



Seizing the Opportunity of Adolescent Health
United Nations Commission on Population and Development
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Global Application of Prevention Science to Improve Adolescent Health and Development

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on Adolescent Health: Abigail Fagan, Loretta E. Gavin, Mark T.
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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

Family

School

Individual/Peer

Risk Factors	Substance Abuse	Teen Delinquency	School Drop-Out	Depression & Anxiety	Violence		
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	✓	✓			✓	✓	



Protective Factors

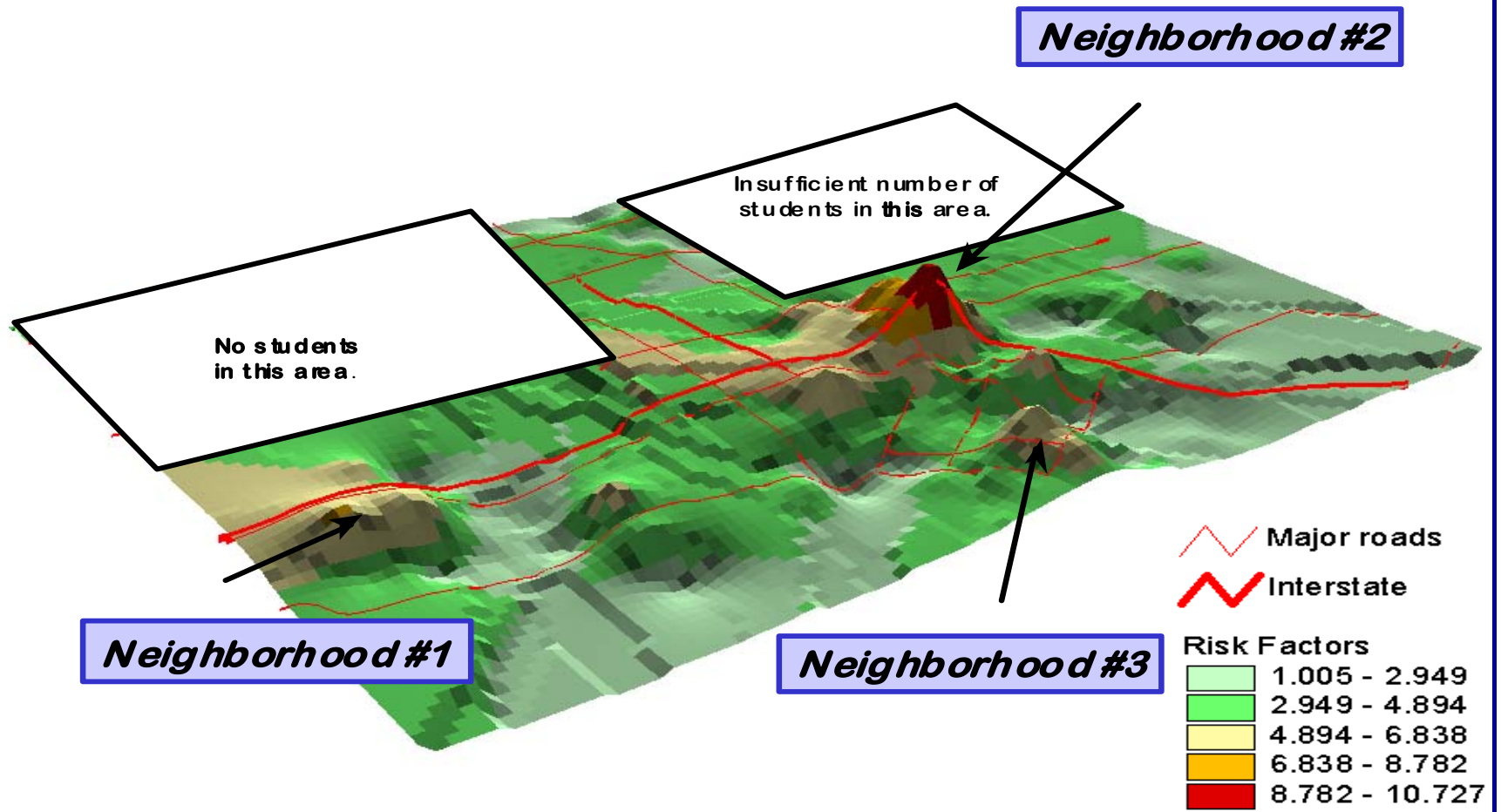
Individual Characteristics

- 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





Science Guided Prevention

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

Prevention Programs/Policies	Violence	Drug Use	HIV STI	Unintended Pregnancy	Vehicle Crash Risk	Obesity	Mental Health
1. Prenatal & Infancy Programs(eg., NFP)		✓		✓			
2. Early Childhood Education	✓	✓					
3. Parent Training	✓	✓			✓		✓
4. After-school Recreation	✓						
5. Mentoring with Contingent Reinforcement		✓					
6. Cognitive Behavior Therapy							✓
7. Classroom Organization, Management and Instructional Strategies	✓	✓		✓			✓
8. Classroom Curricula	✓	✓		✓		✓	✓



