Applying Prevention Science to Practice: A Collaborative Opportunity

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Presenter:
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Learning Objectives

1) Define prevention science

2) Identify multiple risk and protective factors that can be present throughout the lifespan

3) Explain what makes a prevention strategy “evidence-based” and why it is important in implementation
We Now Have the Knowledge and Tools to Prevent Substance Use and Progression to Substance Use Disorders—LET’S PUT THEM TO WORK!
Prevention

- Prevention is the application of prevention science to address the health and safety of individuals through improving socialization processes to enhance self-realization and participation in society.

Source: UNODC, 2017
Defining Prevention Science

• Prevention science identifies:

  • the determinants of behaviors that protect or put at risk the social, emotional, and physical health of individuals, families, communities;
  • the processes as to how these determinants operate; and,
  • the strategies that effectively intervene when trajectories are negative and reinforce those trajectories that are positive.

• Is multi-disciplinary including the epidemiological, social, psychological, behavioral, medical, statistical, and neurobiological sciences

Sources: Standards of Knowledge for the Science of Prevention, Society for Prevention Research, 2011; APSI, 2019; National Prevention Science Coalition, 2019.
Prevention Science: Why Is It Important?

- Prevention science provides the knowledge regarding:
  - Who is affected by the behavior of interest and what are their characteristics (e.g., gender, age, geographic location)
  - Who is vulnerable and what makes them vulnerable?
  - What are the consequences of these behaviors over time?
  - How do you intervene effectively with the individual or the environment to reduce the risk of initiation or continuation of these behaviors?
WHO IS VULNERABLE AND WHAT MAKES THEM VULNERABLE?
Development and Vulnerability
Developmental Nature of Substance Use

Addiction is a developmental disease
often starts in childhood and adolescence

Age at alcohol, at tobacco, and at cannabis dependence as per DSM IV

Human Development Phases

• Each stage of human development is associated with growth of intellectual and language development, cognitive, emotional and psychological functioning and social competency skills.

• Disruption of this growth can make the individual more vulnerable to problems such as substance use.

• *Early intervention can prevent* poor life decisions and the onset of substance use and dependence and other behavioral problems.

Source: Campello, G. Etiological Factors in Substance use, UNODC, Prevention, Treatment and Rehabilitation. Presentation.
Socialization – An Important Prevention Process

• Human infants are born without any culture.

• Socialization is a process of transferring culturally acceptable attitudes, norms, beliefs and behaviors and to respond to such cues in the appropriate manner.

• Since socialization is a lifelong process, the individual will be socialized by a large array of different socializing agents (e.g., parents, teachers, peer groups, religious leaders, economic and political organization through laws and policies, and virtual agents, such as mass media).
Socialization Teaches Norms and Behavior

• Socialization is the process for internalizing social norms and values that define or govern conduct and behavior particularly self-regulation through:
  • Behavioral interventions
  • Environmental interventions
Risk and Protective Factors: Background (1/2)

- In the mid-1970s, several longitudinal studies were conducted that followed cohorts of early adolescents into adulthood that examined factors that were related to substance use initiation.
- In 1992 two significant works summarized this research on factors related not only to the initiation of substance use but also to the progression from use to abuse.

Risk and Protective Factors: Background (2/2)

- Risk factors – Measures of behavior or psychosocial functioning (including attitudes, beliefs, and personality) associated with increased risk to use psychoactive substances.

- Protective factors – Measures that appear to prevent the use of psychoactive substances or reduce the untoward negative effects of risk, include strong bonding to family, school, community and peers that hold prosocial attitudes and support prosocial behaviors.
### Examples of risk and protective factors

