Seizing the Opportunity of Adolescent Health
United Nations Commission on Population and Development
Side-event sponsored by Australian Mission and UNICEF
April 25, 2012

Global Application of Prevention Science to Improve Adolescent Health and Development

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40 Years of Prevention Science Research Advances

**Etiology/Epidemiology of Problem Behaviors**
- Identify risk and protective factors that predict problem behaviors and describe their distribution in populations.

**Efficacy Trials**
- Design and test preventive interventions to interrupt causal processes that lead to youth problems.
## Risk Factors for Adolescent Problems

### Community
- Availability of Drugs
- Availability of Firearms
- Community Laws and Norms Favorable Toward Drug Use, Firearms, and Crime
- Media Portrayals
- Transitions and Mobility
- Low Neighborhood Attachment and Community Disorganization
- Extreme Economic Deprivation

### Family
- Family History of the Problem Behavior
- Family Management Problems
- Family Conflict
- Favorable Parental Attitudes and Involvement in the Problem Behavior

### School
- Academic Failure Beginning in Late Elementary School
- Lack of Commitment to School

### Individual/Peer
- Early and Persistent Antisocial Behavior
- Alienation and Rebelliousness
- Friends Who Engage in the Problem Behavior
- Favorable Attitudes Toward the Problem Behavior
- Early Initiation of the Problem Behavior
- Constitutional Factors

### Risk Factors for Substances Abuse, Teen Pregnancy, School Drop-Out, Violence, Depression & Anxiety

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Substances Abuse</th>
<th>Teen Pregnancy</th>
<th>School Drop-Out</th>
<th>Violence</th>
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<td>Availability of Drugs</td>
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<td>Favorable Parental Attitudes</td>
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<td>Early Initiation of the Problem</td>
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<td>Constitutional Factors</td>
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Protective Factors

Individual Characteristics
- High Intelligence
- Resilient Temperament
- Competencies and Skills

In each social domain (family, school, peer group and neighborhood)
- Prosocial Opportunities
- Reinforcement for Prosocial Involvement
- Bonding
- Healthy Beliefs and Clear Standards
A Place Based Approach is Needed Because Communities Vary in Amount and Type of Risk Exposure.

John A. Pollard, Ph.D. Developmental Research and Programs
Preventive interventions should target malleable risk and protective factors.

(Coie et al., 1994; Mrazek and Haggerty, 1984; Woolf, 2008; O’Connell, Boat & Warner, 2009)
Wide Ranging Approaches Have Been Found To Be Efficacious

<table>
<thead>
<tr>
<th>Prevention Programs/Policies</th>
<th>Violence</th>
<th>Drug Use</th>
<th>HIV STI</th>
<th>Unintended Pregnancy</th>
<th>Vehicle Crash Risk</th>
<th>Obesity</th>
<th>Mental Health</th>
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<td>1. Prenatal &amp; Infancy Programs (e.g., NFP)</td>
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<td>3. Parent Training</td>
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<td>4. After-school Recreation</td>
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<td>5. Mentoring with Contingent Reinforcement</td>
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<td>6. Cognitive Behavior Therapy</td>
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<td>7. Classroom Organization, Management and Instructional Strategies</td>
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<td>8. Classroom Curricula</td>
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<td>9. Community Based Skills Training/Motivational Interviewing</td>
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<td>10. Cash Transfer for School Fees/Stipend</td>
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<td>11. Multicomponent Positive Youth Development</td>
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<td>12. Policies (eg., MLDA, Access to Contraceptives)</td>
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<td>14. Medical Intervention</td>
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</table>
Illustrative Efficacious Prevention Programs/ Policies: Sexual and Reproductive Health

- **Adolescent Access to Contraceptives** (Brindis et al., 2003; Foster et al., 2006; Boonstra et al., 2010; Guldi, 2008; Zavodny, 2004; Kearney & Levine, 2009)

- **Stepping Stones** (Jewkes et al., 2008)

