Drugs and Driving: Detection and Deterrence

Advisory Group on Drugs in Traffic

Report prepared by:
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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 affect 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>6.2</td>
</tr>
<tr>
<td>Thurs</td>
<td>9.5</td>
<td>9.5</td>
</tr>
<tr>
<td>Fri</td>
<td>9.3</td>
<td>8.9</td>
</tr>
<tr>
<td>Sat</td>
<td>7.9</td>
<td>10.2</td>
</tr>
</tbody>
</table>

Percent

Bar chart showing the percentage of alcohol and drug positive cases by day of the week.
Percent Alcohol and Drug Positive Cases According to Time of Night

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

<table>
<thead>
<tr>
<th>Age Group</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>3.9</td>
<td>10.8</td>
</tr>
<tr>
<td>55+</td>
<td>5.6</td>
<td>7.3</td>
</tr>
</tbody>
</table>
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>29.6</td>
<td>30.4</td>
</tr>
<tr>
<td>19-24</td>
<td>33.8</td>
<td>46.7</td>
</tr>
<tr>
<td>25-34</td>
<td>47.9</td>
<td>33.8</td>
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<tr>
<td>35-44</td>
<td>42.5</td>
<td>47.9</td>
</tr>
<tr>
<td>45-54</td>
<td>37.7</td>
<td>34.2</td>
</tr>
<tr>
<td>55-64</td>
<td>26.2</td>
<td>24.2</td>
</tr>
<tr>
<td>65+</td>
<td>12.2</td>
<td>21.7</td>
</tr>
</tbody>
</table>
Percentage of Drug and Alcohol Positive Driver Fatalities According to Time of Crash

<table>
<thead>
<tr>
<th>Time of Crash</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>5am - 9am</td>
<td>34.6%</td>
</tr>
<tr>
<td>10am - 3pm</td>
<td>29%</td>
</tr>
<tr>
<td>3pm - 7pm</td>
<td>31.6%</td>
</tr>
<tr>
<td>7pm - 9pm</td>
<td>32.4%</td>
</tr>
<tr>
<td>9pm - midnight</td>
<td>33.3%</td>
</tr>
<tr>
<td>Midnight to 5am</td>
<td>71%</td>
</tr>
</tbody>
</table>

- **Drugs**
- **Alcohol**
Analytical Epidemiology

• To what extent do drugs increase the risk of road crashes?

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

• Many methodological issues
Analytical Epidemiology

• 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
Legislation

• 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 as a result of drug use

• First used to control “drunk driving” or “driving while intoxicated”

• More recently, require objective measurement of impaired behaviour using standardized assessment protocols

• A bodily fluid sample often required to confirm presence of psychoactive substance
Per Se Laws

- First used to deal with drink-driving – having a blood alcohol concentration (BAC) over specified limits was deemed an offence
- Legal “short cut” based on the established relationship between BAC and driver impairment and crash risk
- 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
Enforcement

• 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.

• The magnitude of the drug-driving problem is deserving of a societal response comparable to that afforded the drink-driving over the past 30 years.
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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