



PROmoting School-community-university  
Partnerships to Enhance Resilience

## Prevention Infrastructures and Population Impact: Lessons from PROSPER and PIES\*

*Advancing the Prevention of Mental, Emotional and Behavioral  
Disorders of Adolescence: A Science to Service Symposium*

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*Richard Spoth*

*Partnerships in Prevention Science Institute, Iowa State University*

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# Realizing the Potential



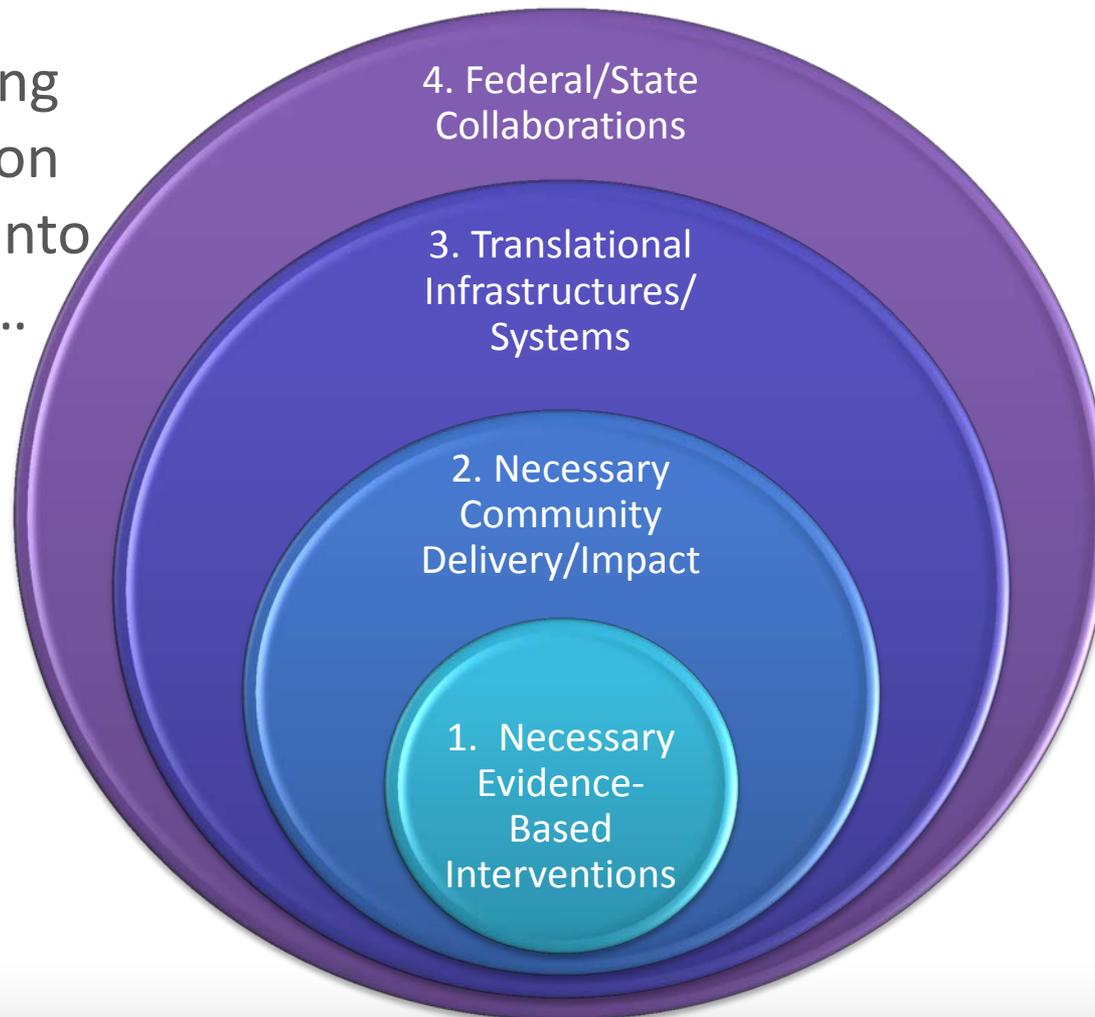
# Overview

- I. Context: Core Components of Translation to Impact
- II. PROSPER Illustration: Background/RCT Findings & Lessons
- III. PROSPER Diffusion Projects: Findings & Lessons
- IV. Future Directions: Seizing the Opportunities for Population Impact



# Four Core Components of a Population Impact Strategy with Evidence-Based Preventive Interventions

Translating  
Prevention  
Science Into  
Practice...



...Federal Agencies Have a Major Role in all Core Components.



## I. Context—Two Points to Consider

# Point #1—Need Effective Universal Intervention—4 Es Factors

- **Effectiveness** – e.g., rigorous study, long-term effects, universality of effects
- Engagement – e.g., participation rates
- Efficiency – e.g., economic efficiency, crossover effects
- Extensiveness – e.g., covering all population segments, health disparities

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; Spoth, Rohrback, Hawkins, Greenberg, Pentz, Robertson, & Sloboda, Type 2 Translational Research: Overview and Definitions, SPR MAPS II Task Force.



## I. Context—Two Points to Consider

# Point #2—Need Universal Interventions with “Multiple Crossover” Effects

- Prioritize universal interventions preventing a broad range of prevalent, costly outcomes (substance misuse, conduct problems, mental health problems), plus having positive youth development outcomes (e.g., skill building, academic performance)
- Crossover Effects—many outcomes may not be explicitly or specifically addressed by the program



## I. Context—Two Points to Consider

# Tested Universal Interventions Wide-Ranging Positive Outcomes

Young Adolescents/Adults—Up to 14 Years Past Baseline

- Across wide-ranging types of **substance use, including substances that were not addressed explicitly**
- 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?

