

Addressing Gaps in Rural Preventive Intervention Research through Community-University Partnerships

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Conference Objectives/Talk Topics

Conference Objectives Include:

- Identify evidence-based preventive interventions
- Identify approaches to recruitment and retention
- Facilitate future research

Corresponding Topics for this Presentation

- I. Overview of gaps and bridging opportunities for rural preventive intervention research
- II. Illustrative partnership models and findings
- III. Some future directions

I. Gaps...



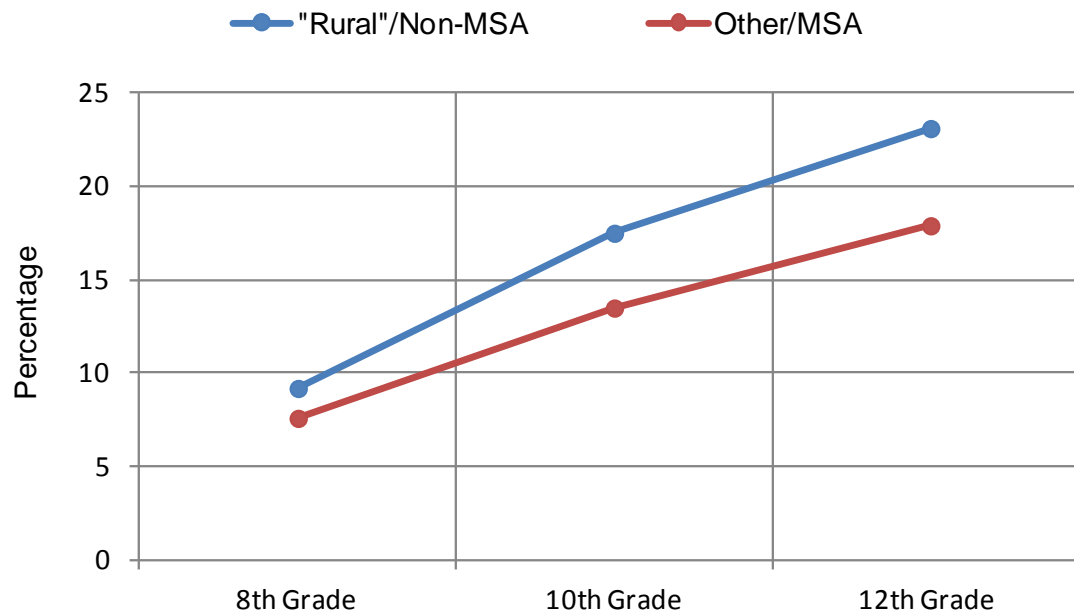
I. Gaps...



...Bridging Opportunities

I. Gaps – Address Substance Misuse in Rural Populations

U.S. Monitoring the Future Study, 2010 – among 8th-12th graders, 30 day cigarette use



- Escalating rates of initiation
- Linked with misuse/high social, health, economic costs

I. Gaps — Evidence-Based Preventive Interventions with Rural Populations

- Limited attention to rural-specific intervention design
- Low implementation rates across all types of populations; little known/likely lower rates in rural areas*
- Rates low even with considerable level of encouragement, guidance, technical assistance

*See Parsons et al., 2003. Evidence-based practice in rural and remote clinical practice: Where is the evidence? *Australian Journal of Rural Health*, 11, 242-248.

I. Gaps – Types 1 and 2 Rural Translation, From 90s NIH Reviews Forward

Type 1 – Informing Substance Misuse (SM) Intervention Design

- Need for consideration of diversity of rural settings, related SM social/environmental factors
- Need for study of rural life course pathways, developmental cascades with early SM

Type 2 – Broader Dissemination of Proven Interventions

- Need for *rural community infrastructure/capacity building*, service access strategies
- Need for more research on *practitioner-scientist partnerships*

Sources: Biglan et al., 1997; D' Onofrio, 1997; Dew, Elifson & Dozier, 2007; Lambert, Gale & Hartley, 2008; Office of Rural Mental Health, 2000; Robertson, 1997 (*NIDA Research Monograph*); Spoth, 2007

