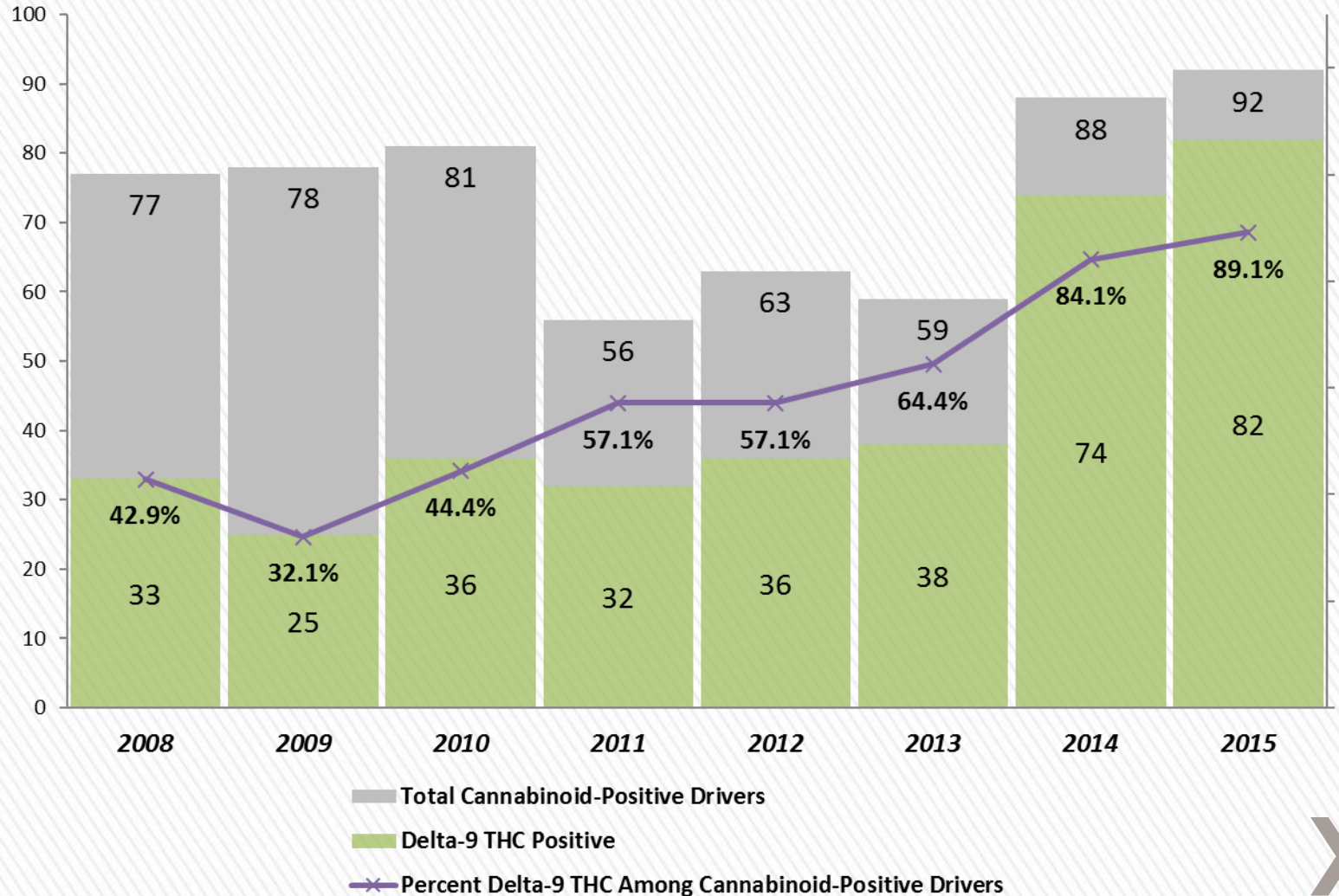
Number of Drivers in Fatal Crashes Under the Influence of Alcohol and/or Drugs





