Using Prevention Science To Guide Community Action:

Long-term Effects of Communities That Care on Positive Youth Development

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Singapore Ministry of Social and Family Development, Conversations on Youth Symposium,

Moving Upstream – Early Prevention of Youth Offending

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Too Many Young People Don't Reach Their Potential

Anxiety

Depression

Alcohol, tobacco, other drug use

Aggressive behavior and conduct problems

Delinquent behavior

Violence

Risky driving

Self-inflicted injury

Risky sexual behavior

School dropout

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Early Efforts to Prevent Delinquency & Drug Abuse

Strategies

- Information
- Just say "No"
- Fear arousal – "Scared Straight"

Outcomes

- *No decreases* in drug use or delinquency
- Some information programs *increased* drug use
- "Scared Straight" *increased* delinquency

Lesson: Untested good ideas can make things worse.

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Paradigm Shift to Public Health Approach

Risk and Protection Focused Prevention: To prevent a problem before it happens, address its predictors.

Some Risk Factors For Adolescent Problem Behaviors*	Delinquency	Violence	Substance Use
COMMUNITY			
Availability of Drugs & Firearms	✓	✓	✓
Laws and Norms Favorable Towards Drug Use, Firearm Use, Crime	✓	✓	✓
SCHOOL			
Academic Failure Beginning in Late Elementary School	✓	✓	✓
Lack of Commitment to School	✓	✓	✓
FAMILY			
Family Attitudes Favoring Problem Behavior	✓	✓	✓
Family Conflict	✓	✓	✓
PEER AND INDIVIDUAL			
Favorable Attitudes Toward Problem Behavior	✓	✓	✓
Friends Who Engage in Problem Behavior	✓	✓	✓

A complete list of Risk Factors and Problem Behaviors is available from the Center for Communities That Care, University of Washington

Higher Risk Increases Likelihood of Problems

- To reduce delinquency, violence, and substance use in young people, reduce risk factors
- These behaviors are predicted by many of the same risk factors
- Reducing risk can improve multiple outcomes

Also Build Protection – Reducing Risk is Not Enough!

- Protective factors decrease behavioral health problems, even in the presence of risk.
- Build protective and nurturing environments and individual strengths.

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Build Protection with the Social Development Strategy

J. David Hawkins

Richard Catalano

Cambron et al., 2019; Haggerty et al., 2019

40+ Years of Prevention Science Advances

1) **Etiology, epidemiology of problem behaviors and healthy development**

2) **Effective programs and policies**
   - National Academies, 2019
   - Surgeon General, 2016

3) **Effective prevention saves money**
   - Washington State Institute for Public Policy Benefit-Cost Results

Risk and Protective Factors for Alcohol and Other Drug Problems in Adolescence and Early Adulthood: Implications for Substance Abuse Prevention

J. David Hawkins, Richard F. Catalano, and Janet Y. Miller
Social Development Research Group, School of Social Work
University of Washington

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Communities That Care Can Address Different Needs

Communities That Care (CTC) builds community capacity to select and use effective preventive interventions tailored to a community's specific profile of risk and protection

- **Holistic** approach that **enables communities** to use **science-based, data-driven prevention.**
- **Local control** builds ownership to create **sustainable change.**

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CTC Theory of Change

CTC Implementation

Web-streamed Training & Technical Assistance

→

CTC Coalition Development

Member Knowledge, Board Functioning, Coalition Capacity

→

Local Prevention System Transformation

Science-based Prevention, Collaboration, Prevention Support, Community Norms, Social Development Strategy

→

Appropriate Selection & Implementation of Tested, Effective Prevention Programs

↓

Decreased Risk & Enhanced Protection in Youth

↓

Positive Youth Outcomes

CTC Theory of Change

Tested & Effective Prevention Programs: Blueprints for Healthy Youth Development

SCHOOL-BASED

Botvin LifeSkills® Training

Evidence-Based Prevention Programs for Schools, Families, and Communities

- A 30-session classroom-based, substance abuse prevention program for middle school students taught over 3 years
- Impacts: Substance use, delinquency, violence