I. Opportunities—Research

Partnerships with Rural Communities: Scaling Up by Scaling Down

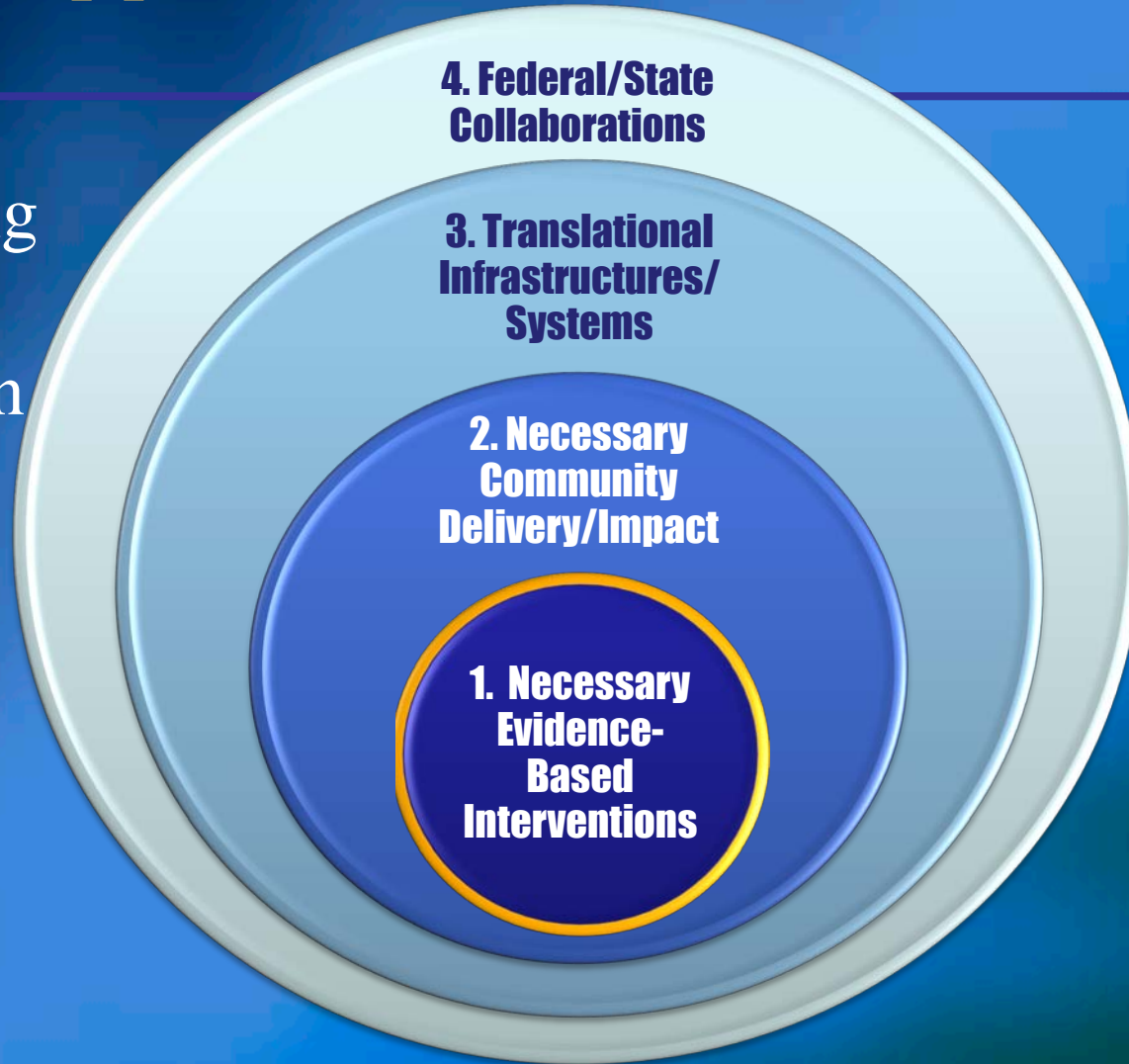
Advantages of rural settings in partnership-based EBI research:

- Small staff more readily inclined to collaborate
- More mutual commitment among staff
- System and implementation process more straightforward

See Elmore, R. F. (1996). Getting to scale with good educational practice. *Harvard Educational Review*, 66 (1), 1-26.

I. Framework for Addressing Gaps and Seizing Opportunities

Translating
Rural
Prevention
Science
Into
Practice



I. Starts with Effective Interventions — 4 Es of Universal Intervention Impact

- Effectiveness – e.g., long-term effects
- Efficiency – e.g., economic efficiency, crossover effects
- Engagement
- Extensiveness

See Spoth, R. (2008) Translating family-focused prevention science into effective practice. Toward a translational impact paradigm. *Current Directions in Psychological Science*, 17(6), 415-421

II. Illustrative Partnership Models and Findings — Part 1: Long-term Effects

Part 1 — Community-university partnership-based evidence of long-term effects.



Q: How long-term?

A: 14 years past baseline.

Part 1 – Long-term Effects

Single Universal Program Outcomes — Project Family Trial II* (One of ≈ 20 Studies)

- Design: Randomized Controlled Trial (RCT) with 33 rural Iowa school districts; 3 conditions, including...



