Australia: How do we monitor new drugs?

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Outline

• Aims
• How do we monitor drug trends in Australia
• Methodology
  – Drug user interviews
  – Key expert interviews
  – Indicator data
  – Drugs and new technologies
• Summary
Aims of the drug trends project

• To detect changing patterns of use and harm over time
• Document the price, purity, and availability of illicit drugs
• Point to specialised/detailed research
• Provide an evidence base for policy
• Outputs include: reports, bulletins, briefings, conference and presentations
How do we monitor drug trends?

Population surveys

Targeted sample surveys
  • Gay periodic Survey

Secondary indicator data sources e.g.
  Causes of death database, Emergency Department presentations, criminal statistics

Internet Monitoring

Other technologies e.g. Biological samples (wastewater, blood)
Beginnings 1990’s

• Government identified high level of heroin use, overdoses, and challenges to monitoring trends in the illicit drug market

• 1990-1991: Criminologist Dr Grant Wardlaw piloted an Illicit Drug Indicators project

• 1995: NDARC commissioned by the Commonwealth to design a new system to monitor drug trends in Australia to look at both use and harms

Dr Grant Wardlaw
ANU College of Asia and the Pacific

• 1995: NDARC commissioned by the Commonwealth to design a new system to monitor drug trends in Australia to look at both use and harms
A system is born

- Illicit Drug Reporting System (IDRS) was piloted in NSW in 1996, accruing more states each year, until becoming a national system in 2000.

Three components:

1. **Survey interviews with people who inject drugs**
2. **Qualitative Interviews with key experts** (law and health professionals)
3. **Indicator data** (large population based data sets (e.g. arrests, hospital overdoses, death, treatment services)).
THE RISE OF ECSTASY: A sister system is born

• In 2000, key informant data showed emergence of a class of drugs that were not being captured by the IDRS.

Namely:
- these were drugs like ecstasy and LSD
- more likely to be swallowed, snorted or smoked
- used in social venues with music such as nightclubs

• Run on same methods as IDRS however instead of interviewing people who inject drugs, undertaken with regular ecstasy users
Methodology

1. Interviews with people who use drugs
2. Key expert interviews eg health, law enforcement treatment services
3. Indicator data eg routine population surveys; administrative datasets

Triangulation of sources overcomes weaknesses specific to each data source
# Participant Eligibility

<table>
<thead>
<tr>
<th>IDRS</th>
<th>EDRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injected in the last 6 months</td>
<td>Ecstasy use in the last 6 months</td>
</tr>
<tr>
<td>In the “market” for the past year</td>
<td>In the “market” for the past year</td>
</tr>
<tr>
<td>Sampled from needle and syringe programs, outreach, clinics, snowballing</td>
<td>Advertised in street press, websites, music /clothing shops, universities and snowballing</td>
</tr>
<tr>
<td>Around 100 participants from each jurisdiction</td>
<td>Around 100 participants from each jurisdiction</td>
</tr>
</tbody>
</table>
1. People who use drugs

- Face-to-face
- Approx. 100 in each capital city
- Recruited same time each year
IDRS: Drugs of focus

- Heroin
- Cocaine
- Methamphetamine
  - Speed powder
  - Base
  - Ice/Crystal
- Cannabis
- Other opioids
## Participant characteristics of IDRS

<table>
<thead>
<tr>
<th></th>
<th>2016 N=877</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (years)</td>
<td>43 (19-72)</td>
</tr>
<tr>
<td>75% aged</td>
<td>49 and under</td>
</tr>
<tr>
<td>% Male</td>
<td>67</td>
</tr>
<tr>
<td>% Single</td>
<td>61</td>
</tr>
<tr>
<td>% Unemployed</td>
<td>86</td>
</tr>
<tr>
<td>% Currently in treatment</td>
<td>43</td>
</tr>
<tr>
<td>% Arrested in last 12 months</td>
<td>31</td>
</tr>
<tr>
<td>Mean age first injected (years)</td>
<td>20</td>
</tr>
</tbody>
</table>
Drugs injected last month(%)
Frequency of use: ‘Weekly or more’* use (%)

↑ Significant increase between 2015 and 2016 (p<0.05)
* Cannabis = ‘daily’ use
# Injecting risk behaviour (last month)

<table>
<thead>
<tr>
<th>Behavior</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrowed a needle (%)</td>
<td>9</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Lent a needle (%)</td>
<td>15</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Shared equipment (excludes needles) (%)</td>
<td>34</td>
<td>29</td>
<td>25</td>
</tr>
<tr>
<td>Re-used own needle (%)</td>
<td>44</td>
<td>39</td>
<td>38</td>
</tr>
<tr>
<td>Re-used injecting equipment (excludes needles) (%)</td>
<td>61</td>
<td>55</td>
<td>55</td>
</tr>
</tbody>
</table>
EDRS: Drugs of focus

