• A Conceptual Basis for an Integrated Model of Drug Demand Reduction

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Political Declaration and Plan of Action on International Cooperation towards an Integrated and Balanced Strategy to Counter the World Drug Problem

- One decade after 1999 UN General Assembly declaration, drug problem still a “serious threat”
- UN Member states need to recognize need for an integrated and balanced approach
- Commitment to effective primary prevention, early identification, treatment, social rehabilitation “based on scientific evidence.”

SOURCE: High-level segment Commission on Narcotic Drugs, Vienna, 2009

Figure 1. The health impact model applied to drug policy options (From Strang et al. 2012)
Supply Control Approaches

**POLICY**
Eradicate drug crops, arrest traffickers/dealers
*Increase* penalties for drug possession and use
*Decrease* penalties for some types of drug use (e.g., cannabis)
Regulate pharmaceutical companies, pharmacists and physicians

**BROAD POLICY GOALS**
Keep drug prices high and reduce availability
Deter drug use; prevent normalization of drug use
Prevent negative effects of criminalizing less harmful forms of drug use
Prevent use of psycho-pharmaceuticals for non-approved purposes

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**Source country control**

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Effectiveness</th>
<th>Amount of research and cross-national testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop eradication</td>
<td>Can sometimes create temporary market disruption.</td>
<td>Programs evaluated qualitatively in several LAMI countries.</td>
</tr>
<tr>
<td>Alternative development</td>
<td>No known correlation with reduced drug use.</td>
<td>Programs evaluated qualitatively in several LAMI countries.</td>
</tr>
<tr>
<td>Precursor chemical control</td>
<td>Good evidence for temporary disruption in drug market.</td>
<td>Several studies in the USA and Canada.</td>
</tr>
<tr>
<td>Interdiction</td>
<td>May disrupt drug market and supply chain, and thus increase cost to drug user.</td>
<td>Several studies in the USA and LAMI countries.</td>
</tr>
</tbody>
</table>
Supply control interventions: Enforcement

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Effectiveness</th>
<th>Amount of research and cross-national testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>High level enforcement through criminal investigations</td>
<td>Price mark-ups suggest important benefits of modest investments but limited evidence of a dose-response effect.</td>
<td>Only a few studies conducted</td>
</tr>
<tr>
<td>Street-level enforcement</td>
<td>Modifies markets and market-harms rather than drug use per se</td>
<td>Only a few studies outside the USA</td>
</tr>
<tr>
<td>Imprisonment</td>
<td>Some evidence of diminishing returns from imprisonment beyond certain levels</td>
<td>Only a few investigations outside the USA and United Kingdom.</td>
</tr>
</tbody>
</table>

Prescription drug control strategies that have been evaluated in research

- Changes in costs or reimbursements can affect demand
- Restrictions on over-the-counter sales: evidence mixed
- Authoritative advice to physicians: Needs enforcement
- Enforcement of prescription guidelines effective when enforced
- Prescription restrictions, prescription registers, prescription monitoring, restricting the list of prescribers or use to hospital/clinics: All effective ways to limit demand
- Total withdrawal of drug from prescription availability: Very effective
Demand Reduction Approaches

**Policy**
- School drug prevention programs, mass media campaigns
- Treatment: Opiate Substitution Therapy, counseling, therapeutic communities, self-help
- Harm reduction

**Broad policy goals**
- Change attitudes, improve health literacy and prevent onset of drug use
- Reduce crime and overdose deaths, prevent spread of HIV infection, treat psychiatric disorders
- Prevent infection and overdose

Community-Based Programs and Mass Media Campaigns

<table>
<thead>
<tr>
<th>Program</th>
<th>Effectiveness</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information/ knowledge only</td>
<td>No evidence</td>
<td>A few school-based studies</td>
</tr>
<tr>
<td>Multi-component community programs</td>
<td>No evidence</td>
<td>Only a few small studies</td>
</tr>
<tr>
<td>Mass media campaigns</td>
<td>No evidence</td>
<td>Limited to a few studies in the US</td>
</tr>
<tr>
<td>Social marketing</td>
<td>Insufficient evidence to determine effectiveness</td>
<td>One study only</td>
</tr>
</tbody>
</table>
Mass Media and Social Marketing Approaches

School-Based Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Effectiveness</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective Education</td>
<td>No evidence</td>
<td>Several school-based studies</td>
</tr>
<tr>
<td>DARE</td>
<td>No evidence</td>
<td>Several well-controlled studies and numerous uncontrolled evaluations</td>
</tr>
<tr>
<td>Drug testing in schools</td>
<td>No evidence</td>
<td>No well-controlled studies available</td>
</tr>
</tbody>
</table>
Drug Testing in Schools

- Random or on suspicion
- More common in US
- Drug use does not differ between schools with and without drug testing (Yamaguchi et al. 2003)
- No convincing evidence to support random drug testing in schools
- May produce negative effects

Family and School Environment Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Effectiveness</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family/ parenting programs</td>
<td>Has shown effectiveness in reducing onset of drug use</td>
<td>A few studies conducted in the US only</td>
</tr>
<tr>
<td>Environmental/ classroom management programs</td>
<td>Some evidence supporting the Good Behavior Game (GBG)</td>
<td>A few studies conducted in the US only</td>
</tr>
<tr>
<td>Social or life skills</td>
<td>Equivocal evidence for short-term impact; some evidence of positive medium- to long-term impact</td>
<td>Several high quality studies conducted in the US only</td>
</tr>
</tbody>
</table>
Strengthening Families Program

- Brief, seven-session intervention
- Focuses on promoting family relationships, communication, behaviour, and conflict management
- Marked reduction in lifetime cannabis after six years
- Effective in preventing methamphetamine use

Six years after the intervention, methamphetamine use is reduced by around two-thirds

Pan American Health Organization

Will effective U.S. prevention programs work in other countries?