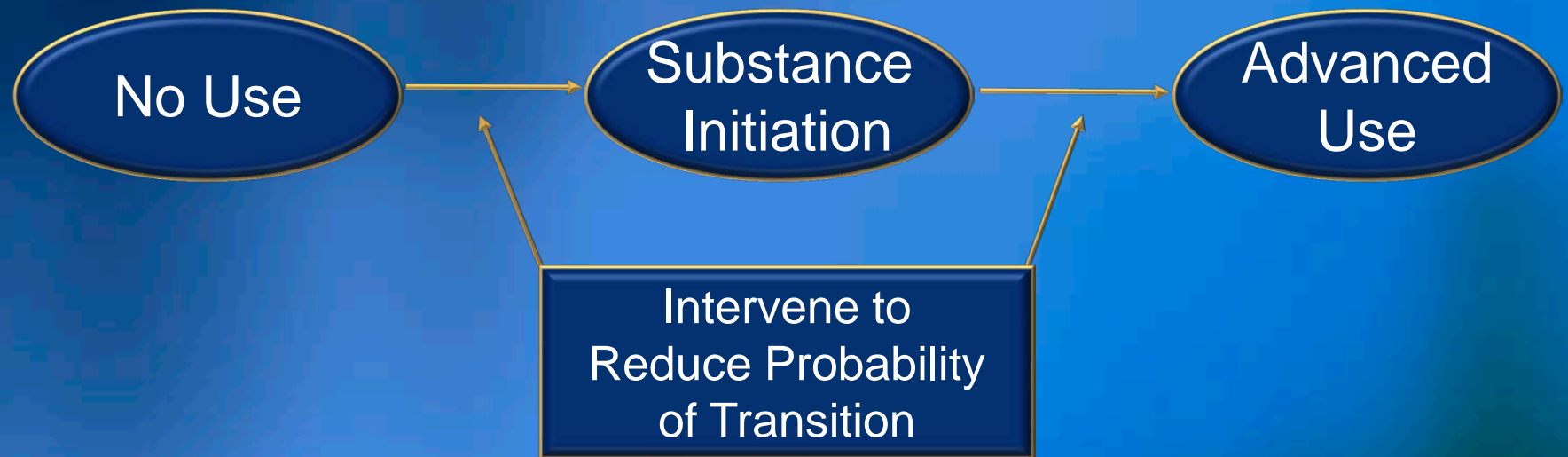
A seven-session program with 6th graders and their parents, formerly called the Iowa Strengthening Families Program (ISFP).

- Community-university partnership delivery of interventions (**all communities $\leq 8,500$**)

* Funded by the National Institute on Drug Abuse, the National Institute on Alcohol Abuse and Alcoholism and the National Institute of Mental Health at the National Institutes of Health. Conducted in collaboration with the University of Washington Social Development Research Group (JD Hawkins, Co PI).

Part 1 – Long-term Effects

Role of Universal Intervention with General Populations: Two Windows of Opportunity



See Spoth, Reyes, Redmond, & Shin (1999). Assessing a public health approach to delay onset and progression of adolescent substance use: Latent transition and log-linear analyses of longitudinal family preventive intervention outcomes. *Journal of Consulting and Clinical Psychology*, 67, 619-630.

Project Family Trial II – Delayed Substance Initiation Results

Average age at given prevalence levels

	Prevalence	<u>Age</u>	
	Rate	Control	Intervention
Lifetime Alcohol Use without parental permission	40%	15.5	17.0*
Lifetime Drunkenness	35%	15.3	17.5*
Lifetime Cigarette Use	30%	15.7	17.9*

* $p < .05$ for test of group difference in time from baseline to point at which initiation levels reach the stated levels—approximately half of 12th grade levels—in control group.

Source: Spoth, Redmond, Shin, & Azevedo. (2004). Brief family intervention effects on adolescent substance initiation: School-level curvilinear growth curve analyses six years following baseline. *Journal of Consulting and Clinical Psychology*, 72, 535-542.

II. Illustrative Partnership Models and Findings – Part 2: Crossover Effects

Partnership-based evidence of effectiveness for a range of outcomes.



Q: How many?

A: Lots!