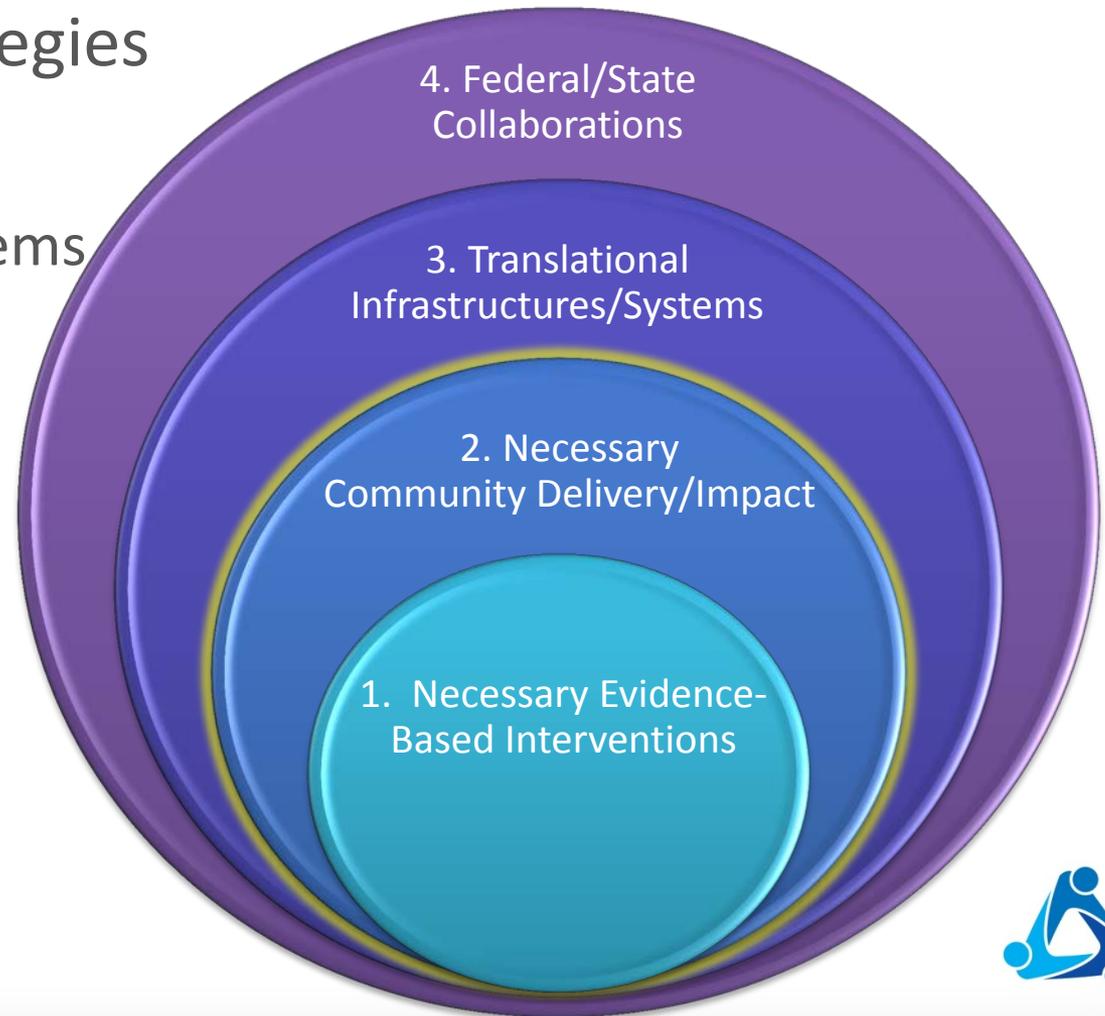
A: Programs address common R/P factors; have impacts on primary socializing environments (social networks).



# II. PROSPER Background – Impact Through Community Delivery Systems

Five sets of strategies and findings –

- 1. Partnership Systems
- 2. Engagement
- 3. Implementation
- 4. Sustainability
- 5. Outcomes



# 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

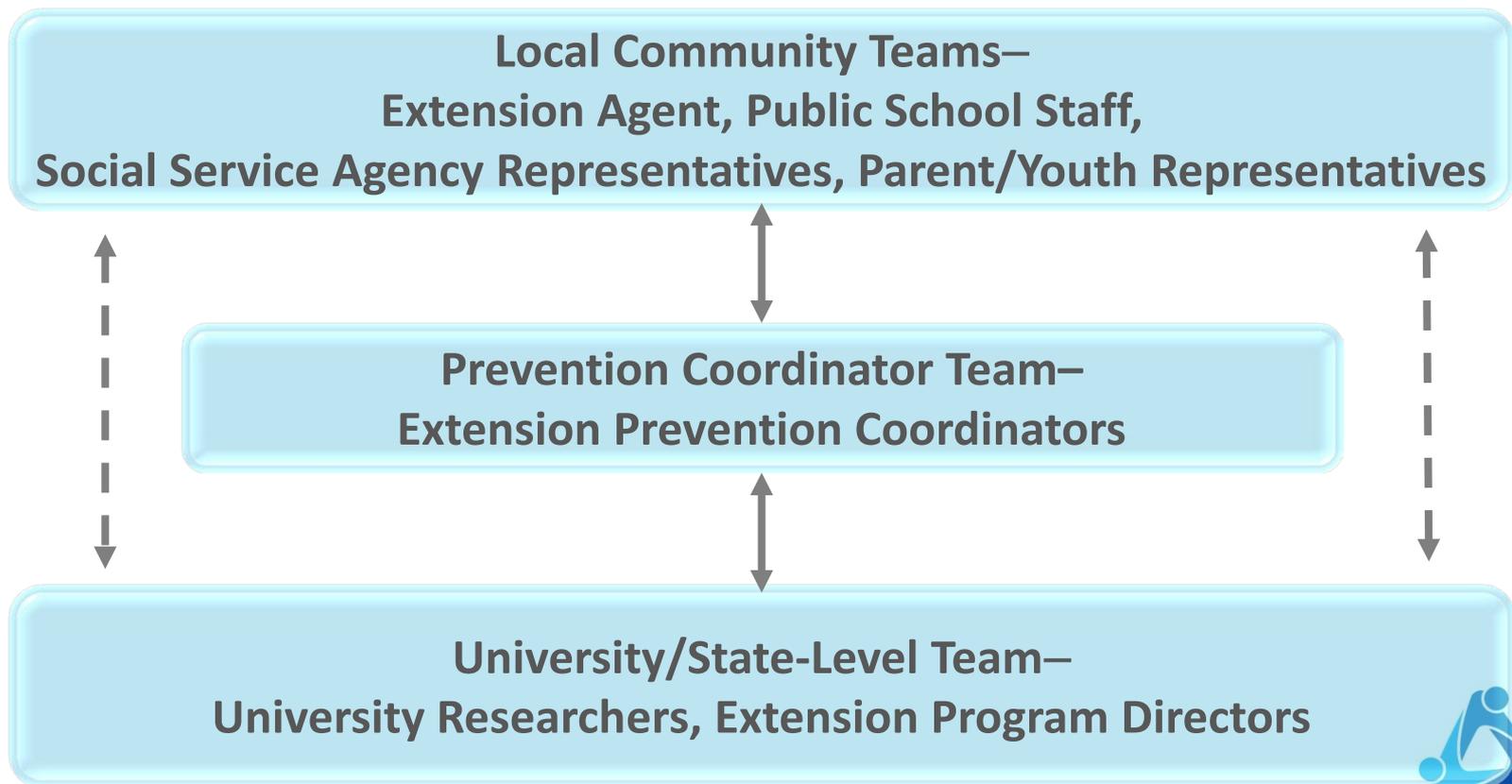
## Public School System

- Universal system reaching nearly all children
- States have networks for programming support
- Increasing emphasis on accountability/empirical orientation