FAMILY-FOCUSED

GUIDING GOOD CHOICES

- A 5-session, group-based substance abuse prevention program for parents of middle school students
- Impacts: Substance use, delinquency, symptoms of depression

AFTER-SCHOOL

Big Brothers Big Sisters. OF AMERICA

- A mentoring program that establishes caring, supportive relationships between participants and adult mentors
- Impacts: Substance use, aggressive behavior, truancy and class cutting

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5-Phase Implementation

Phase 5: Implement, Monitor, Assess

3 Trials Show CTC Works

1) Community Youth Development Study
2) CTC in Pennsylvania
3) CTC in Australia

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Community Youth Development Study

18 YEARS!

J. David Hawkins

Richard Catalano

Sabrina Oesterle

Margaret Kuklinski

- **Community randomized trial testing CTC**
- **24 communities in 7 states**
  - Washington, Oregon, Utah, Colorado, Kansas, Illinois, Maine
- **Communities matched in pairs within state**
  - Randomly assigned to CTC or control condition
- **Evidence: Key leaders, coalitions, youth**
- **Longitudinal panel of youth: Grade 5 – Age 28**

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Co-funding: National Cancer Institute, National Institute of Child Health and Human Development, National Institute of Mental Health, National Institute on Alcohol Abuse and Alcoholism, Center for Substance Abuse Prevention

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4,407 Participants

Sex

Race/Ethnicity

Phase 1

Efficacy
Does CTC work?
Install CTC & implement EBPs in Grades 6-9
Survey Panel annually in Grades 5-9

Phase 2

Sustainability
Are impacts sustained?
No funding or technical assistance
Survey Panel in Grades 10 & 12, at Age 19

Phase 3

Long-term Impact
…into young adulthood?
Assess long-term impacts
Survey Panel at Ages 21 & 23, 26 & 28

Sample Retention: > 88% completed the CTC Youth Survey in each wave

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Evidence for Theory of Change

Milestones & Benchmarks Rating Tool

Coalition Board & Coalition Chair Interviews

Community Key Informant Survey

CTC Implementation

Web-streamed Training & Technical Assistance

CTC Coalition Development

Member Knowledge, Board Functioning, Coalition Capacity

Local Prevention System Transformation

Science-based Prevention, Collaboration, Prevention Support, Community Norms, Social Development Strategy

Appropriate Selection & Implementation of Tested/Effective Prevention Programs

Decreased Risk & Enhanced Protection

Positive Youth Outcomes

Brown et al., 2014; ; Fagan et al.,2009, 2011, 2012; Gloppen et al., 2012; Quinby et al., 2008 ; Shapiro et al., 2015a, 2015b

CTC Objective: Positive Youth Development

1) Does CTC reduce Risk, enhance Protection?

2) Does CTC reduce youth Delinquency, Violence, and Substance Use?

3) Are these effects sustained over time?

YES!

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CTC Led to More Programs Implemented and More Children & Families Served

CYDS: Evidence-Based Program Implementation and Reach *School-Based, Family-Focused, and Afterschool*						
	Baseline Year 1		Efficacy Trial Year 4		Sustainability Phase Year 7	
	CTC	Control	CTC	Control	CTC	Control
IMPLEMENTATION: *# programs*	17	11	44	19	43	26
PARTICIPATION: *# participants*	3,454	3,333	11,261	3,864	20,932	5,220

Differences are statistically significant at $p < 0.10$

…And programs were implemented with high quality

Fagan et al., 2012

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CTC Reduced Risk

Program implementation began in Grade 6

RISK FACTORS TARGETED BY CTC COMMUNITIES
COMMUNITY
Laws and norms favorable to drug use
SCHOOL
Low commitment to school
Academic failure
FAMILY
Family conflict
Poor family management
Parental attitudes favorable to problem behavior
PEER & INDIVIDUAL
Antisocial friends
Peer rewards for antisocial behavior
Attitudes favorable to antisocial behavior
Rebelliousness
Low perceived risk of drug use

Community targeted risk significantly lower beginning in Grade 7

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Hawkins et al., 2008, 2012

Protection & Social Development Strategy

Protection was significantly higher in CTC communities by Grade 8

Kim et al., 2015

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CTC Enhanced Protection by Grade

Grade 8: $p = 0.021$

Kim et al., 2015

Antisocial Behavior: Delinquency

How many times in the past year (12 months) have you…?