Tested Universal Interventions

Wide Ranging Positive Outcomes

Young Adolescents/Adults—Up to 14 Years Past Baseline

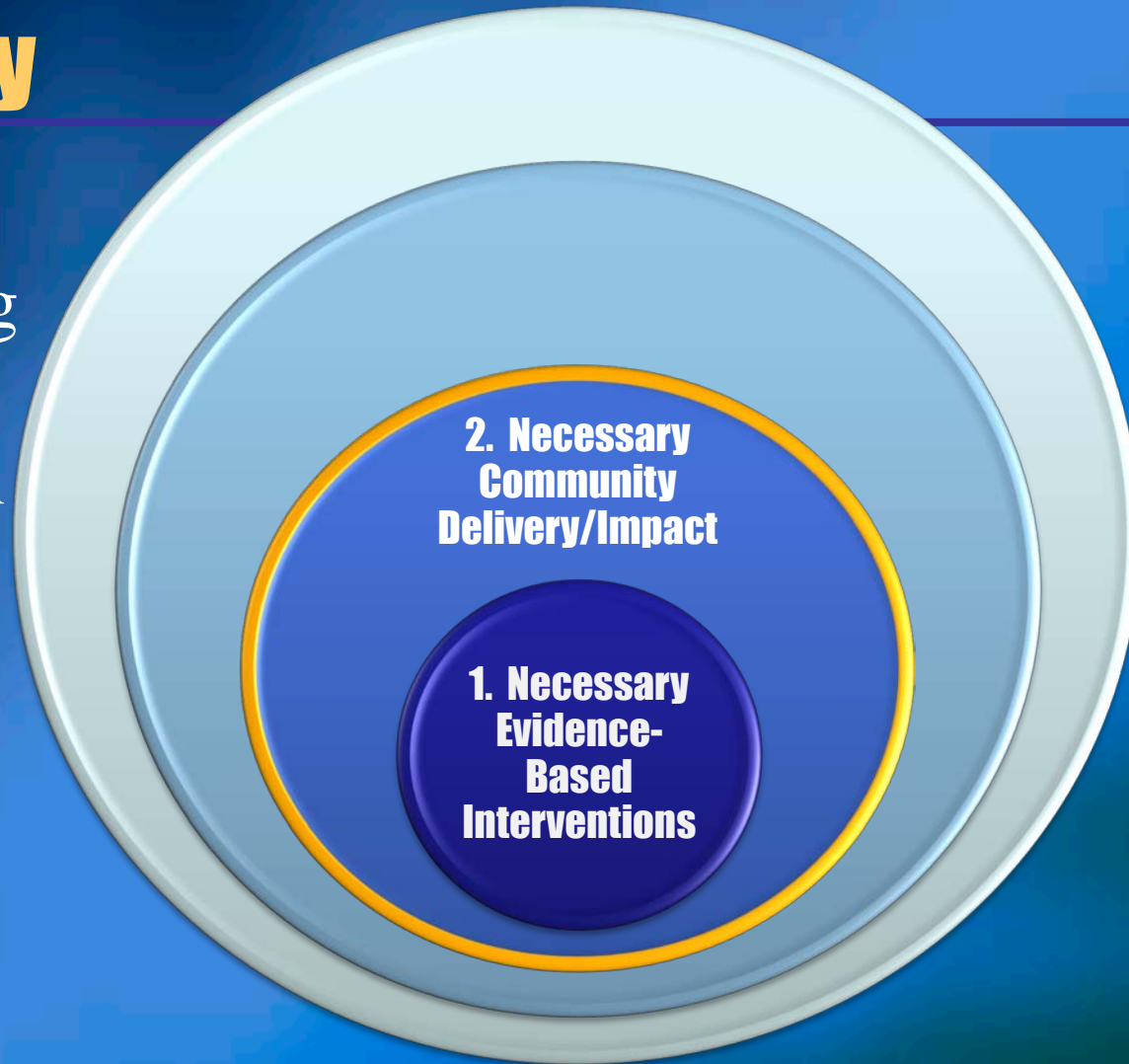
- Across wide-ranging types of substance use
- Improved parenting skills and family functioning
- Improved youth skills (e.g., peer resistance, social competencies)
- Improved school engagement and grades
- Decreased aggressive/destructive behaviors, conduct problems
- Decreased mental health problems (e.g., depression)
- Decreased health-risking sexual behaviors

Q: Why?

A: Programs address common R/P factors; have impacts on primary socializing environments (social networks).

II. Illustrative Partnership Models and Findings – Part 3: PROSPER Community Delivery

Translating
Rural
Prevention
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Community Delivery Strategies #1 – Partnership Systems

Making Use of Existing Infrastructures

- Cooperative Extension System
 - Largest informal education system in the world
 - Reach into every county in the country
 - Science with practice orientation
 - Horizontal/vertical linkages for effective dissemination
- Public School System
 - Universal system reaching nearly all children
 - States have networks for programming support
 - Increasing emphasis on accountability/empirical orientation

3rd Generation Community-University Partnership Model to Address Challenges

PROSPER

**Local Community Teams—
Extension Agent & Public School Staff Lead the Team,
Social Service Agency Representatives, Parent/Youth Representatives**