<table>
<thead>
<tr>
<th>Risk factors</th>
<th>Protective factors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Childhood factors</strong></td>
<td><strong>Supportive caring parents</strong></td>
</tr>
<tr>
<td>birth injury/disability/low birth weight</td>
<td><strong>strong social skills</strong></td>
</tr>
<tr>
<td>insecure attachment</td>
<td><strong>attachment to family</strong></td>
</tr>
<tr>
<td>poor social skills</td>
<td><strong>school achievement</strong></td>
</tr>
<tr>
<td><strong>Family factors</strong></td>
<td><strong>positive school climate</strong></td>
</tr>
<tr>
<td>poor parental supervision and discipline</td>
<td><strong>sense of belonging/bonding</strong></td>
</tr>
<tr>
<td>parental substance abuse</td>
<td><strong>opportunities for some success at school and recognition of achievement</strong></td>
</tr>
<tr>
<td>family conflict and domestic violence</td>
<td><strong>access to support networks</strong></td>
</tr>
<tr>
<td>social isolation/lack of support networks</td>
<td><strong>access to support services</strong></td>
</tr>
<tr>
<td><strong>School factors</strong></td>
<td><strong>community networking</strong></td>
</tr>
<tr>
<td>school failure</td>
<td><strong>participation in community groups</strong></td>
</tr>
<tr>
<td>negative peer group influences</td>
<td><strong>supportive caring parents</strong></td>
</tr>
<tr>
<td>bullying</td>
<td><strong>parental employment</strong></td>
</tr>
<tr>
<td>poor attachment to school</td>
<td><strong>access to support networks</strong></td>
</tr>
<tr>
<td><strong>Community factors</strong></td>
<td><strong>positive school climate</strong></td>
</tr>
<tr>
<td>neighbourhood violence and crime</td>
<td><strong>sense of belonging/bonding</strong></td>
</tr>
<tr>
<td>lack of support services</td>
<td><strong>opportunities for some success at school and recognition of achievement</strong></td>
</tr>
<tr>
<td>social or cultural discrimination</td>
<td><strong>access to support services</strong></td>
</tr>
</tbody>
</table>

Adapted from Durlak (1998) and National Crime Prevention (1999)
Etiology Model

Macro-level Environments
- Socioeconomic
- Social and cultural
- Physical
- Climate change

Micro-level Environments
- Family
- School
- Peers
- Faith-based Organizations
- Workplace

Personal Characteristics
- Attitudes
- Beliefs
- Norms

Genetics
Temperament
Physiology

Behavior

TIME

Sloboda, 2009
Risk is the Interface between Individual Characteristics and the Micro- and Macro-Level Environments
Protection is the Interface between Individual Characteristics and the Micro- and Macro-Level Environments
Interaction between Personal Characteristics (Vulnerability) and Micro-Environment

Figure 1. Interactions between behavioral disinhibition and family management in adolescence predicting alcohol abuse (left panel) and dependence (right panel) criteria at age 27.

Source: Hill et al., 2010
Raising the Minimum Legal Drinking Age
Human Motivation and Change Processes

Macro-level Environments
- Socioeconomic
- Social and cultural
- Physical
- Climate change

Micro-Level Environments
- Family
- School
- Peers
- Workplace

Biological/Personal Characteristics
- Beliefs
- Attitudes

-Social and Cognitive Competence
-Skills

Intent

Behavior

Socialization

Source: ©Sloboda, 2015
Points of Intervention

- Biological/Personal Characteristics
- Micro-Level Environments
- Macro-Level Environments
- Beliefs
- Social and Cognitive Competence Skills
- Intent
- Behavior

Source: ©Sloboda, 2014
Human Development and the Life Course Trajectory

Reflections

Why do you think understanding this etiology framework helps prevention professionals plan prevention programming in their communities?
Life Transitions

**Normal Developmental Changes**
- Birth!!
- Physical
- Emotional
- Cognitive

**Environmental Changes**
- From the family to school
- From elementary to middle school
- From middle school to high school
- From high school to work or college

**Social Changes**
- Peer relationships
- Dating
- Marriage and new family members
- Having Children
- Working with others with other perspectives and life views
- Retirement
- Loss of spouse/partner, family, friends
How do you intervene effectively to reduce the risk of initiation or continuation of these behaviors?--
Evidence-Based Prevention Interventions
Prevention Interventions

Target

• The individual directly

• The individual’s micro- and macro-level environments
Behavioral Interventions - Prevention Professionals (1/2)

• May either train socialization agents, such as parents and teachers to help them:
  • Improve their socialization skills (parenting, classroom management)
Behavioral Interventions - Prevention Professionals (2/2)

• Or **directly engage** in the socialization process, thus becoming socialization agents themselves to help individuals:
  • Understand what is expected of them in different social and emotional contexts
  • To “try on” new behaviors
  • To weigh the potential outcomes for these behaviors within their own social and emotional context.
Environmental Interventions (EIs) - Prevention Professionals

• Create healthy environments that maximize the strengths of the community and minimize negative influences that might exist.

