Drugs and Driving: Evidence to Action

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Drugs and Driving: Detection and Deterrence

Joint Transport Research Centre of the OECD and The International Transport Forum Advisory Group on Drugs in Traffic

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Key Messages

- Drugs are as serious a problem on the roads as alcohol.
- Drug driving is a different problem than drink driving.
- There is a great deal we have yet to learn.
- The drug-driving problem is of a magnitude deserving a societal response comparable to that afforded the drink-driving problem over the past 30 years.
Overview

- Background
- The Evidence
  - Experimental
  - Epidemiological Evidence
- Legislation
- Enforcement
- Prevention
- Where do we go from here?
Background

Over the past 50 years, concern about impaired driving dominated by a focus on alcohol

A great deal has been learned about alcohol and driving

Evidence-informed practices have reduced the toll from alcohol-related crashes
What’s all the fuss about drugs?

- Very little was known about drugs in traffic
- Research was difficult, fraught with technical and methodological challenges
- Growing recognition of the extent of problem associated with drugs in traffic
The Evidence

- **Experimental** – the effects of drugs on skills necessary for the safe operation of vehicles

- **Epidemiological** – the prevalence of drug use by drivers and the impact on crash risk
Experimental Evidence

Research shows a wide variety of substances can adversely effect the ability to operate a vehicle safely:

- Illegal drugs (e.g., cannabis, cocaine, opiates)
- Psychoactive pharmaceuticals (e.g., benzodiazepines, narcotic analgesics)
- Over-the-counter remedies (e.g., antihistamines)
Experimental Evidence:

**Drug Effects**

- Decreased alertness
- Sedation
- Impaired coordination
- Increased risk-taking
- Poor decision-making
- Deficits in divided attention
- Impaired cognitive function

*Drug effects are not necessarily similar to those of alcohol*
Epidemiology (Descriptive)

- **Roadside Surveys** attempt to determine the prevalence of drug use among drivers on the road.

- Random sample of drivers asked to provide bodily fluid sample for analysis of drug content.
Roadside Surveys

- Many approaches
  - Voluntary/mandatory
  - Nighttime/Day & night
  - Police/civilians
  - Breath/Blood/Urine/Oral fluid
British Columbia Roadside Survey 2008

- 9 pm to 3 am
- Move every 90 min
- Wed thru Sat
- Voluntary
- Parking lot
- Breath and oral fluid
- BAC > 50 mg/dL given safe ride
Percent Alcohol and Drug Positive Cases by Day of Week
Alcohol and Drug Positive Cases According to Day of Week

<table>
<thead>
<tr>
<th>Day</th>
<th>Alcohol</th>
<th>Drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wed</td>
<td>6.2</td>
<td>9.5</td>
</tr>
<tr>
<td>Thurs</td>
<td>6.4</td>
<td>9.3</td>
</tr>
<tr>
<td>Fri</td>
<td>7.9</td>
<td>8.9</td>
</tr>
<tr>
<td>Sat</td>
<td>10.2</td>
<td>13.2</td>
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</table>

Percent
Percent Alcohol and Drug Positive Cases According to Time of Night

<table>
<thead>
<tr>
<th>Time</th>
<th>Alcohol</th>
<th>Drugs</th>
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</thead>
<tbody>
<tr>
<td>09:00</td>
<td>5.9</td>
<td></td>
</tr>
<tr>
<td>10:30</td>
<td>6.3</td>
<td>5.6</td>
</tr>
<tr>
<td>12:00</td>
<td>9.6</td>
<td>9.2</td>
</tr>
<tr>
<td>01:30</td>
<td>14.4</td>
<td>12.6</td>
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</table>
Percent Alcohol and Drug Positive Cases According to Driver Age Group

<table>
<thead>
<tr>
<th>Percent</th>
<th>Alcohol</th>
<th>Drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-18</td>
<td>9.1</td>
<td></td>
</tr>
<tr>
<td>19-24</td>
<td>9.8</td>
<td>10.2</td>
</tr>
<tr>
<td>25-34</td>
<td>10.1</td>
<td>12.4</td>
</tr>
<tr>
<td>35-44</td>
<td>10.0</td>
<td>10.0</td>
</tr>
<tr>
<td>45-54</td>
<td>10.8</td>
<td></td>
</tr>
<tr>
<td>55+</td>
<td>7.3</td>
<td>5.6</td>
</tr>
</tbody>
</table>

0 5 10 15

- Alcohol
- Drugs
Drivers Involved in Crashes

- Numerous studies have examined drug use among driver involved in serious crashes
- Fatalities more likely to be tested
- Studies find a variety of substances
Drug Use Among Fatally Injured Drivers in Canada 2000 - 2007