Wide Ranging Approaches Have Been Found To Be Efficacious

Prevention Programs/Policies	Violence	Drug Use	HIV STI	Unintended Pregnancy	Vehicle Crashes	Obesity	Mental Health
9. Community Based Skills Training/Motivational Interviewing			✓	✓			
10. Cash Transfer for School Fees/Stipend				✓			
11. Multicomponent Positive Youth Development	✓			✓			
12. Policies (eg., MLDA, Access to Contraceptives)		✓		✓	✓		
13. Community Mobilization	✓	✓					
14. Medical Intervention			✓	✓			
15. Law Enforcement					✓		
16. Family Planning Clinic				✓			



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.**

(Gottfredson et al 2000, Hallfors et al 2000, Hantman et al 2000, Mendel et al 2000, Silvia et al 1997; Smith et al 2002)



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,
- Implementing them with fidelity



CTC Effects on Behavior Problem Initiation in a 24 Community Randomized Trial

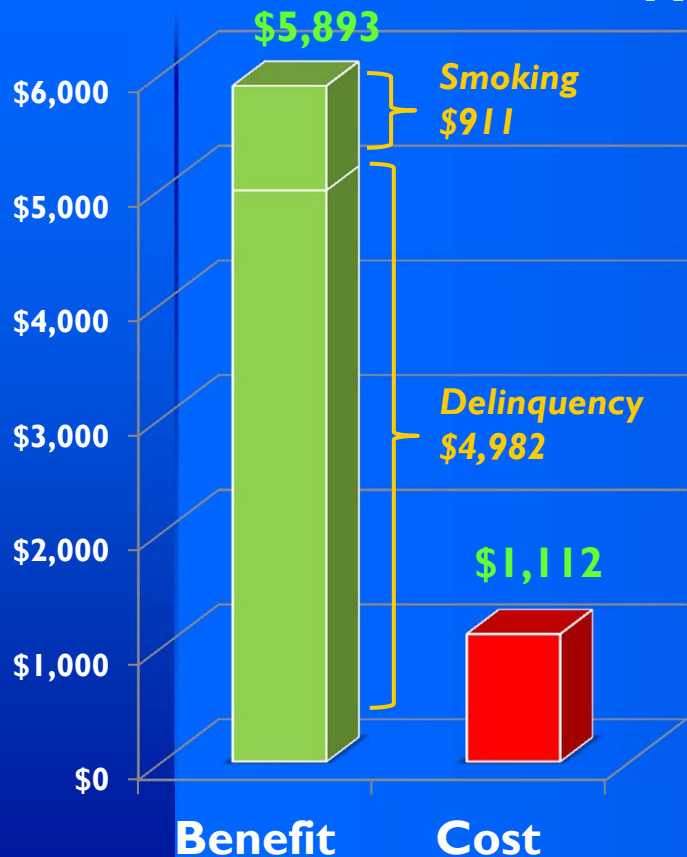
In a panel of 4407 youth followed from grade 5, by grade 8 youth in CTC communities were:

- ➔ 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



	Delinquency	Smoking	Total
Benefits	\$4,982	\$911	\$5,893
Cost			<u>\$1,112</u>
Net Benefit			\$4,780

Benefit-Cost Ratio

$$\frac{\text{Benefit}}{\text{Cost}} = \frac{\$5,893}{\$1,112} = \mathbf{\$5.30}$$

\$1.00 invested in CTC yields **\$5.30** in benefits



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

Program	Benefit	Cost ¹	Benefit Minus Cost	Benefit per Dollar Cost
Nurse-Family Partnership	\$30,325	\$9,421		
Chicago Child-Parent Centers	\$39,160	\$8,124		
Seattle Social Development Project	\$6,237	\$2,959		
Strengthening Families Program 10-14	\$6,656	\$851		
Life Skills Training	\$1,415	\$34		
Functional Family Therapy	\$37,739	\$3,190		