**Prevention Coordinator Team—
Extension Prevention Coordinators**

**University/State-Level Team—
University Researchers, Extension Program Directors**



Community Delivery Strategies #1 – Partnership Systems

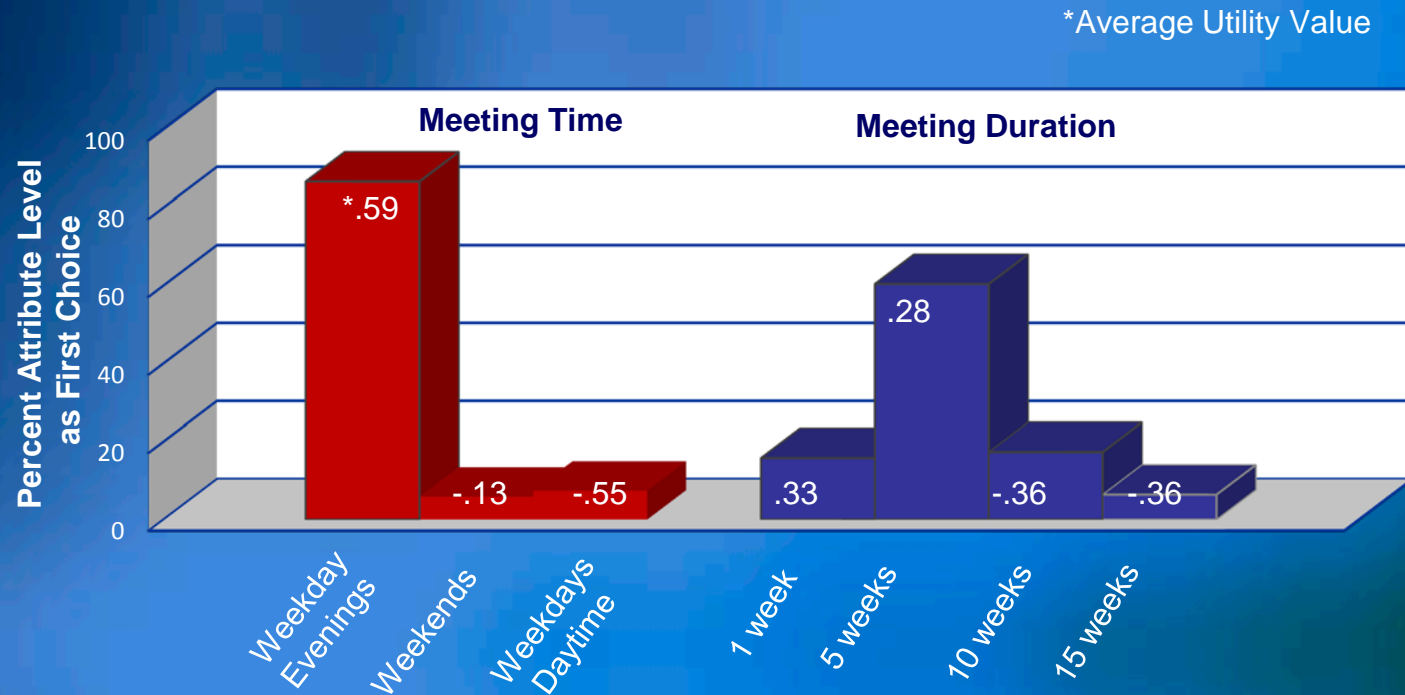
PROSPER Community Team Linkages to University-based Prevention Researchers

- Community teams receive technical assistance from Prevention Coordinators (PCs)
- PCs are university staff with backgrounds in prevention or Extension programming
- PCs provide the interface between the community teams and the research teams



Recruitment Challenge: Analysis of Rural Prevention Program Preferences

Among Important Features, What “Level” is Most Important?



Source: Spoth, R., & Redmond, C. (1993). Identifying program preferences through conjoint analysis: Illustrative results from a parent sample. *American Journal of Health Promotion*, 8(2), 124-133.

Community Delivery Strategies #2-Engagement

PROSPER Teams Devise EBP Recruitment Strategies (Guided by Consumer Research)

- Teams develop strategic plans to:
 - Increase community awareness (e.g., PSAs, cinema commercials)
 - Recruit through youth in schools (e.g., present to classmates)
 - Recruit parents directly (e.g., personal contacts/calls)
 - Increase awareness of attendance incentives (e.g., youth graduation gift)

Community Delivery Strategies #2-Engagement **PROSPER Illustrative Findings — Success in Family EBP Recruitment**

Q: What are comparison study recruitment rates?

A: Rates range from 1%-6%

- PROSPER — 17 % attended at least one session
(N = 1,064; est. 2,650 family members)
- High end of researcher-based recruitment
- Intent-to-treat analysis

Source: Spoth, Clair, Shin, & Redmond (2007). Toward dissemination of evidence-based family interventions: Maintenance of community-based partnership recruitment results and associated factors. *Journal of Family Psychology*, 21, 137-146.