# 3rd Generation Community-University Partnership Delivery Model— Addresses Challenges, Like Sustainability

## PROSPER



# PROSPER Community Team Linkages to University-based Prevention Researchers

- Teams receive ongoing **technical assistance** from Prevention Coordinators (PCs)
- **PCs are Extension staff**, with backgrounds in relevant programming
- **PCs provide interface** between the community teams and university research team
- Team delivers family (e.g., SFP 10-14) and school (e.g., LST) EBPs from a **menu**, menu expands over time



# Phases of Sustainability-Oriented PROSPER Developmental Process

- Assess benchmarked progress across all phases, with special attention to core components

## Instructions for Completing PROSPER Model Benchmark Scoring



The PROSPER Partnership Model is a scientifically-proven delivery system that provides sustained, quality delivery of evidence-based programs for youth and families. This system facilitates the delivery of programs by creating partnerships among Cooperative Extension, local schools, community volunteers and university-based researchers that operate through a three-tiered partnership structure. The infrastructure created by these partnerships is one of the unique features of this delivery system since it allows for scientific expertise from the university to flow through Prevention Coordinators (PCs) to Community Teams. This expertise and ongoing support, which includes ongoing evaluation and quality control, helps Community Teams implement programs effectively and sustain them long-term. Ultimately, this sustained effort results in a greater impact and benefits the community as a whole.

Based on years of implementation experience, the PROSPER Model Benchmarks have been developed to systematically map onto and reflect the elements of successful model implementation at the community level. Benchmarks have been identified across each of the PROSPER Partnership Model’s five core components and are organized by functional areas as outlined in the Team Leader/PC Handbooks. To illustrate how benchmarks map onto the five core components, some examples are provided below:

PROSPER Core Component	Example Benchmarks
1) A small, strategic team of community stakeholders led by a Cooperative Extension representative and co-led by a local school representative.	<ul style="list-style-type: none"> <li>• PROSPER Team membership reflects the diversity of the community</li> <li>• PROSPER Team has regular meetings during the school year</li> </ul>
2) A 3-tier state-level partnership consisting of Community Teams, PCs, and a State Management Team	<ul style="list-style-type: none"> <li>• Team Leader regularly communicates with Prevention Coordinator</li> <li>• Majority of PROSPER Team members attend Statewide Meeting</li> </ul>
3) A developmentally-oriented sustainability planning process that addresses long-term continuity and support for programming.	<ul style="list-style-type: none"> <li>• PROSPER Team received funding/in-kind support during the past year for program implementation</li> </ul>
4) Evidence-based programs that are selected by the Community Team from the PROSPER menu of family and school evidence-based programs.	<ul style="list-style-type: none"> <li>• PROSPER Team selected family program from the PROSPER menu</li> <li>• PROSPER Team/School staff selected a school program from the PROSPER menu</li> </ul>
5) Ongoing monitoring and assessment to ensure programs are being implemented as intended, teams are performing effectively and partnership objectives are being achieved.	<ul style="list-style-type: none"> <li>• Fidelity observations of each family program group were conducted</li> <li>• Majority of PROSPER Team members complete Annual Team Member Survey</li> </ul>

The Benchmark Scoring Guide and Summary Scoring Table were created to serve as a tool for facilitating ongoing discussions between Team Leaders and PCs around all aspects of PROSPER Model implementation at the community level, and for documentation of each Community Team’s progress and functioning. It is understood that as Teams deal with unexpected challenges, there may be times when some benchmarks are not sufficiently met. It is the role of PCs and State Management Team members to assess issues on a case-by-case basis, providing TA and other necessary support to Community Teams, but making it clear that the benchmarks identified as essential to PROSPER Model



# 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)



# Family EBP Recruitment Findings

- 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.



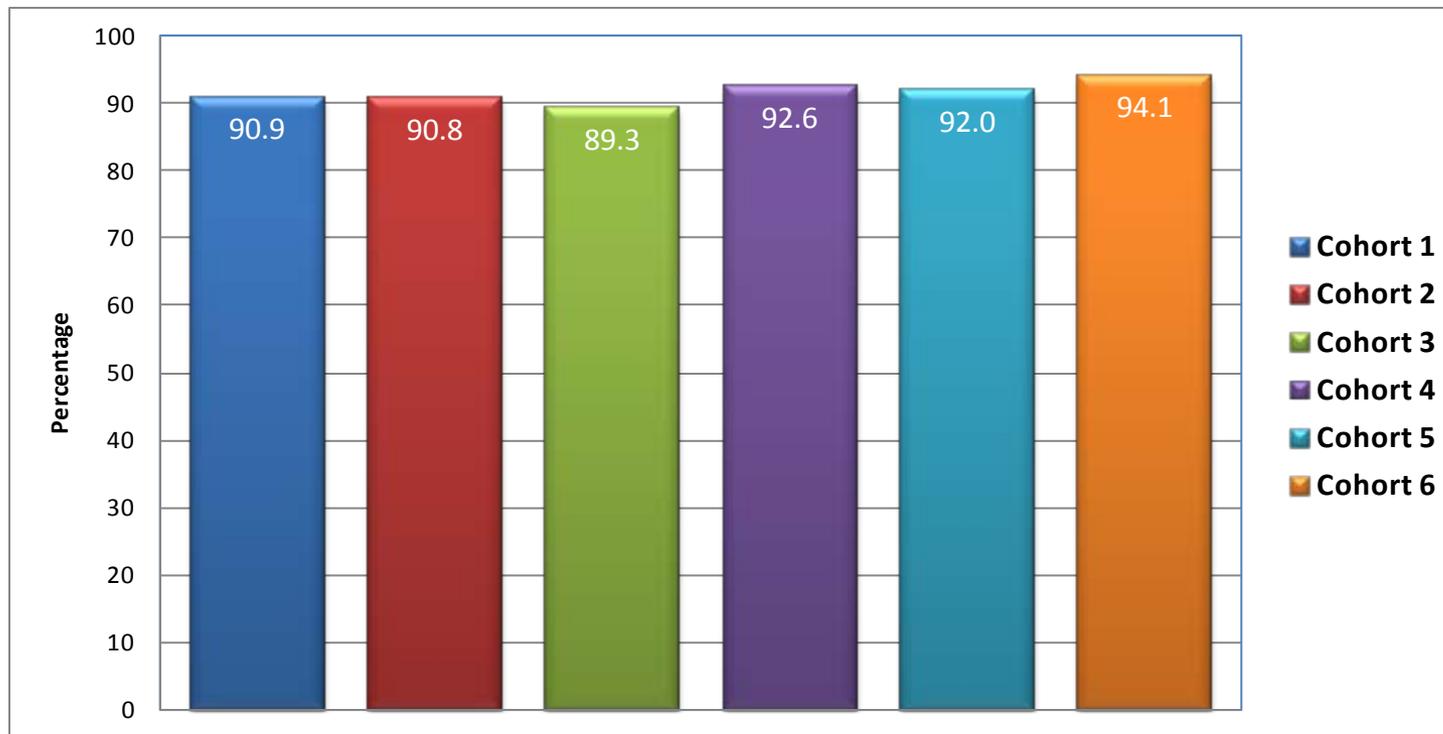
# Ongoing EBP Monitoring for Quality Implementation