- Ecstasy
- Cocaine
- Methamphetamine
  - Speed powder
  - Base
  - Ice/Crystal
- Cannabis
- LSD
- Ketamine
- GHB
### Profile of EDRS participants 2016

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>21.5 yrs</td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td>68%</td>
</tr>
<tr>
<td><strong>Heterosexual</strong></td>
<td>79%</td>
</tr>
<tr>
<td><strong>Unemployed</strong></td>
<td>7%</td>
</tr>
<tr>
<td><strong>Drug of choice</strong></td>
<td></td>
</tr>
<tr>
<td>• Cannabis</td>
<td>23%</td>
</tr>
<tr>
<td>• MDMA</td>
<td>29%</td>
</tr>
<tr>
<td>• Alcohol</td>
<td>19%</td>
</tr>
<tr>
<td>• LSD</td>
<td>11%</td>
</tr>
</tbody>
</table>
Changing forms of ecstasy

Ecstasy forms, 2010-2016

% reported EDRS use


Pills

Powder

Capsules

Crystals
2. Key Expert interviews

• People who have regular contact with a group of illicit drug users or good knowledge of markets

• **IDRS**: NSP workers, treatment providers, outreach, law enforcement

• **EDRS**: DJs, night club industry workers, health promotion workers, first aid medical officers, youth workers, law enforcement

• By telephone
• Face-to-face
• 20 in each capital city
3. Indicator data

- Existing routine data collections with information related to illicit drugs e.g. Ambulance calls for overdoses, ED admissions, Calls to help lines, Arrest data, Drug seizure data (Customs, AFP).

![Heroin overdose presentations to NSW emergency departments](chart.png)
## Analysis of routine data collections

The National Illicit Drug Indicators Project (NIDIP) analyses a range of routine data collections including:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>• National Coroner’s Information System</td>
</tr>
<tr>
<td>2</td>
<td>• National Hospital Morbidity Database</td>
</tr>
<tr>
<td>3</td>
<td>• National Drug Strategy Household Survey</td>
</tr>
<tr>
<td>4</td>
<td>• Ambulance callouts to overdose</td>
</tr>
<tr>
<td>5</td>
<td>• Emergency Dept presentations</td>
</tr>
</tbody>
</table>
The rise of the internet

- Drugs without borders: Global drug markets
- New methods of production and distribution
- Diverse range of drugs – less known of content
New Psychoactive Substances (NPS) globally

Number of new psychoactive substances reported, 2009-2014

Australian population estimates of NPS use, 2013

Other NPS

Synthetic cannabis

Recent use of ‘any’ NPS in the EDRS, 2010-2015

% of RPU

2010: 33
2011: 43
2012: 51
2013: 47
2014: 41
2015: 40
Purchasing drugs online among EDRS participants

- 14% had purchased an illicit drug online in lifetime
- 10% had purchased an illicit drug online past 12 months
- Frequency of online purchases:

   - 1-2 times
   - 3-5 times
   - more than 5 times

Places purchased:
- Silk Road 2.0 (35%) Other dark net markets (51%), surface web stores (20%)

Drugs purchased:

Traditional drugs:
- 1. MDMA
- 2. LSD
- 3. Cannabis

NPS drugs:
- 1. 2C-X family
- 2. DMT
- 3. NBOMe
Methodology – Dark Net monitoring

• Weekly complete snapshots of the marketplaces
  – All substance listings
  – Retailer names
  – Price
  – Country of origin (where possible)

• Markets with more than 50 listings, English language only.
Total number of retailers on the top five marketplaces with numbers and proportions of Australian retailers indicated, in order of unique retailer count by substance type