¹Cost 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 interventions¹¹⁴



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Seattle Social Development Project	\$6,237	\$2,959	\$3,279	\$2.11
Strengthening Families Program 10-14	\$6,656	\$851	\$5,805	\$7.82
Life Skills Training	\$1,415	\$34	\$1,382	\$42.13
Functional Family Therapy	\$37,739	\$3,190	\$34,549	\$11.86

¹Cost 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 interventions¹¹⁴



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

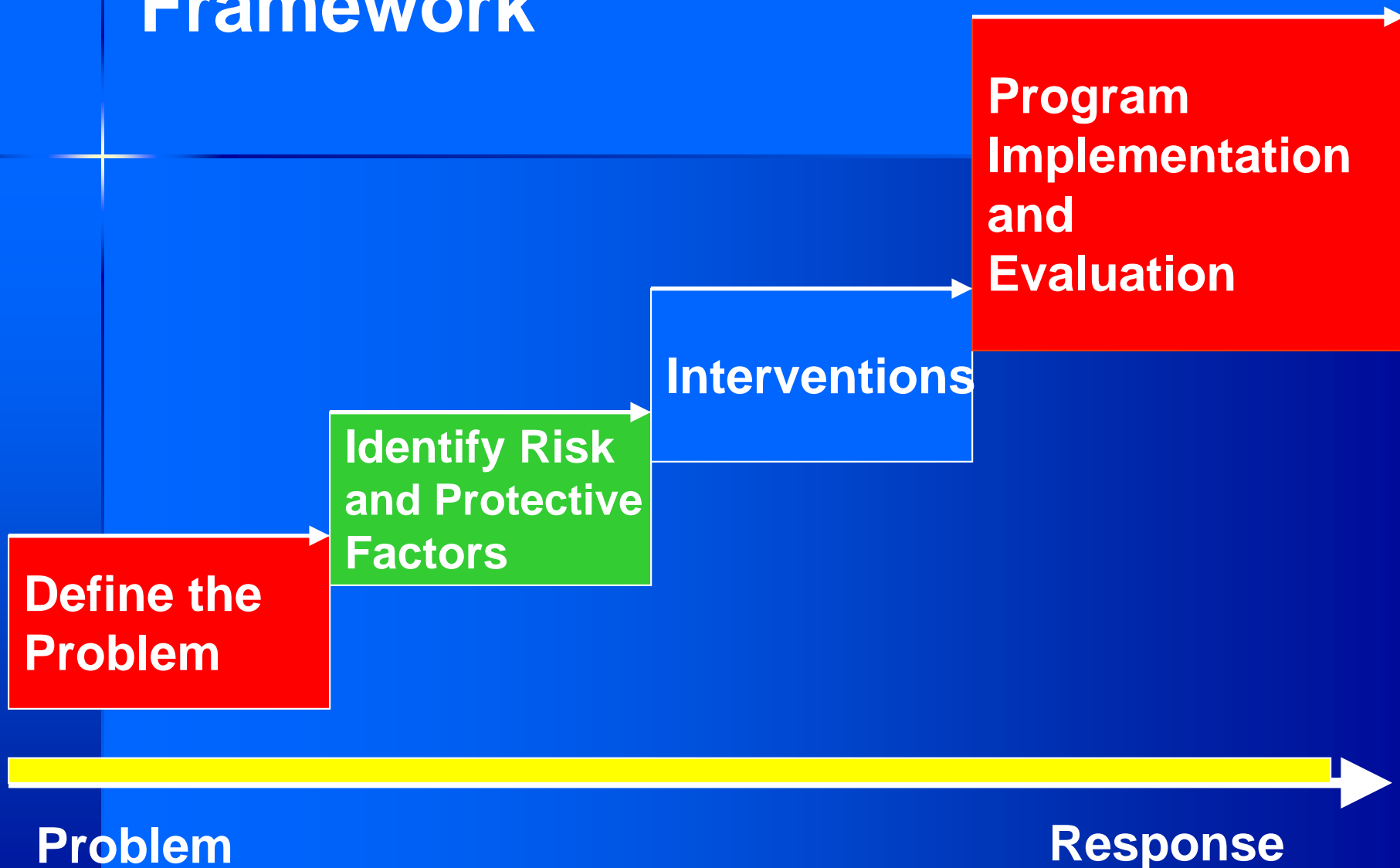


Sustained Effects at 10th Grade One Year after Project Funding Ended

- 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**.



Public Health Framework





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



Problem

Response

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



Problem

Olds et al., 2002

Response