- **Sistering, Informing, Healing, and Empowering** (DiClemente et al., 2004)
Illustrative Efficacious Prevention Programs: Supporting Education and Reducing Substance Use, Delinquency, and Sex Risk Behavior

- Early Childhood Education (Schweinhart et al., 1993; Campbell et al., 2002; Reynolds et al., 2001; 2007)
- Seattle Social Development Project (Hawkins et al., 1999; 2005; 2008; Lonczak et al., 2002)
- Gatehouse Project (Bond et al., 2004; Patton et al., 2006)
- Project PATHS (Shek & Ma, 2011; Shek & Yu, 2011)
- Conditional Cash Transfer Programs (Baird et al., 2010; Duflo et al., 2006)
Illustrative Efficacious Prevention Policies: Reducing Risky Driving and Alcohol Use

- Graduated Driver Licensing (Shope, 2007)
- Increased Taxes on Alcohol (Wagenaar et al., 2009; Elder et al., 2010)
- Minimum Legal Drinking Age 21 (Wagenaar & Toomey, 2002)
Despite the Efficacy of Prevention...

- Prevention approaches that do not work or have not been evaluated have been more widely used than those shown to be effective.

The Global Challenge

How can we increase use of tested, efficacious prevention policies and programs globally...

while recognizing that communities and nations are different from one another and need to decide locally what policies and programs they use?
Recommendations for Global Action

- Include prevention in service systems
- Educate government, professionals and public in the research base for prevention science
- Create database of efficacious prevention policies and programs
- Shift 10% of funds spent on youth to efficacious prevention policies and programs
- Increase translational research on adaptation and fidelity, going to scale & sustainability
Recommendations for Global Action

Build capacity of communities to:

- Build prevention coalitions
- Assess and prioritize risk, protection, and behavior problems (Create database of surveys, indicators to assess local risk, protection, and behavior problems)
- Match priorities to efficacious preventive interventions
- Support/sustain quality implementation of efficacious preventive interventions to all those targeted
Why Community Coalitions to Prevent Adolescent Problems?

- Risk/protective factors located in community, family, school, peer and individual
- Risk/protection vary by neighborhood
- Community coalitions representing multiple sectors of influence can coordinate multiple resources and actions
- Multiple sector involvement more likely to reach all children and youth and may have population wide effect

However, not all approaches are effective
Recommendations for CPD Resolution

- Address a broad range of challenges to the health of young people, including violence, substance use, mental health and road injuries.
- Educate government, professionals and public in the research base for prevention science.
- Encourage the adoption of effective prevention policies and programs that meet local needs.
- Support efforts to translate evidence-based prevention policies and programs to different contexts & cultures.
- Measure and produce regular country and community reports on adolescent health and well being.
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Communities that Care
A Proven Example

- Provides skills and tools,
- To build coalition capacity to change youth outcomes
- Through choosing tested, effective prevention programs matched to locally prioritized risk and protective factor and, and,
- Implementing them with fidelity
CTC Effects on Behavior
Problem Initiation in a 24 Community Randomized Trial

In a panel of 4407 youth followed from grade 5, by grade 8 youth in CTC communities were:

- 33% less likely* to start Smoking Cigarettes
- 32% less likely* to start Drinking
- 25% less likely* to start engaging in Delinquent Behavior

...than those from control communities

Effects sustained in 10th grade

*Relative Risk Reduction
Benefits of CTC Compared to Costs

Net Benefit Per Child in CTC Community

<table>
<thead>
<tr>
<th></th>
<th>Delinquency</th>
<th>Smoking</th>
<th>Total</th>
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<tbody>
<tr>
<td>Benefits</td>
<td>$4,982</td>
<td>$911</td>
<td>$5,893</td>
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<td>Cost</td>
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<tr>
<td>Net Benefit</td>
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<td>$4,780</td>
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</tbody>
</table>

Benefit-Cost Ratio

\[
\frac{\text{Benefit}}{\text{Cost}} = \frac{5,893}{1,112} = 5.30
\]