Delivery Strategies #3-Implementation Quality

Ongoing EBP Monitoring for Quality Implementation

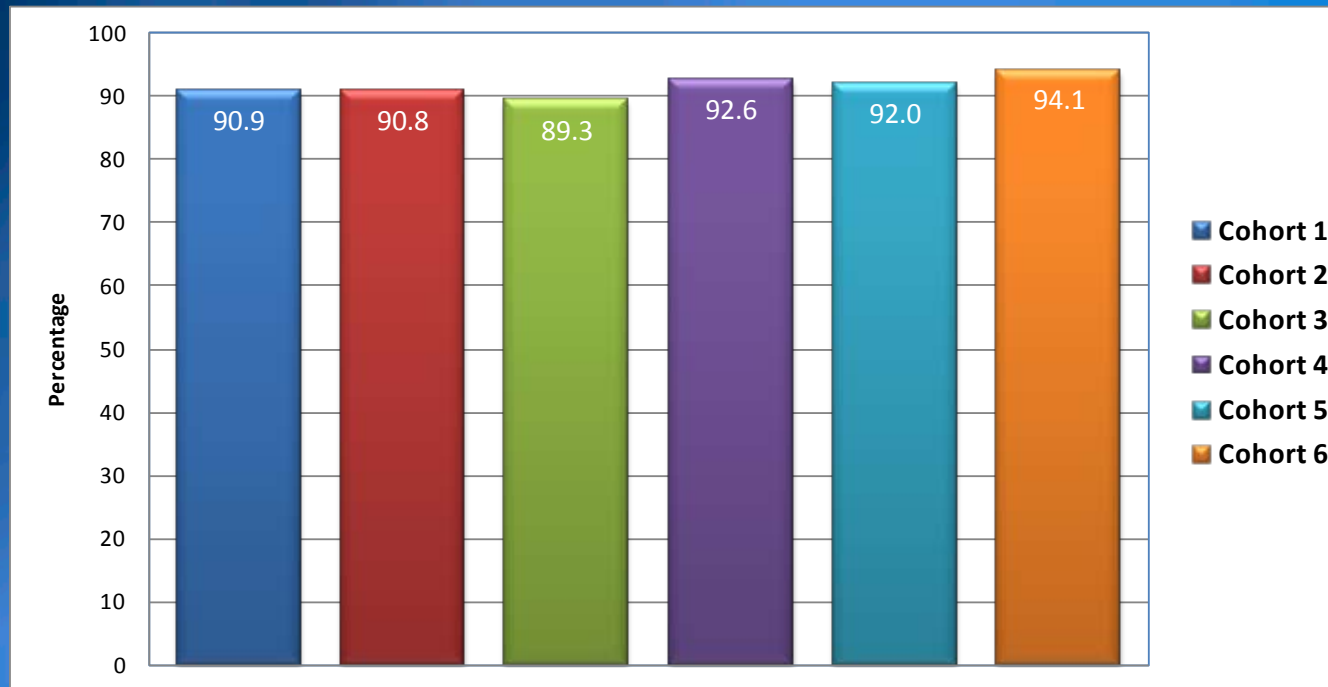
Educate/train PROSPER partnership members about the importance of quality monitoring at:

- Statewide meetings
- Learning communities
- During facilitator and observer trainings
- “Feedback sessions” after program (e.g. SFP 10-14) session is completed
- Facilitator supervision