1. stolen something worth more than $5?
2. purposely damaged or destroyed property that did not belong to you (not counting family property)?
3. taken something from a store without paying for it?
4. been arrested?
5. attacked someone with the idea of seriously hurting them?
6. beat up someone so badly that they probably needed to see a doctor or a nurse?
7. carried a handgun?

DELINQUENCY

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Antisocial Behavior: Violence

How many times in the past year (12 months) have you…?
1. stolen something worth more than $5?
2. purposely damaged or destroyed property that did not belong to you (not counting family property)?
3. taken something from a store without paying for it?
4. been arrested?
5. attacked someone with the idea of seriously hurting them?
6. beat up someone so badly that they probably needed to see a doctor or a nurse?
7. carried a handgun?

VIOLENCE

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Substance Use

Rigorous, multilevel statistical models with individual & community level controls

- **Substances**
  - Alcohol / Binge Drinking
  - Cigarettes / Smokeless Tobacco
  - Cannabis
  - Inhalants
  - Prescription Drug Misuse
  - Other Illicit Drugs (LSD, cocaine, stimulants, ecstasy, other)
- **Lifetime Use**
  - *"Have you ever smoked a cigarette?"*
- **Recent Use**
  - *"In the past year, have you used cannabis?"*
  - *"In the past two weeks, have you had 5 or more alcoholic drinks in a row?"*

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CTC Prevented Problem Behavior by Grade 8 – 3 Years After CTC Implementation

By Grade 8, fewer CTC youth ever:

Involved in Delinquency	25%
Used Alcohol	32%
Used Cigarettes	33%

Past-30 day and past-year involvement in delinquency, violence, and substance use were also **lower at Grade 8.**

Effects were **sustained through Grade 10.**

Hawkins et al., 2009, 2012

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CTC: Long-term, Sustained Impact

- **Sustained preventive effects on Delinquency, Violence, Substance Use**
  - Lower **lifetime involvement** -- Grade 12, Ages 19, 21
- **<u>Age 23:</u> 8 to 9 years since last exposed to prevention programs**
  - Lower **lifetime involvement** in antisocial behavior and substance use
  - Higher **college completion** among females

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Long-term Impacts and Benefit–Cost Analysis of the Communities That Care Prevention System at Age 23, 12 Years After Baseline

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Abstract
This study estimated sustained impacts and long-term benefits and costs of the Communities That Care (CTC) prevention system, implemented and evaluated in a longitudinal cluster-randomized trial involving 24 communities in seven states. Analyses utilized reports from a longitudinal panel of 4407 participants, followed since the study's baseline in grade 5, with most recent follow-up 12 years later at age 23. Impacts on lifetime abstinence from primary outcomes of substance use and antisocial behavior were estimated using generalized linear mixed Poisson regression analysis, adjusted for individual and community-level covariates. Possible cascading effects on 4-year college completion, major depressive disorder, and generalized anxiety disorder through age 23 were evaluated as secondary outcomes. CTC had a statistically significant global effect on primary outcomes and also on combined primary and secondary outcomes. Among primary outcomes, point estimates suggested absolute improvements in lifetime abstinence of 3.5 to 6.1% in the intervention arm and relative improvements of 13 to 55%; 95% confidence intervals revealed some uncertainty in estimates. Among secondary outcomes, 4-year college completion was 1.9% greater among young adults from intervention communities, a 20% relative improvement. Mental health outcomes were approximately the same across trial arms. Although CTC had small sustained effects through age 23, benefit–cost analyses indicated CTC was reliably cost beneficial, with a net present value of $7152 (95% credible interval: $1253 to $15,268) per participant from primary impacts and $17,919 ($306 to $39,186) when secondary impacts were also included. It remained cost beneficial even when impacts were adjusted downward due to the involvement of CTC's developer in the trial. Findings suggest that broader dissemination of CTC could improve public health and individual lives in the long term and generate positive net benefits to society.