- **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



# 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, 412-425.



# PROSPER Sustainability Model

**Purpose:**  
Improved Child and Family Outcomes



**Goal 1:**  
Sustaining Growth & Quality of Programming

**Goal 2:**  
Sustaining Well-Functioning Teams

Evidence-based Family Program

Evidence-based School Program

Effective External Relationships

Effective Internal Relationships

Resource Generation for Programs

Community/School Positioning

Program Quality Management/Planning

Strengthening Partnerships with Schools/Other Organizations

Strategic Communication Planning

Planning for Recognitions and Rewards

Monitoring Team Structure & Roles & Participation

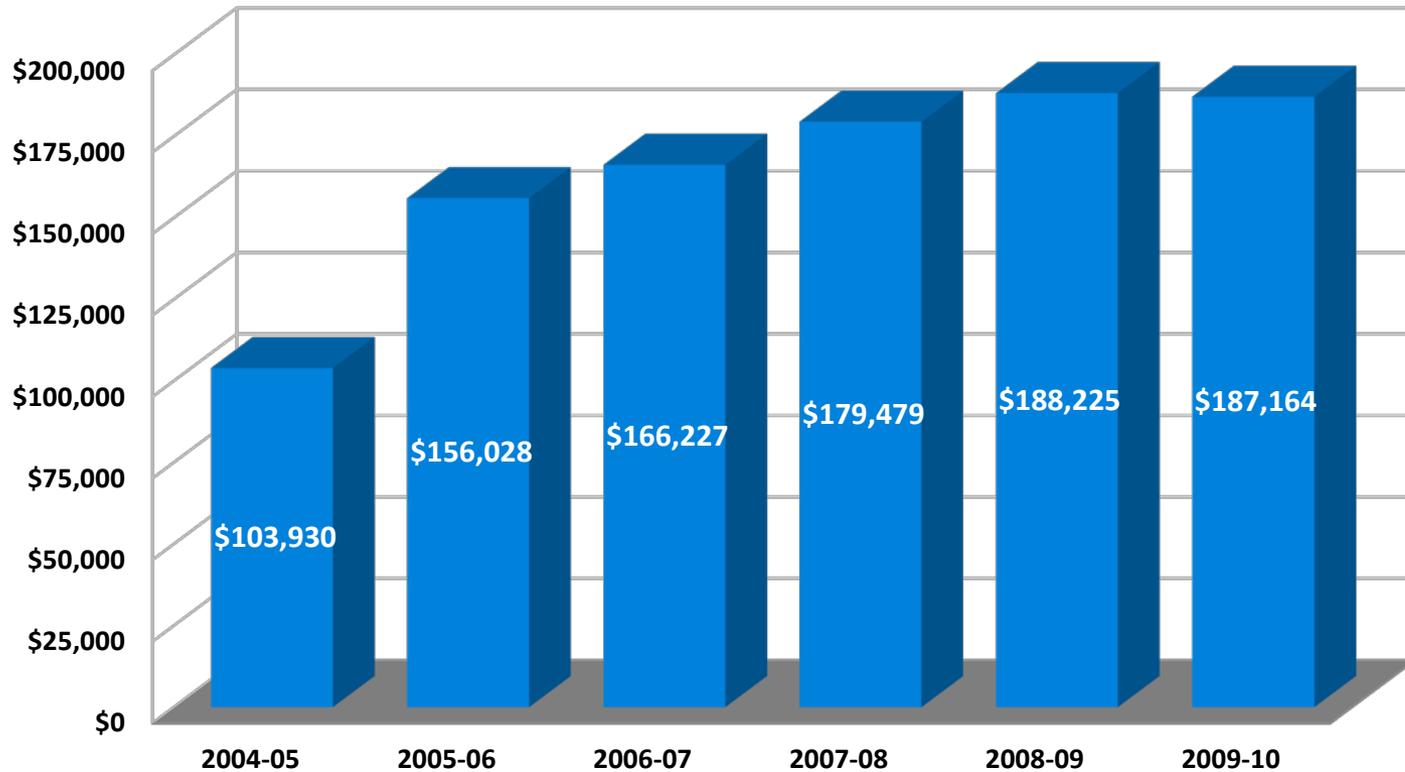
Conducting Effective, Regular Meetings

Objectives

Strategies

# Illustrative Team Financial Sustainability

Average Total Contributions –  
All Communities by Academic Year