Percent

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Alcohol</th>
<th>Drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;18</td>
<td>30.4</td>
<td>29.6</td>
</tr>
<tr>
<td>19-24</td>
<td>46.7</td>
<td>33.8</td>
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<td>25-34</td>
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<td>35-44</td>
<td>42.5</td>
<td>37.7</td>
</tr>
<tr>
<td>45-54</td>
<td>34.2</td>
<td>33.5</td>
</tr>
<tr>
<td>55-64</td>
<td>24.2</td>
<td>26</td>
</tr>
<tr>
<td>65+</td>
<td>21.7</td>
<td>12.2</td>
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</tbody>
</table>
Percentage of Drug and Alcohol Positive Driver Fatalities According to Time of Crash

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Drugs</th>
<th>Alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td>5am - 9 am</td>
<td>34.6</td>
<td>18</td>
</tr>
<tr>
<td>10 am - 3pm</td>
<td>29</td>
<td>14.8</td>
</tr>
<tr>
<td>3pm - 7pm</td>
<td>31.6</td>
<td>30.8</td>
</tr>
<tr>
<td>7pm - 9pm</td>
<td>32.4</td>
<td>51.3</td>
</tr>
<tr>
<td>9pm - midnight</td>
<td>33.3</td>
<td>57.7</td>
</tr>
<tr>
<td>midnight to 5am</td>
<td>37.1</td>
<td>71</td>
</tr>
</tbody>
</table>
To what extent do drugs increase the risk of road crashes?

Three primary approaches:
- Case-control studies
- Responsibility analysis
- Pharmacoepidemiological studies

Many methodological issues
More recent, methodologically stronger studies show increased risk associated with psychoactive drug use.

Some studies show dose-related increase in risk for cannabis.

Magnitude of the risks are typically lower than those often associated with alcohol.
Drink-driving legislation often used as a model for drug-driving laws

Two basic categories:
- Behaviour-based statutes
- Per se laws

Type of law determines enforcement practices and prevention messages
**Behaviour-based Statutes**

- Focus is on impaired driving behaviour
- First used to control “drunk driving” or “driving while intoxicated”
- Require objective measurement of impaired behaviour
- A bodily fluid sample often required
**Per Se Laws**

- Alcohol – having a blood alcohol concentration (BAC) over specified limit deemed an offence
- Legal “short cut” based on the established relationship between BAC and driver impairment and crash risk
- Drugs - Scientific evidence establishing link between drug levels, impairment and crash risk are not well established
- Requires a separate limit for every substance
Zero Tolerance Laws

- Alternative is to set the per se limit at zero
- Any detectable amount of prohibited substance in a driver constitutes an offence
- Many countries have zero tolerance laws for illegal drugs
- Pharmaceuticals pose a difficult issue
Type of legislation determines enforcement practices

Two key components:
- Stopping the vehicle
- Obtaining the evidence

Legal criteria for stopping vehicles and obtaining evidence vary by country

Some allow random stops and random tests; others require at least suspicion that an offence has occurred
Behaviour-based Enforcement

- Requires evidence of impaired behaviour
- Requires evidence that driver consumed substance capable of producing the observed behaviour
- Requires police officers to be trained to recognize the signs and symptoms associated with use of different types of drugs
Per Se Law Enforcement

- Some countries require officer to establish suspicion of drug use
- Others allow random testing without suspicions
- Enforcement requires officers be trained to collect a sample of bodily fluid for testing
- Victoria Australia has implemented random drug testing of drivers using oral fluid samples screened at roadside
Prevention

- Primary prevention efforts have been relatively superficial
- Complex issue – many target groups, many substances, many circumstances
- A variety of carefully crafted approaches are required
- Opportunity to employ health professionals
Where do we go from here?

- Although many parallels with the drink-driving issue, there are many substantive differences that warrant a distinct and separate response.
Where do we go from here?

- Encourage and facilitate research to enhance understanding of the problem
- Ensure research adheres to international guidelines to enhance validity and facilitate comparisons
- Develop and refine oral fluid test devices for use at roadside
- Establish evidence-informed policies and programmes
- Establish policies and programmes that address the risks posed by all types of impairing substances
Where do we go from here?

- Ensure that drug-driving legislation focuses on road safety and is not used to identify and prosecute drug users
- Establish training programmes for all enforcement personnel
- Engage health care professionals in prevention efforts
Key Messages

- Drugs are as serious a problem on the roads as alcohol.
- Drug driving is a different problem than drink driving.
- There is a great deal we have yet to learn.
- The magnitude of the drug-driving problem is deserving of a societal response comparable to that afforded the drink-driving problem over the past 30 years.
Thank-you

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