Delivery Strategies #3-Implementation Quality

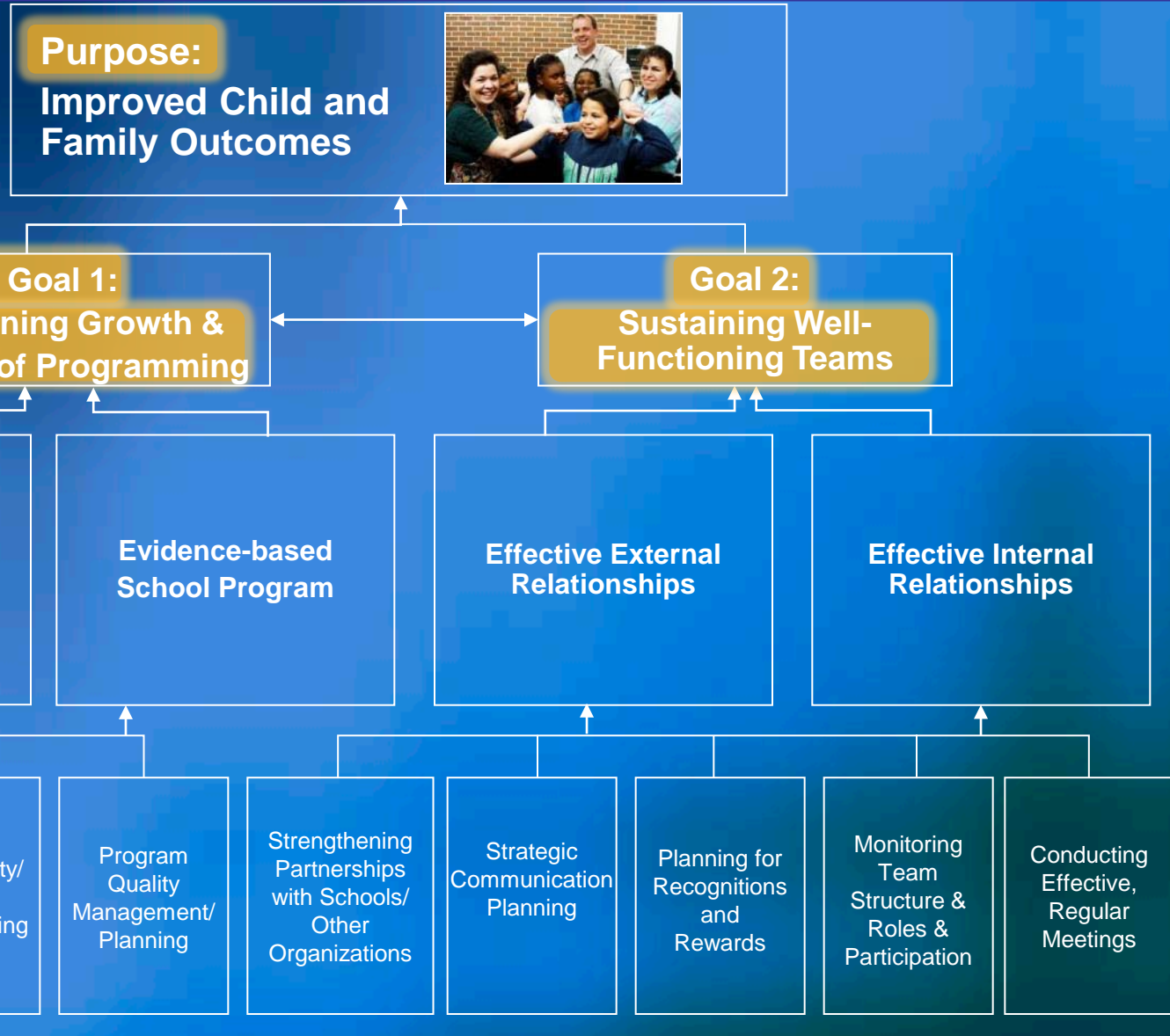
PROSPER Strategies to ↑ Implementation Quality — Illustrative Findings

PROSPER Long-Term Adherence Ratings



See: Spoth et al. (2007). PROSPER study of evidence-based intervention implementation quality by community-university partnerships. *Journal of Community Psychology*, 35(8), 981-999. Also see Spoth, et al. (2011). Six-year sustainability of evidence-based intervention implementation quality by community-university partnerships: The PROSPER study. *American Journal of Community Psychology*. 48(3-4), 412-425.

PROSPER Sustainability Model



Delivery Strategies #4-Sustainability of Team/EBPs Illustrative Financial Sustainability

Average Total Contributions
All Communities by Academic Year



Demonstrating Effective Community Delivery — PROSPER RCT

- Collaboration with PSU
- Design: RCT of 28 school districts (14 IA, 14 PA)
 - Full partnership with community teams
 - Delayed intervention
- Participants: Two cohorts of 6th grade children ($\approx 6,000$ students per cohort); 2nd cohort has $\approx 1,000$ intensive assessment families
- Multimethod, multi-informant measurement (now at 9th wave of data collection—post high schools)