• Deliver EIs to change the context in which people make decisions about behaviors
  • Physical environment—Limiting access to and availability of alcohol, tobacco and other substances
  • Social environment—Reinforcing non-use norms and attitudes
Communities need both Behavioral AND Environmental Prevention Programming, and All need to be “Evidence-based”
Reflections

Why do you think your community would need both behavioral and environmental prevention programs?
What Do We Mean by “Evidence-Based”?

“Evidence Based Practice (EBP) is the use of systematic decision-making processes or provision of services which have been shown, through available scientific evidence, to consistently improve measurable client outcomes. Instead of tradition, gut reaction or single observations as the basis of decision making, EBP relies on data collected through experimental research and accounts for individual client characteristics and clinician expertise.”

Source: Evidence Based Practice Institute, 2012; http://depts.washington.edu/ebpi/
What Makes An Intervention Evidence-Based?
Rigorous Acceptable Research Designs

- Randomized control trial or classic experimental design
- Experimental designs with comparison groups
- Time series experiment

Strong Positive Outcomes
The Foundation of Effective Prevention Programming

• Understanding
  • How humans **develop**: physically, biologically, and cognitively
  • What conditions optimize **learning** across development--from birth to old age
  • What factors or processes influence **behavior**--how can they help change negative behaviors

• Research-based theories help to explain and build effective prevention
What is Theory and Why is it Important?

• A theory presents a systematic way of understanding events, behaviors and/or situations.
• A theory presents a set of explanations of why something or some behavior occurs.
• A theory specifies what factors are important influencers of the outcome of interest such as substance use.
Critical Theories

• Theories of etiology
• Theories of human development
• Theories of human behavior:
  • Learning theories
  • Behavior and behavior change theories
Etiology Theories

• Identify the processes that could benefit from interventions
• Specify intervention points
• Serve as a model for monitoring and evaluation of the delivery of EB interventions or policies
Theories of Human Development

• Examine normal and dysfunctional development
• Explains through observational studies including brain imaging
• Knowledge about late development of the brains of adolescents contributes to understanding risky behaviors
Reflections

Why do you think prevention interventions based on these theories have been found to have positive outcomes?
Introduction to Child Development

• Child development encompasses how children think and grow from birth through adolescence

• Developmental elements include:
  • Cognitive or intellect
  • Physical
  • Social
  • Emotional
Source of Information on Evidence-Based Prevention Interventions and Policies

United Nations Office on Drugs and Crime

• Review of all published and unpublished research on evaluations of substance use prevention interventions and policies
• Established the criteria for ‘evidence-based’
• Published International Standards on Drug Use Prevention-2013; 2nd Edition 2018

Categorization of Interventions and Policies

- Developmental framework:
  - Infancy and early childhood=0 to 5 years
  - Middle childhood=6-10 years
  - Early adolescence=11-14 years
  - Adolescence=15-18/19 years
  - Adulthood=20+ years

- Setting
  - Family
  - School
  - Workplace
  - Community

- Target population
  - Universal
  - Selective
  - Indicated

Source: ©UNODC 2013
## Summary

<table>
<thead>
<tr>
<th></th>
<th>Prenatal and Infancy</th>
<th>Early Childhood</th>
<th>Middle Childhood</th>
<th>Early Adolescence</th>
<th>Adolescence</th>
<th>Adulthood</th>
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</thead>
<tbody>
<tr>
<td><strong>Family</strong></td>
<td>Prenatal and Infancy Visitation</td>
<td>Parenting Skills</td>
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<td>Interventions for Pregnant Women</td>
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<td><strong>School</strong></td>
<td>Early Childhood Education</td>
<td>Personal and Social Skills Education</td>
<td>Prevention Education Based on Competence and Influence</td>
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<td></td>
<td>Classroom Management</td>
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<td>Addressing Individual Vulnerabilities</td>
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<td>Policies to Keep Children in School</td>
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<td>School-wide Programs to Enhance School Attachment</td>
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<tr>
<td><strong>Community</strong></td>
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<td>School Policies on Substance Use</td>
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<td></td>
<td>Alcohol and Tobacco Policies</td>
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<td>Community-Based Multi-Component Initiatives</td>
<td>Media Campaigns</td>
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<td>Mentoring</td>
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<td>Prevention Programmes in Entertainment Venues</td>
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<tr>
<td><strong>Workplace</strong></td>
<td></td>
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<td></td>
<td>Workplace Prevention Programmes and Policies</td>
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</tr>
<tr>
<td><strong>Health Sector</strong></td>
<td>Interventions for Pregnant Women</td>
<td>Addressing Health Disorders</td>
<td></td>
<td>Brief Intervention</td>
<td></td>
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</tr>
</tbody>
</table>

