- **A Conceptual Basis for an Integrated Model of Drug Demand Reduction**

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DRUG POLICY
AND THE
PUBLIC GOOD

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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."

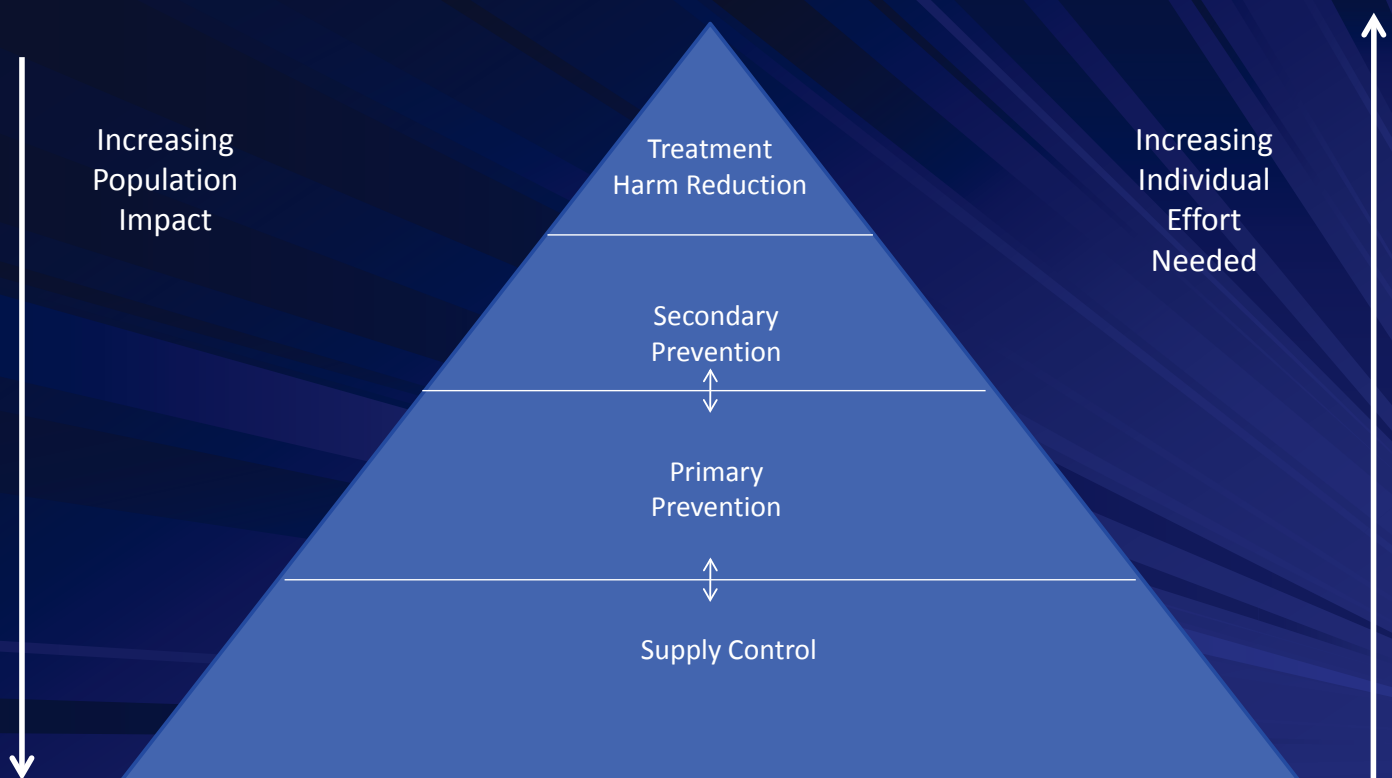SOURCE: High-level segment Commission on Narcotic Drugs, Vienna, 2009

Increasing Population Impact

Increasing Individual Effort Needed

Treatment
Harm Reduction

Secondary Prevention

Primary Prevention

Supply Control

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

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

Supply control interventions: Enforcement

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

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

Program	Effectiveness	Research
Information/ knowledge only	No evidence	A few school-based studies
Multi-component community programs	No evidence	Only a few small studies
Mass media campaigns	No evidence	Limited to a few studies in the US
Social marketing	Insufficient evidence to determine effectiveness	One study only