$1.00 invested in CTC yields $5.30 in benefits

(Kuklinski et al., 2012)
Global Shift in Mortality from Infectious to Non-communicable Diseases and Conditions

- Behavior problems are implicated in shift (motor vehicle fatalities, violence, mental health, risky sex, alcohol, tobacco, and other drugs, and obesity)
- Behavior problems cause harm in adolescence and into adulthood
- Preventing these behavior problems during adolescence can reduce mortality and morbidity worldwide across the life span
# Cost-Benefit of Selected Programs

*Steve Aos, Associate Director, Washington State Institute for Public Policy [www.wa.gov/wsipp](http://www.wa.gov/wsipp)*

<table>
<thead>
<tr>
<th>Program</th>
<th>Benefit</th>
<th>Cost¹</th>
<th>Benefit Minus Cost</th>
<th>Benefit per Dollar Cost</th>
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<td>Nurse-Family Partnership</td>
<td>$30,325</td>
<td>$9,421</td>
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<tr>
<td>Chicago Child-Parent Centers</td>
<td>$39,160</td>
<td>$8,124</td>
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<td>Seattle Social Development Project</td>
<td>$6,237</td>
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<td>Strengthening Families Program 10-14</td>
<td>$6,656</td>
<td>$851</td>
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<tr>
<td>Life Skills Training</td>
<td>$1,415</td>
<td>$34</td>
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<tr>
<td>Functional Family Therapy</td>
<td>$37,739</td>
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</table>

¹Cost estimates are per participant, based on 2003 U.S. dollars for SFP 10-14;²007 U.S. dollars for the Chicago Child-Parent Centers;³2010 U.S. dollars for all other interventions⁴
## Cost-Benefit of Selected Programs

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\(^1\)Cost estimates are per participant, based on 2003 U.S. dollars for SFP 10-14;\(^{19}\) 2007 U.S. dollars for the Chicago Child-Parent Centers;\(^{115}\) and 2010 U.S. dollars for all other interventions\(^{114}\)
An Example
Communities That Care: A Tested and Effective System for Community Wide Prevention

- CTC is a *proven* method for mobilizing communities to prevent underage drinking, tobacco use, and delinquent behavior including violence.
- CTC has been tested in a randomized controlled trial involving 12 pairs of matched communities across 7 states from Maine to Washington.
- CTC’s effects have been independently replicated in a statewide test in Pennsylvania.
Criteria for Selection of Illustrative Programs

- Randomized or quasi-experimental designs
- Statistically significant effect on problem behaviors during adolescence at least one year post intervention
- Operate during childhood or adolescence
- Examples address both snowball and snowstorm risk patterns
- Some diversity in global context
Sustained Effects at 10th Grade One Year after Project Funding Ended

- In the panel, compared to controls 10th grade students in the panel from CTC communities had significantly:
  - Lower levels of targeted risk factors.
  - Less initiation of delinquent behavior, alcohol use, and cigarette use.
  - Lower prevalence of past-month cigarette use.
  - Lower prevalence of past-year delinquency
  - Lower prevalence of past-year violence.

Hawkins et al., 2012
Public Health Framework

- Define the Problem
- Identify Risk and Protective Factors
- Interventions
- Program Implementation and Evaluation

Problem Response
Prevention Policy Example
Raising the Minimum Legal Drinking Age

Traffic Crashes, Risky Alcohol Use

Drink Driving

Raise Min. Legal Drinking Age

Reduced Alcohol Consumption, Reduced Crashes, Crash Injury, and Fatalities

Wagenaar and Toomey, 2002
Prevention Program Example
Nurse Family Partnership

Poor Birth And Early Childhood Outcomes
Risk: Poor Diet And Drug Use
Prot.: Parenting Competence And Bonding

Protocol for Nurse Visits During Pregnancy And 2 yrs. Post Birth

Mom: Less welfare
More employment,
Fewer Arrests and Subsequent Births,
<Interval Between births
Child: Less Child Abuse/Neglect, Less Arrests at 15

Olds et al., 2002