Source: UNODC 2018
Early Adolescence (12-18 Years)
### Developmental Goals

- Learning self-regulation of emotion and behavior:
  - Social/emotional skills to establish stable relationships
  - Sensitivity to feelings and needs of others
  - Conflict resolution
  - Pro-social skills
  - Impulse control

### Resiliency and Vulnerability Factors

- Associations with people and organizations beyond those experienced in childhood
- Exposure to new ideas and experiences
- A time to “try out” adult roles and behaviors
- A time of significant changes in the adolescent’s brain -- a potentially opportune time for poorly reasoned decisions and involvement in potentially harmful behaviors
- Peers’ strongly influence adolescents with fear of peer rejection a major concern
- Parents’ influence remains significant though not always obvious
- Protective factors against drug use
- “Plasticity and malleability” of adolescent brain opens the door to evidence-based prevention
# Early Adolescence: Evidence-Based Strategies

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Level of risk targeted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parenting Skills Programs</td>
<td>Universal &amp; Selective</td>
</tr>
<tr>
<td></td>
<td>General population and groups at risk</td>
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<tr>
<td>Prevention education based on social competence and influence</td>
<td></td>
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<tr>
<td>School Policy of Substance Use</td>
<td>Universal</td>
</tr>
<tr>
<td></td>
<td>General population</td>
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<tr>
<td>School-wide programs to enhance school attachment</td>
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<tr>
<td>Addressing individual psychological vulnerabilities</td>
<td>Indicated</td>
</tr>
<tr>
<td></td>
<td>Individuals at risk</td>
</tr>
</tbody>
</table>

Source: UNODC 2018
## Early Adolescence: Parenting Skills Characteristics (1/2)

<table>
<thead>
<tr>
<th>Content</th>
<th>Linked to Positive Outcomes</th>
<th>Linked to No or Negative Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Enhance family bonding</td>
<td>• Provide information to</td>
</tr>
<tr>
<td></td>
<td>• Provide skills for:</td>
<td>parents about drugs</td>
</tr>
<tr>
<td></td>
<td>‒ Warm child-rearing</td>
<td>• Undermine parents’ authority</td>
</tr>
<tr>
<td></td>
<td>‒ Setting rules for</td>
<td></td>
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<tr>
<td></td>
<td>acceptable behavior</td>
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</tr>
<tr>
<td></td>
<td>‒ Monitoring free time and</td>
<td></td>
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<td></td>
<td>friendship patterns</td>
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<tr>
<td></td>
<td>‒ Positive and development</td>
<td></td>
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<td></td>
<td>ally appropriate discipline</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‒ Involvement in children’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>s learning and education</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‒ Becoming role models</td>
<td></td>
</tr>
</tbody>
</table>

Source: Campello et al, 2014; UNODC 2018
## Early Adolescence: Parenting Skills Characteristics (2/2)

<table>
<thead>
<tr>
<th>Structure</th>
<th>Linked to Positive Outcomes</th>
<th>Linked to No or Negative Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Multiple group sessions that include activities for parents, children, and the family</td>
<td>• Focus exclusively on the child</td>
</tr>
<tr>
<td></td>
<td>• Interactive</td>
<td>• Lecture as only means of delivery</td>
</tr>
</tbody>
</table>

### Delivery
- • Trained instructors
- • Organized to facilitate participation
- • Poorly trained instructors
### Early Adolescence: Prevention Education Based on Social Competence and Influence