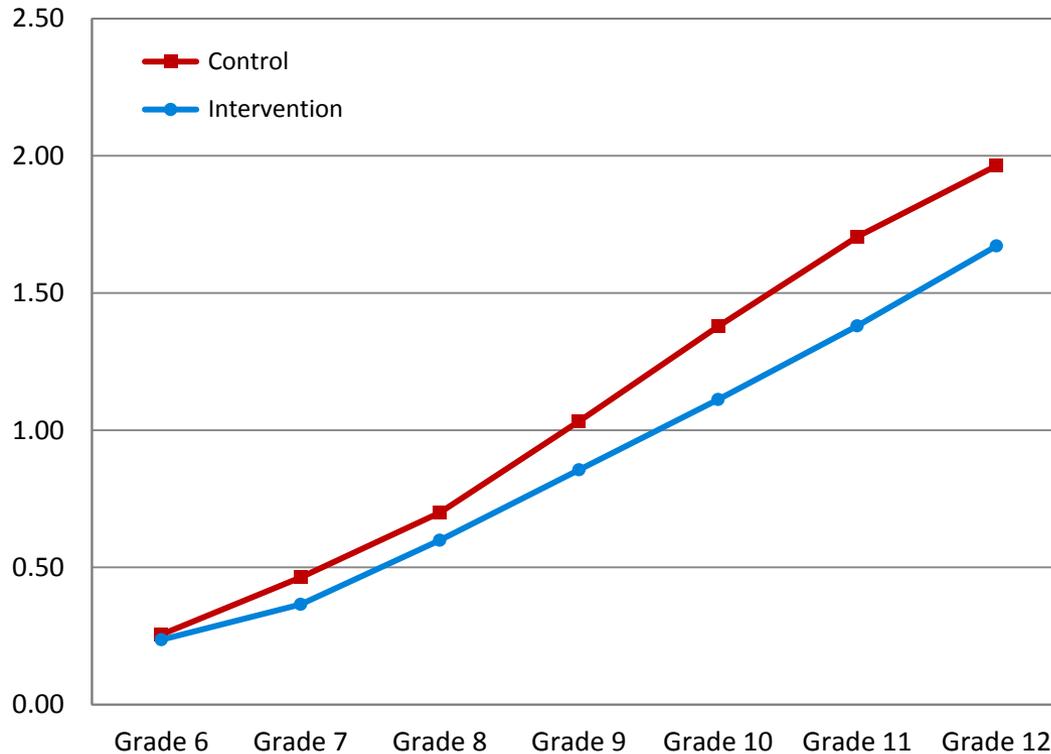


# PROSPER Outcome Study

- 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); 2<sup>nd</sup> cohort has  $\approx$  1,000 intensive assessment families
- Multimethod, multi-informant measurement (now at 9<sup>th</sup> wave of data collection–post high school)

# Impact on Illicit Substance Use Index\*

Reduced Growth in Use Through 6½ Years Past Baseline



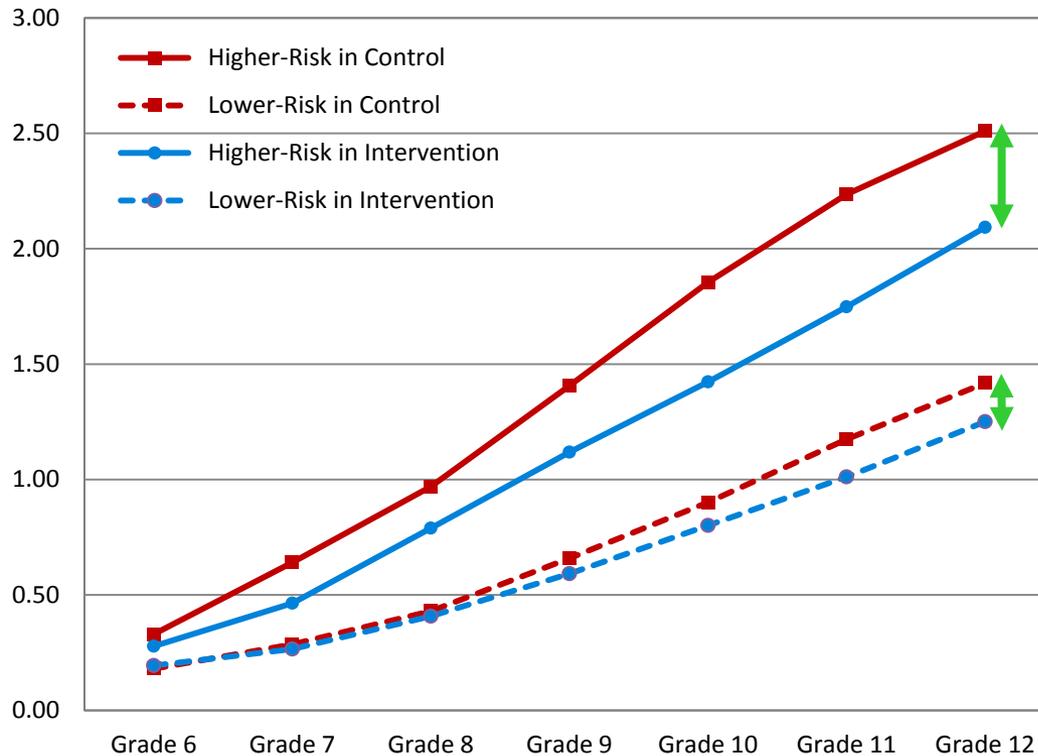
Source: Spoth, Redmond, Shin, Greenberg, Feinberg, et al. (2012). PROSPER community-university partnerships delivery system outcomes through 6½ years past baseline. Manuscript under internal review.

\* Sum of six lifetime illicit use measures (methamphetamines, Ecstasy, inhalants, Vicodin, prescription drug misuse overall, other illicit drug use); Intervention vs. Control difference in slope is statistically significant, as are differences at multiple time points, including 11<sup>th</sup> and 12<sup>th</sup> grades.