<table>
<thead>
<tr>
<th>Substance Type</th>
<th>Agora</th>
<th>Evolution</th>
<th>Silk Road 2.0</th>
<th>Pandora</th>
<th>Cloud Nine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
<td>A %</td>
<td>I</td>
<td>A %</td>
<td>I</td>
</tr>
<tr>
<td>Cannabis</td>
<td>516</td>
<td>37 7%</td>
<td>427</td>
<td>16 4%</td>
<td>436</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td>441</td>
<td>42 10%</td>
<td>378</td>
<td>16 4%</td>
<td>387</td>
</tr>
<tr>
<td>MDMA</td>
<td>342</td>
<td>50 15%</td>
<td>238</td>
<td>17 7%</td>
<td>355</td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>215</td>
<td>34 16%</td>
<td>165</td>
<td>16 10%</td>
<td>212</td>
</tr>
<tr>
<td>NPS</td>
<td>231</td>
<td>27 12%</td>
<td>157</td>
<td>8 5%</td>
<td>238</td>
</tr>
<tr>
<td>Cocaine</td>
<td>235</td>
<td>19 8%</td>
<td>192</td>
<td>7 4%</td>
<td>236</td>
</tr>
<tr>
<td>LSD</td>
<td>115</td>
<td>11 10%</td>
<td>85</td>
<td>1 1%</td>
<td>147</td>
</tr>
<tr>
<td>Illicit Opioids</td>
<td>104</td>
<td>11 11%</td>
<td>121</td>
<td>3 2%</td>
<td>126</td>
</tr>
<tr>
<td>Magic Mushrooms</td>
<td>73</td>
<td>8 11%</td>
<td>48</td>
<td>2 4%</td>
<td>76</td>
</tr>
<tr>
<td>PIEDs/Steroids</td>
<td>47</td>
<td>12 26%</td>
<td>33</td>
<td>3 9%</td>
<td>44</td>
</tr>
<tr>
<td>GHB</td>
<td>19</td>
<td>2 11%</td>
<td>10</td>
<td>0 0%</td>
<td>18</td>
</tr>
<tr>
<td>Synthetic Cannabinoids</td>
<td>25</td>
<td>2 8%</td>
<td>12</td>
<td>0 0%</td>
<td>30</td>
</tr>
<tr>
<td>Total Unique</td>
<td>121</td>
<td>16 12%</td>
<td>1108</td>
<td>70 6%</td>
<td>1057</td>
</tr>
</tbody>
</table>
### Number of retailers from the top five marketplaces selling the ten most common NPS by average rank across all marketplaces

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<thead>
<tr>
<th>Substance</th>
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<th>Evolution</th>
<th>Pandora</th>
<th>Cloud Nine</th>
</tr>
</thead>
<tbody>
<tr>
<td>2C-x</td>
<td>55</td>
<td>58</td>
<td>30</td>
<td>24</td>
<td>6</td>
</tr>
<tr>
<td>DMT</td>
<td>53</td>
<td>47</td>
<td>36</td>
<td>23</td>
<td>11</td>
</tr>
<tr>
<td>NBOMe</td>
<td>39</td>
<td>45</td>
<td>37</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Methylone</td>
<td>32</td>
<td>45</td>
<td>23</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Methoxetamine</td>
<td>23</td>
<td>21</td>
<td>14</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Synthetic Cannabinoids</td>
<td>25</td>
<td>30</td>
<td>12</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>MDA</td>
<td>27</td>
<td>28</td>
<td>6</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>5-Meo Family</td>
<td>13</td>
<td>16</td>
<td>7</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Ethylene</td>
<td>33</td>
<td>7</td>
<td>21</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Dox</td>
<td>22</td>
<td>15</td>
<td>10</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mescaline</td>
<td>15</td>
<td>11</td>
<td>16</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>243</td>
<td>248</td>
<td>163</td>
<td>160</td>
<td>30</td>
</tr>
</tbody>
</table>
Australian Drug Trends

IDRS (1999)
Illicit Drug Reporting System

1. Interviews with people who inject drugs
2. Interviews with Key experts
3. Indicator data

NIDIP (2002)
National Illicit Drugs Indicator Project

Analysis data from other sources
* Overdose
* Seizures
* Treatment

EDRS (2003)
Ecstasy and Related Drugs Reporting System

1. Interview with regular psychostimulant users
2. Interviews with key experts
3. Indicator data

DNeT (2012)
Drugs and New Technologies

Investigates:
* Drug marketplaces online; and
* New technologies

The Difference is Research
CONCLUSION

• Drug markets highly variable due to external and individual level characteristics

• We have moved from largely plant based substances to a vast range of chemically synthesized substances

• The requires a system of monitoring that can detect both long term and short term changes, with more and more emphasis required on substances that end up as short term epidemiological clusters; eg spates of deaths at dance parties etc.

• Considering the ever growing sophistication of social communication, drug use now crosses all borders and international collaboration is vital.
Acknowledgements

Study participants

Agencies assisting with recruitment

Agencies and individuals providing indicator data

Researchers and institutions across Australia

The Funders – Australian Government Department of Health & Ageing
For more information

Please visit the NDARC website and click on ‘drug trends’

http://ndarc.med.unsw.edu.au/