Illustrative PROSPER Findings

Range of Significant Substance Use Outcomes

Significant Intervention-Control Differences
at 4½ Years Past Baseline

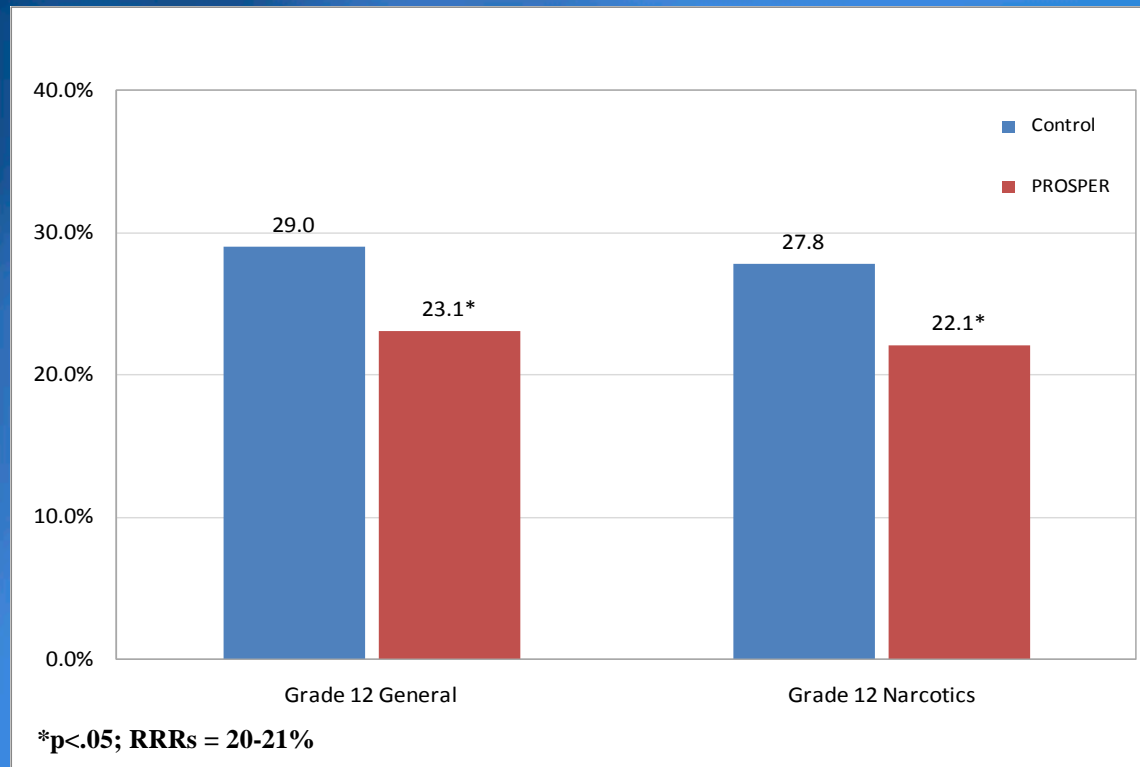
- Lifetime/New User Rates
 - Alcohol
 - Drunkenness
 - Cigarettes
 - Marijuana
 - Inhalants
 - Meth
 - Ecstasy
- Initiation Indices
 - Gateway
 - Illicit
- Past Year Rates
 - Drunkenness
 - Marijuana
 - Inhalants
 - Meth

**Relative Reduction Rates Up to 52%,
with Lifetime Marijuana Use at 18%.**

Illustrative PROSPER Findings

Reduced Prescription Drug Misuse

Lifetime Prescription Drug Misuse



Also see Spoth, Redmond, Clair, Shin, Greenberg, & Feinberg (2011). Preventing substance misuse through community-university partnerships: Randomized controlled trial outcomes 4½ years past baseline. *American Journal of Preventive Medicine*, 40(4), 440-447. Notes: General=Misuse of narcotics or CNS depressants or stimulants.

Illustrative PROSPER Findings

EBPs Implemented With More Efficiency and Lower Costs

Q: What are comparative costs to implement per family?

A:

	<u>Low Estimate</u>	<u>High Estimate</u>	<u>Other Studies/ Estimate</u>
Direct Family Program (SFP: 10-14) Costs (per family, N=1127)	\$278.56	\$348.25	\$851.00
Direct School Program Costs (per student, N=8049)	\$8.94	\$26.74	\$27.00

Key PROSPER Partnership Model Findings

- **Effective mobilization** of community teams
- Community **teams sustained** their programming efforts for ten years
- Community teams achieved **relatively high recruitment** rates for family program participation
- All programs implemented with **high levels of quality**
- Positive effects on **family strengthening, parenting, and youth skill outcomes**
- Youth score significantly **lower on a range of problem behavior** outcomes
- **Reductions in negative peer influences** indicated by social network analyses
- Indications that **more cost efficient** than regular programming

Conclusions from Partnership-based Research

- Partnership-based research suggests rural partnership-based universal interventions (family and school interventions)
 - can work well; effective long-term (up to 10 years),
 - across the risk spectrum,
 - with multiple crossover effects,
 - with economic benefits,
 - even when “turned over” to community teams.
- PROSPER trial has validated a rural delivery system with a national infrastructure

III. Some future directions



PROSPER Network Studies to Inform Scale-Up Approach*

PROSPER Network Team for Scientific and EBI Technical Assistance

Prevention Scientists, PROSPER TA Providers, IT and Research Data Managers/Analysts
(Overall project management, Scientific and EBI TA management and coordination,
information and data management and analysis)

PROSPER State Partnerships

Community Teams in State Site

State-level Prevention Coordinator Team

State-level PROSPER Management Team

* Capacity building funded by NIDA, CDC, Annie E. Casey Foundation

Directions for the Field

- Type 1 Rural Translation Research
 - Inform design of new interventions with more etiological study, especially rural social/environmental factors, life course development
 - Work with high risk youth and families (e.g., Family Life Project)
- Type 2 Rural Translation Research
 - Learn more about population-specific, effective translation of EBIs (all 4 Es addressed*)
 - Address gaps in translational research, guided by SPR Type 2 Impact Framework
 - Support science-informed policy making

*Effectiveness, Efficiency, Engagement, Extensiveness

The Ultimate Goal— More Life Courses like Kelsey's



“The program gave me the building blocks I needed to begin opening up...My family benefited...**Six years later** I continue to have an open and honest relationship with my mom and dad...”



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Please visit our websites at...

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