# Illicit Substance Use Index: Higher- vs. Lower-Risk Subgroups\*

## Trajectories Through 6½ Years Past Baseline



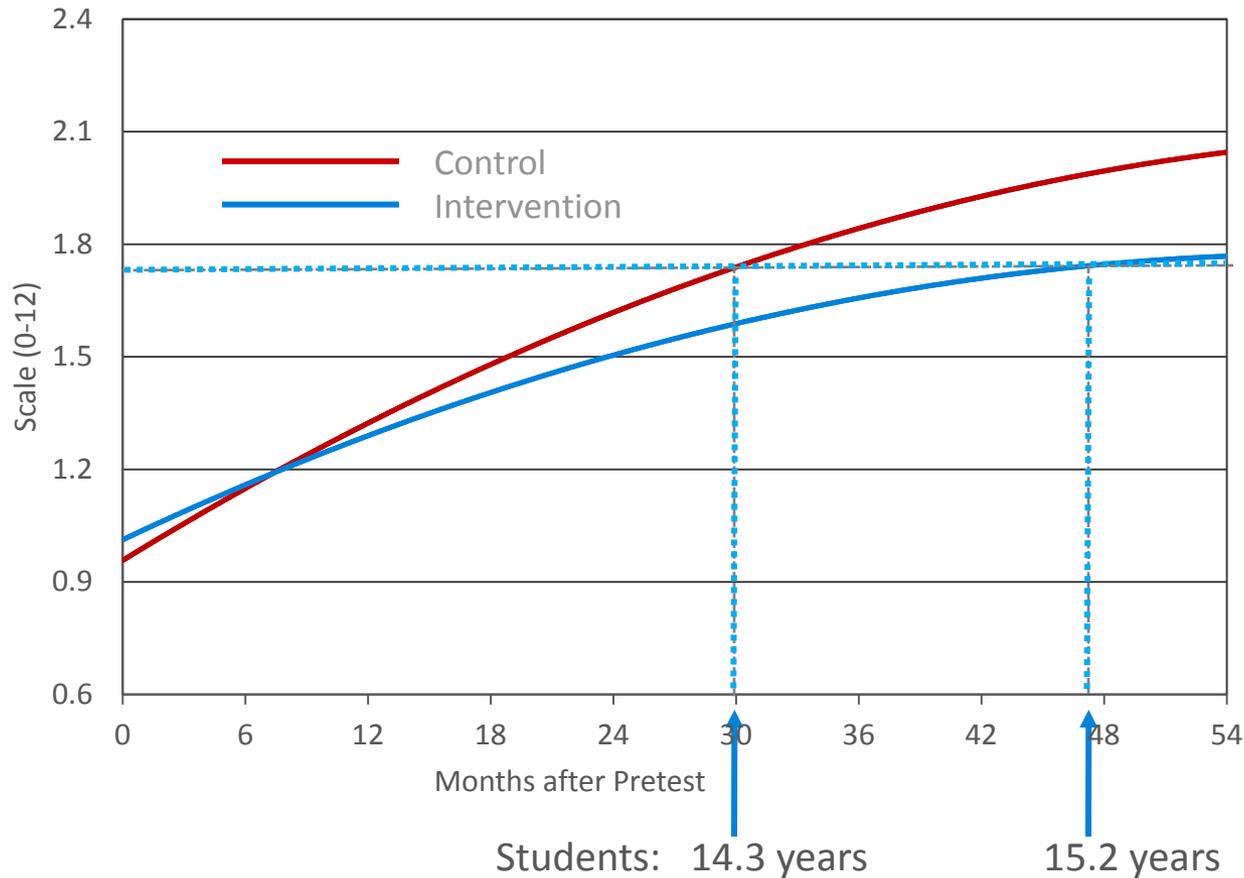
Source: Spoth, Redmond, Shin, Greenberg, Feinberg, et al. (2012). PROSPER community-university partnerships delivery system outcomes through 6½ years past baseline. Manuscript under internal review.

\* Higher Risk = Lifetime initiation of alcohol, cigarette or marijuana use at baseline; Lower Risk = No initiation at baseline. Intervention effects are significantly stronger for the Higher-Risk subgroup, as compared to the Lower-Risk Subgroup.



# Impact on Conduct Problems

Reduced Growth in Problems Through 4 ½ Years Past Baseline

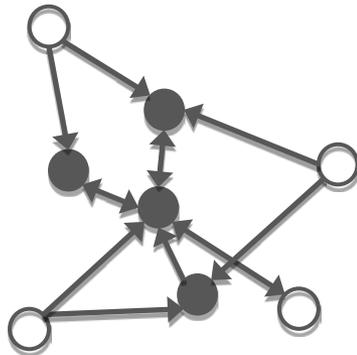


Source: Spoth, Redmond, Shin, Greenberg, Feinberg, et al. (2012). PROSPER effects on conduct problem behavior outcomes at 4.5 years past baseline. Manuscript in preparation.

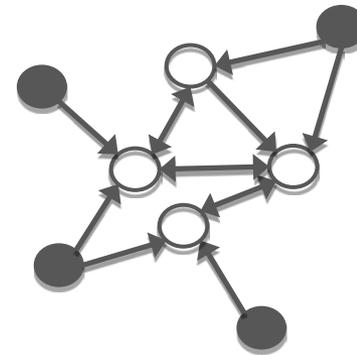


# Effects on Negative Peer Influences

- ○→● (Black dot = substance user, White dot = non-user)
  - Indicates that non-user nominated a substance user as a friend



- More students choose user as friends
- Peer network favors use



- More choose non-users as friends
- Peer network opposes use

- **PROSPER shifts peer influence toward non-users.**



# EBPs Implemented With More Efficiency and Lower Costs

- Q: What are comparative costs to implement per family?
- A:

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

\* Represents a 59-67% reduction in “day of implementation costs” when implementing with PROSPER.



# Possible PROSPER Returns on Investment— Case of Past Year Meth Use\*

- Cost effectiveness—cost per case of past year use prevented at 10<sup>th</sup> grade is \$43,500
- Estimated benefit per case of past year meth use prevented is \$111,313, considering only employer cost savings (Guyll, Spoth & Crowley, 2011).
- The estimated net benefit was \$949 per youth.
- Can assess for each of multiple substance use and other problems prevented – accumulating effects.

\* The estimated benefits were based on employer costs associated with meth-related absenteeism, health care costs, theft, decreased productivity, and turnover as estimated from six waves of data from SAMHSA's National Survey of Drug Use and Health.