Mass Media and Social Marketing Approaches
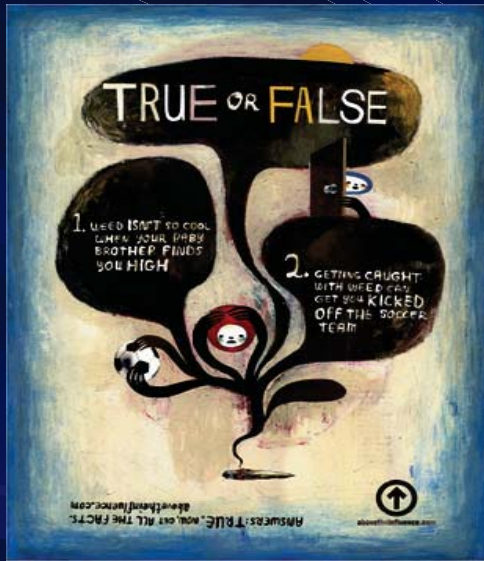
School-Based Programs

Program	Effectiveness	Research
Affective Education	No evidence	Several school-based studies
DARE	No evidence	Several well-controlled studies and numerous uncontrolled evaluations
Drug testing in schools	No evidence	No well-controlled studies available

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 drug testing in schools

- May produce negative effects

random

DRUG FREE SCHOOL ZONE

Family and School Environment Programs

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

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
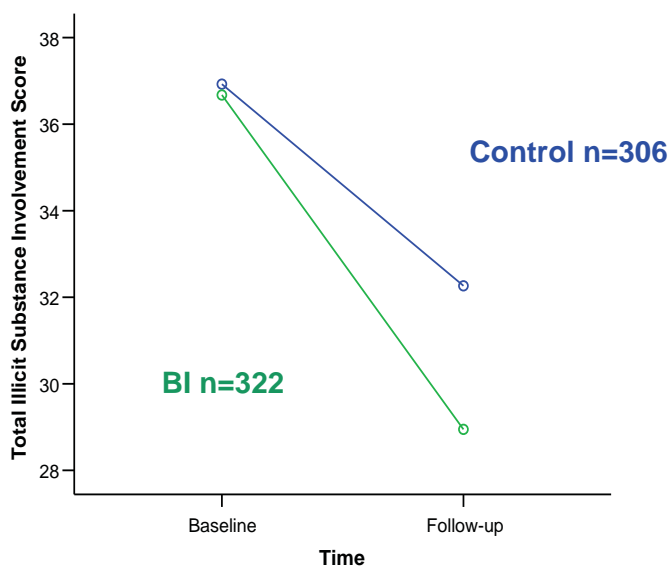
BI significantly lower at follow-up compared with the Control group F(1,626) = 7.2, p<0.01

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
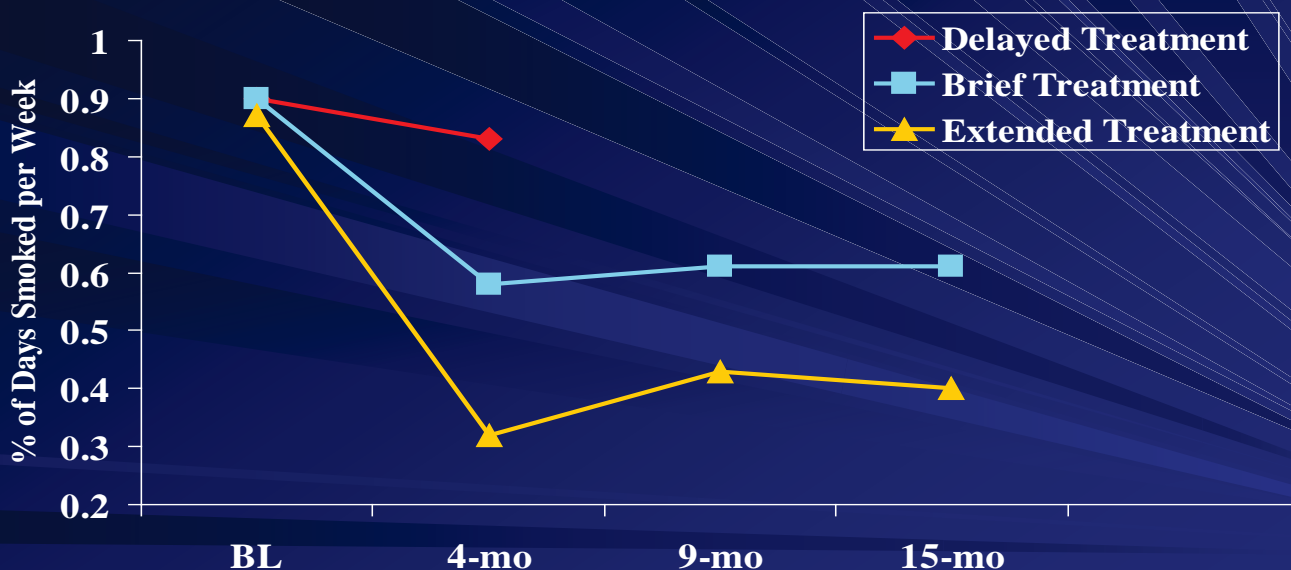
Prison-based studies