<table>
<thead>
<tr>
<th></th>
<th>Linked to Positive Outcomes</th>
<th>Linked to No or Negative Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Content</strong></td>
<td>• Addresses perceptions of risk or harm associated with substance use</td>
<td>• Information only</td>
</tr>
<tr>
<td></td>
<td>• Emphasizes immediate age-appropriate consequences of substance use</td>
<td>• Focus only on self-esteem</td>
</tr>
<tr>
<td></td>
<td>• Addresses misconceptions regarding the normative nature and expectations of substance use</td>
<td>• Focus only on emotional education</td>
</tr>
<tr>
<td></td>
<td>• Provides opportunities to practice and learn a wide array of personal and social skills</td>
<td>• Address only ethical/moral decision making or values</td>
</tr>
<tr>
<td><strong>Structure</strong></td>
<td>• Structured series of interactive sessions</td>
<td>• Unstructured dialogue sessions</td>
</tr>
<tr>
<td></td>
<td>• Booster sessions</td>
<td>• Primarily using non-interactive methods</td>
</tr>
<tr>
<td><strong>Delivery</strong></td>
<td>• Trained facilitator (including trained peers)</td>
<td>• Using untrained teachers (change accordingly)</td>
</tr>
<tr>
<td></td>
<td>• Interactive instructional methods</td>
<td>• Use ex-drug users as testimonials</td>
</tr>
</tbody>
</table>

Source: Campello et al, 2014; UNODC 2018
### Early Adolescence: School Policies on Substance Use (1/2)

<table>
<thead>
<tr>
<th>Content</th>
<th>Linked to Positive Outcomes</th>
<th>Linked to No or Negative Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Policies clearly specific what substances are target and what locations and/or occasions they apply</td>
<td>• Punish infractions of substance use policies (e.g., suspension, expulsion)</td>
<td></td>
</tr>
<tr>
<td>• Reducing or eliminating availability of and access to tobacco, alcohol, or other drugs</td>
<td>• Random drug testing</td>
<td></td>
</tr>
<tr>
<td>• Address infractions of substance use policies with positive sanctions, providing referral to counseling or other support services NOT punishment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Support normal school functioning NOT disruption</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Support positive school ethos and commitment to school and student participation</td>
<td></td>
<td></td>
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</tbody>
</table>
# Early Adolescence: School Policies and Culture Characteristics (2/2)

<table>
<thead>
<tr>
<th>Structure</th>
<th>Linked to Positive Outcomes</th>
<th>Linked to No or Negative Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Participation of all stakeholders (students, parents, and school staff) in the development of substance use-related policies</td>
<td>• Information not available</td>
</tr>
<tr>
<td>Delivery</td>
<td>• Implemented with other prevention interventions such as skills-based education or parenting skills</td>
<td>• Information not available</td>
</tr>
<tr>
<td></td>
<td>• Applied to all in the school (students, staff, visitors etc.)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Campello et al, 2014; UNODC 2018
Early Adolescence: School-wide Programs to Enhance School Attachment

• Support positive school ethos and commitment to school
• Support student participation.
• Implemented jointly with other prevention interventions:
  • skills based education
  • school policies on substance use
  • supporting parenting skills and parental involvement.

Source: UNODC 2018
**Early Adolescence: Individual Psychological Vulnerabilities Intervention Characteristics**

<table>
<thead>
<tr>
<th>Content</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Provide skills on how to positively cope with emotions</td>
<td></td>
</tr>
<tr>
<td>• Programs organized to avoid stigmatization</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Delivery</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sessions tend to be short, between 2 and 5 in number</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Structure</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Screening done using validated instruments</td>
<td></td>
</tr>
<tr>
<td>• Trained professionals</td>
<td></td>
</tr>
</tbody>
</table>

Source: Campello et al, 2014; UNODC 2018
## Early Adolescence: Mentoring Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Linked to Positive Outcomes</th>
<th>Linked to No or Negative Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Content</strong></td>
<td>• Information not available</td>
<td>• Information not available</td>
</tr>
<tr>
<td><strong>Structure</strong></td>
<td>• Very structured program of activities</td>
<td>• Information not available</td>
</tr>
<tr>
<td><strong>Delivery</strong></td>
<td>• Trained mentors</td>
<td>• Mentors that are not trained and/or supported</td>
</tr>
</tbody>
</table>

Source: Campello et al, 2014; UNODC 2018
Why Implement Evidence-Based Interventions?

• Gives target groups and populations the best interventions, techniques, and policies that are available

• Offers the possibility to deliver services in a more effective and efficient way

• Provides a more rational basis to make policy decisions

• Provides a common language

• Gives the opportunity to develop a common concept for the evaluation of scientific research

• Forms a new basis for education and training to achieve continuity and more uniformity of service delivery, and provides more clarification on missing links and shortcomings in our current scientific knowledge

Source: ©UNODC 2013
“Substance use prevention that is based on scientific evidence is an effective and cost-effective investment in the well-being of children, youth, and all people.”

Source: UNODC 2018
Thank You

Pttcnetwork.org