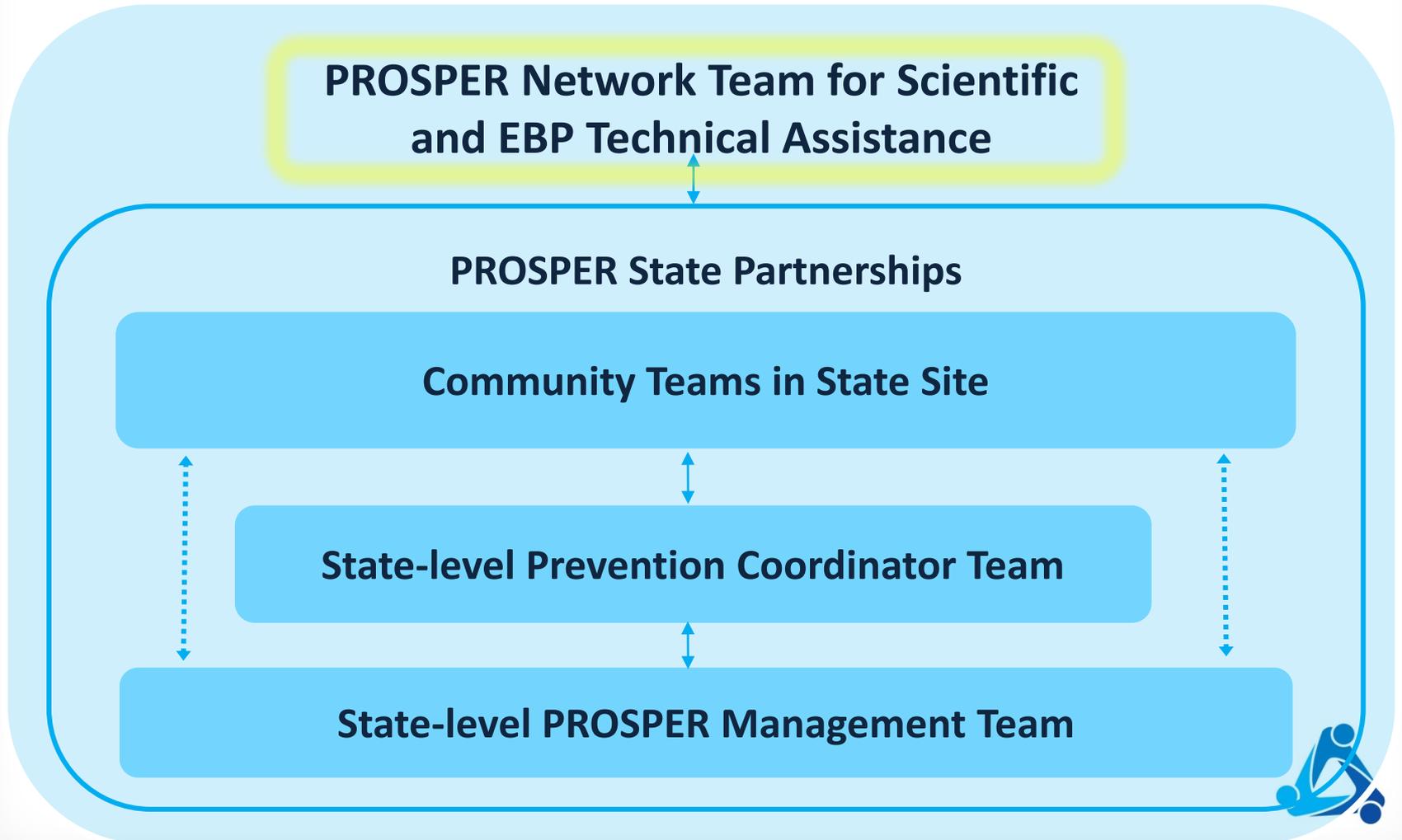


# Summary of Key PROSPER Partnership RCT Findings (from approx. 60 papers)

- **Effective mobilization** of community teams
- Community **teams sustained 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 (both substance misuse and conduct problems)
- Reductions in **negative peer influences** indicated by social network analyses
- Indications that **more cost efficient** than regular programming; also, that **cost effective and cost beneficial**



# Developing a State Partnership Network for PROSPER Diffusion



# Three Part PROSPER Diffusion Effort

Part 1 – State Readiness Assessments

Part 2 – Adoption Decision-Making Supports

Part 3 – Implementation Capacity-Building



Adapted from Spoth, Ralston, Schainker, Chilenski, Greenberg, Hanlon, Perkins, Redmond, Shin, Todey & Welsh (2011). Developing a national evidence-based intervention delivery system based on the PROSPER partnership model. Symposium Presentation at the Society for Prevention Research 19th Annual Meeting, Washington, DC.