- Assess relevance
- Revise program to be culture-specific
- Adapt materials and formats without compromising theoretical and conceptual integrity and therefore potential effectiveness
- Assess applicability
Secondary Prevention

Early intervention programs have shown more promise, especially when screening and brief interventions are conducted systematically in primary care and other health care settings.

Total Illicit Substance Involvement
Control vs. Brief Intervention

BI significantly lower at follow-up compared with the Control group
\[ F(1,626) = 7.2, p<0.01 \]
Treatment and Harm Minimization

- Services for opiate dependent individuals have the strongest supporting evidence and they are also effective ways to reduce drug-related crime and the spread of HIV infection.
- Some harm reduction programs, such as needle exchange programs, reduce high risk injection practices and engage IDUs in treatment and health services.

Percent Days Smoked Marijuana

<table>
<thead>
<tr>
<th></th>
<th>BL</th>
<th>4-mo</th>
<th>9-mo</th>
<th>15-mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delayed Treatment</td>
<td>0.9</td>
<td>0.8</td>
<td>0.7</td>
<td>0.6</td>
</tr>
<tr>
<td>Brief Treatment</td>
<td>0.9</td>
<td>0.8</td>
<td>0.6</td>
<td>0.5</td>
</tr>
<tr>
<td>Extended Treatment</td>
<td>0.9</td>
<td>0.8</td>
<td>0.6</td>
<td>0.5</td>
</tr>
</tbody>
</table>
Prison-based studies

Participation in the therapeutic community (which attempt to re-socialize the drug addict), significantly increase average time to re-incarceration, and to drug use relapse.

Treatment systems research

- Systems concepts and research may help to improve access, efficiency, economy, effectiveness, continuity of care, thereby improving the population impact of treatment services.
- Focus attention on components having greatest impact on morbidity and mortality
- Cost implications and resource allocation
- Making the system fit the needs of the community, rather than the needs of the professional group
Three service system changes that may have made a difference

1. Introduction of large scale opiate substitution services in France and Switzerland.

2. Creation of the drug court system in the United States.

CONCLUSIONS

There is no one “drug problem” within or across countries, nor is there one “silver bullet” that will solve “the” drug problem

Many supply control policies have unintended consequences, and therefore should be viewed with a sense of caution and experimentation

Efforts to control drug supplies in low income countries have not achieved their intended aims; approaches based on incarceration of drug users are also unlikely to achieve their intended aims

Demand reduction policies can make a positive difference in many countries, especially treatment, harm reduction and early intervention

Public health concepts and programs linked to demand reduction have been underutilized and could make a positive contribution to drug control efforts.

Conclusions

A considerable amount of scientific research is available to inform the development and implementation of effective drug policy.

Yet current drug policy in most societies takes little or limited account of this research.

Among the 43 options reviewed in DPPG, 17 show some evidence of effectiveness in at least one country.

Policies that have shown little or no evidence of effectiveness continue to be the preferred options of many countries and international organizations.
The Synergistic Relationship between Supply Control and Demand Reduction

Demand reduction measures are designed to complement rather than supplant supply control approaches to drug misuse.

For example, enforcement of drug laws can channel large numbers of drug users into treatment through diversion schemes that provide alternatives to incarceration.

Conclusion 10. There is virtually no scientific research to guide the improvement of supply control and law enforcement efforts.

The lack of careful study of enforcement, interdiction, incarceration, and related measures poses a major barrier to applying these measures effectively.

The scientific evidence reviewed in Drug Policy and the Public Good is not sufficient to stem the rising tide of global drug problems. But many countries are not utilizing existing resources to best effect.

Scientific evidence could be a powerful ally of leaders and policymakers with the courage, creativity, and conviction to create more effective drug policy.
Publications vs Priorities: EU research publications \((N=3028)\) and research priority ratings \((N=57)\) across five substance abuse research areas (Bühringer et al., 2009)

Toward a Public Health Approach to Drug Policy

- Integration of supply control efforts with demand reduction
- Goal is to decrease the population impact of substance use
- Focus on prevention, early intervention, harm reduction, diversion, treatment, rehabilitation, and health systems management
- Consideration of the epidemiology of substance use
  - Emerging epidemics
  - Endemic substance use
Drug policy and the public good: Conclusions (Strang et al. 2012)

Policy debates rarely informed by evidence.
Evidence-based interventions are capable of making drugs less available, reducing violence in drug markets, lessening misuse of legal pharmaceuticals, preventing drug use initiation in young people, and reducing drug use and its consequences in established drug users.

Important opportunities exist for science to inform deliberations and guide the selection of policies that maximise the public good.

Lessons from Alcohol Policy
Availability Theory?

Limit economic availability
Limit physical availability
Social availability constraints
Deterrence and social pressure
Reduce psychological attractiveness

Alcohol taxes
State monopolies, age restrictions, controls on time, place, density
Restrictions on drinking context
Brief interventions, treatment, drink driving measures
Marketing restrictions