Drug Testing among drivers involved in fatal crashes 2008-2015

Cannabinoid-Positive Drivers Involved in Fatal Crashes, 2008-2015



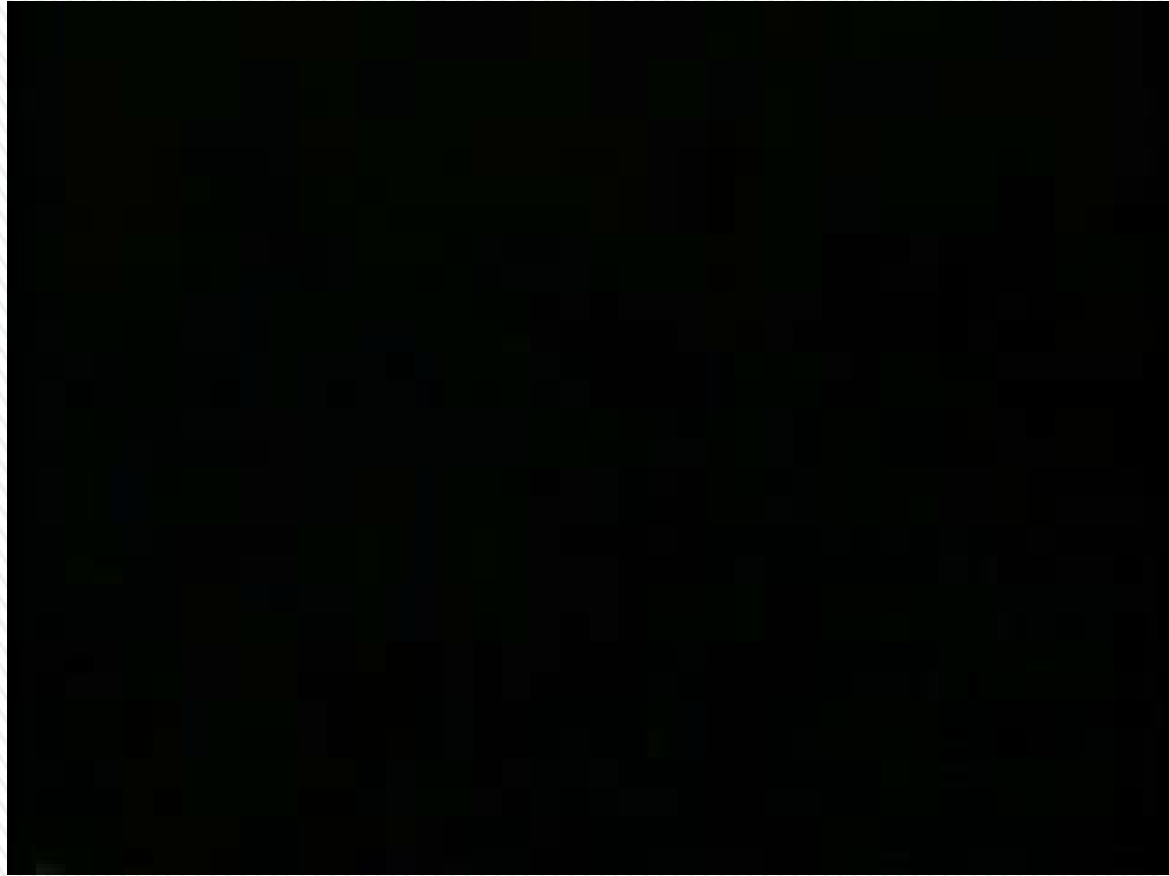


Polydrug Use

Use of two or more drug Categories at the same time

EXAMPLES:

- > Alcohol and Almost Anything Else
- > PCP and Cannabis
- > Heroin and Cocaine
- > Many Others.



Am I high?

National Drug Trends

In one year, drug overdoses killed more Americans than the entire Vietnam War did

- 2015 was the worst year for drug overdose deaths in US history
- Drug overdose deaths in 2016 most likely exceeded 59,000, the largest annual jump ever recorded in the United States, *according to preliminary data compiled by The New York Times*

Motor-vehicle deaths in 2016 totaled 40,200.

January – June 2016

Chief Medical Examiner recorded drug overdose **189**

This represents a 50% increase over the same six month period in 2015

- > Driven by illicitly manufactured fentanyl
- > Illicit fentanyl and its chemical analogs caused 44% of the January-June deaths.

Narcotic Analgesics Use

First six months of **2017** with 185 deaths recorded through the end of June

- *Overdose deaths are slightly less compared to 2016, but fentanyl use continues to rise*
 - Fentanyl caused 61% of the deaths

Pharmaceutical opioids caused 30% of the deaths

- A slight decrease from last year
- Prescription opioids and illicit opioids are often found together in a fatal cocktail of drugs.

OVERVIEW OF 2017, JANUARY-JUNE OVERDOSE DATA

- » Most (79%) drug deaths were caused by two or more drugs.
The average cause of death involved 3 drugs
- » The vast majority of overdoses (84%) were caused by at least one opioid, including both pharmaceutical and illicit drugs
- » Fentanyl (and/or its analogs) caused 61% of deaths, alone or in combination with other drugs, up from 52% in 2016.
- » Heroin caused 22% of deaths, alone or in combination with other drugs, down from 32% in 2016
- » Cocaine or crack caused 18% of deaths, alone or in combination with other drugs, up slightly from 16% in 2016
- » Pharmaceutical opioid deaths caused 30% of deaths, alone or in combination with other drugs, down slightly from 33% in 2016.

With literally hundreds of types of legally prescribed drugs on the market it is difficult to identify each one including signs and symptoms

Common trends seen by DREs

- > Gabapentin (Neurontin) with opiates
- > Suboxone
- > Xanax (alprazolam)



Prescription Drugs

- » Some medical emergencies are caused by drug impairment - overdoses
- » Other times a medical concern may mimic or be mistaken as drug impairment.

Medical Concerns

Is it a drug or a medical issue?

» Inability to Track  Medical Issue
Invalid for HGN test



» Unequal pupil size

Eye Indicators

Is it a drug or a medical issue?

- » Extreme Fatigue
- » Head injury
- » Extremely low blood pressure
- » Mental health issues, spectrum disorders
 - > Especially when non-compliant or recently changed med doses
- » Diabetic Reaction
- » Inner Ear Disorders
- » Multiple Sclerosis
- » Cerebral Palsy

Medical Issues

»Call EMS for any of the below:

- » Insulin Shock (Hypoglycemia)
- » Stroke
- » Closed Head Injury
- » Drug Overdose
 - > to the point of respiratory depression



Medical Emergencies

Closing

Although this course is not designed to qualify you as an expert in identifying an employee under the influence of drugs, it is intended to make you more knowledgeable when encountering employees impaired by substances other than alcohol.



Thank you

Please Drive Safely