- 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

Conceptual model of population impact of service systems
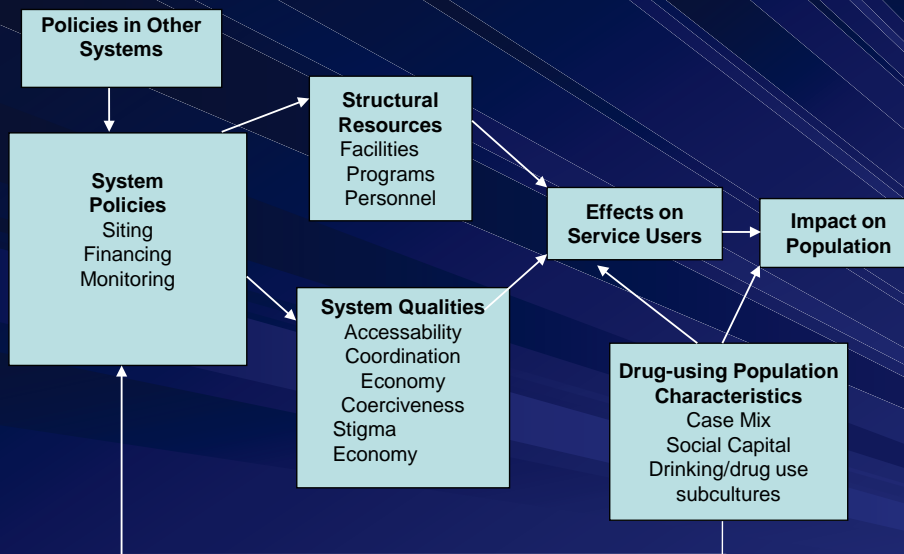
Source: Babor *et al.* 2008

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.**

3. **Promotion of clinical practice guidelines for opiate substitution in the United Kingdom.**

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)
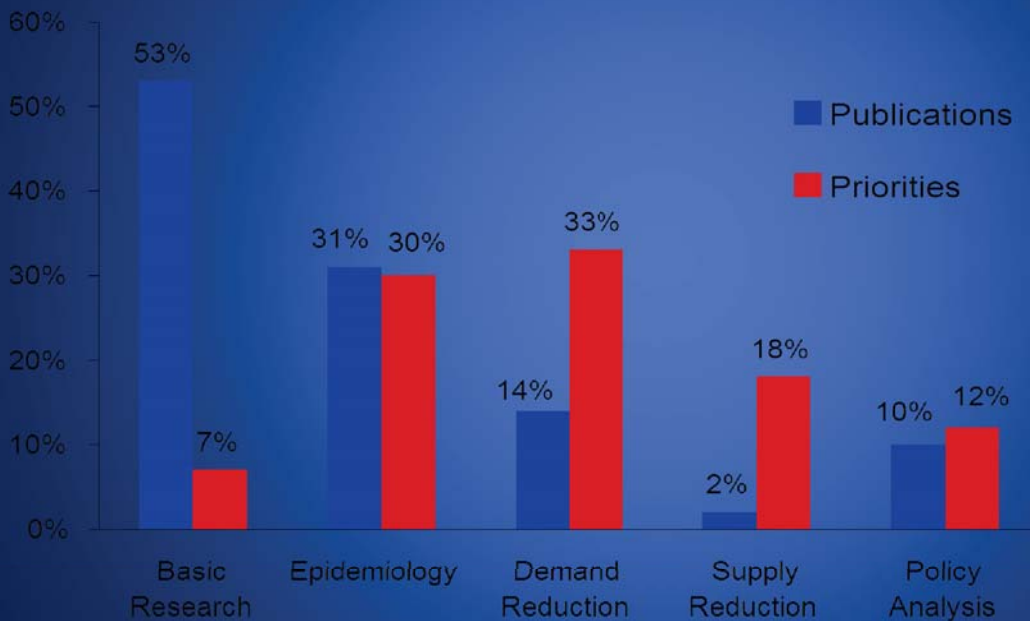
Toward a Public Health Approach to Drug Policy

- 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

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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