Keywords Communities That Care · Long-term impacts · Benefit–cost analysis

The development and testing of interventions to promote positive youth development and prevent problems like substance use and delinquency have resulted in effective preventive interventions with potential to improve public health through large-scale implementation (Fagan, Bumbarger, et al., 2019; Gottfredson et al., 2015). Evidence of sustained impact, along with technical assistance to support high-quality implementation, can help make the case for broader dissemination, particularly when information on intervention costs and benefits is available to stimulate stakeholder investment. In this paper, we report long-term impacts of Communities That Care (CTC), a community-based prevention system tested in the Community Youth Development Study (CYDS), a longitudinal randomized trial involving 24 communities in 7 states (Hawkins, Brown, et al., 2008; Hawkins, Catalano, et al., 2008). Using data from a panel of youth followed from grade 5 baseline, we assessed CTC's impact on primary and secondary behavioral outcomes 12 years later when the panel were, on average, age 23. We also updated CTC's expected net benefit (last reported when participants were in grade 12; Kuklinski et al., 2015). New estimates reflect sustained impacts and evolution in benefit–cost models used to evaluate CTC.

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Springer

Hawkins et al., 2014;
Oesterle et al., 2015, 2018;
Kuklinski et al., 2021

CTC is a Good Investment

CTC returns $11.13 per $1.00 invested

Long-term economic benefits from CTC's primary impacts exceed implementation costs *(2017 USD, 1000 Monte Carlo simulations)*

Kuklinski et al., 2021

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CTC in Pennsylvania: 16-year Outcomes

1) Students in CTC districts were significantly less likely to report 12 of 16 outcomes

2) Effects were strongest in CTC communities that used evidence-based programs.

3) Students in CTC districts also reported significantly fewer depression symptoms.

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Public Health Benefits 16 Years After a Statewide Policy Change: Communities That Care in Pennsylvania

Sarah M. Chilenski [1,2] · Jennifer Frank [3] · ... aphne Lew [5]

Substance Use

- ✓ Lifetime: **Cigarette, marijuana, any drug use**
- ✓ Past-30-day: **Alcohol, cigarette, marijuana use**
- ✓ **Binge drinking**
- ✓ **Drunk or high** at school

Antisocial Behavior

- ✓ Ever been **arrested**
- ✓ Past 12 months: **Arrested, suspended, sold illegal drugs**

Chilenski et al., 2019

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CTC in Australia

- **First four Australian CTC communities**
- **CTC youth surveys from 1999 to 2015, ~40,000 students**
- **Trends in outcomes compared to Australian national data**
- **Grade 8 Results**
  - Better risk, protection, substance use, and antisocial behavior

Toumbourou et al., 2019

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CTC Australia vs. Australian National Average: Risk and Protection

Four CTC Sites

Australian National Data

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Substance Use Initiation & Past-Year Antisocial Behavior

Four CTC Sites

Australian National Data

CTC Around the World: A Global Community

Summary: Keys to Success with CTC

1. Involve everyone!
2. Use science based prevention
3. Survey young people to assess community risk, protection and behavior
4. Use the Social Development Strategy to build protection
5. Choose tested and effective preventive interventions. ALWAYS ASK "What is the scientific evidence that this program is effective?"
6. Implement interventions with quality and fidelity
7. Assess outcomes every 2 years to measure progress
8. Always persist!

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Learn More

- Contact the Center for Communities That Care at
- University of Washington

- **Communities that Care: Building Community Engagement and Capacity to Prevent Youth Behavior Problems (2019)**
  - **Comprehensive look** at the development, through **community-based participatory research**, implementation, and evaluation of CTC.
  - Includes results of **benefit-cost analyses** of the experimental test of CTC over a 14-year period.

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Thank You!

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* Effective 16 Sept 2021

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