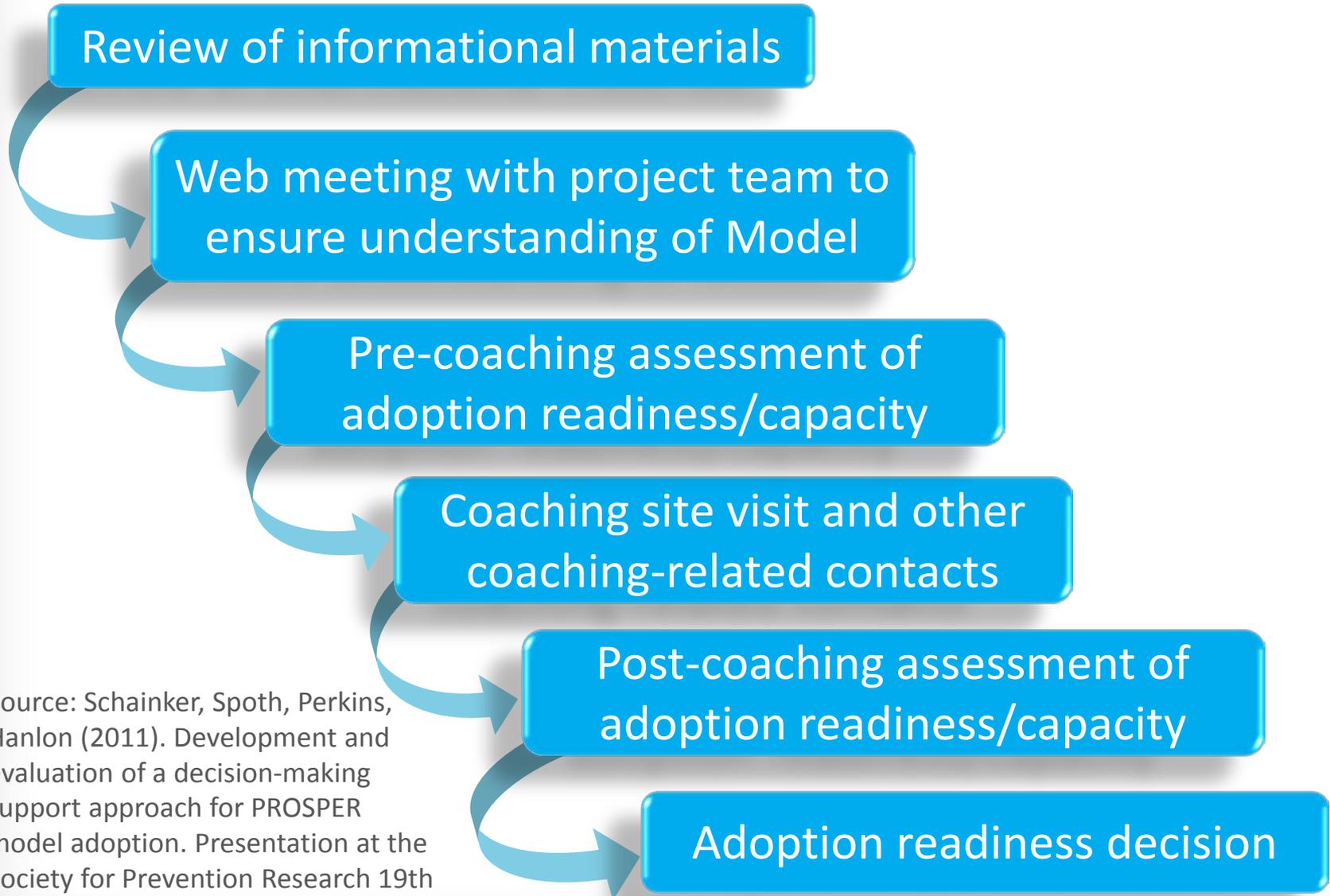


# Lessons Learned from National Readiness Surveys

- Although selected states were higher on key factors, state readiness is complex, with **variability** across readiness factors
- **Economic and human resource**-related conditions/constraints were **central**
- Given complex, dynamic systems, mainly need **sufficient readiness** to start with plan for capacity-building



# State Decision-Making Support Strategy



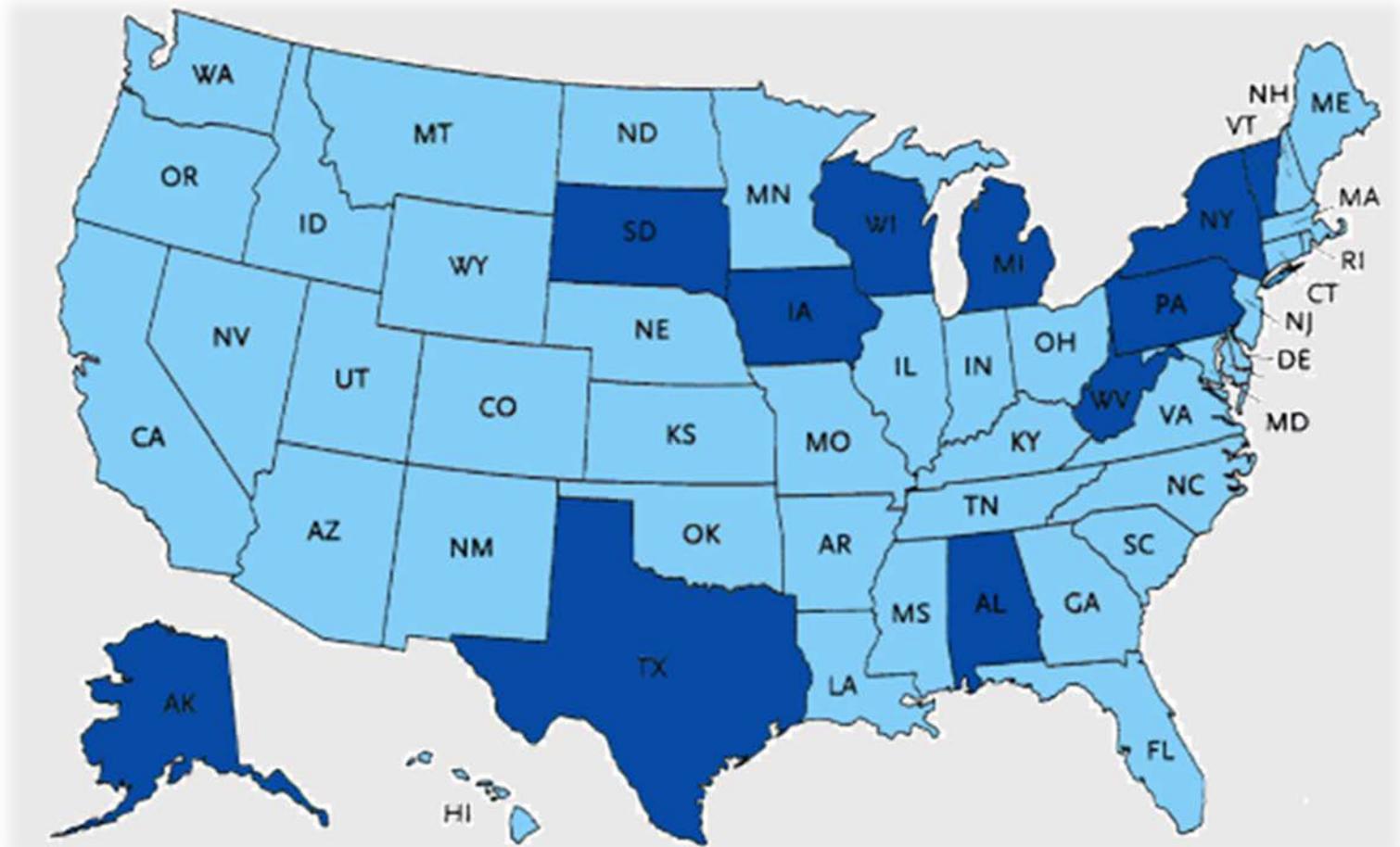
Source: Schainker, Spoth, Perkins, Hanlon (2011). Development and evaluation of a decision-making support approach for PROSPER model adoption. Presentation at the Society for Prevention Research 19th Annual Meeting, Washington, DC.

# Lessons Learned from Adoption Motivational Coaching

- Process of clarifying barriers and goal alignment was **helpful** for state selection
- The decision support strategy allowed CES-based decision-makers to think through adoption in a **systematic way**
- Was difficult to know **how to weigh key indicators**, implementation vs. evaluation capacity



# Implementation Capacity Building



# Implementation Capacity Building (NIDA GO-funded) – Lessons Learned

- Staff have limited and **varied understandings of evidence-based programs** (vs. research-based)
- **Trainings well received**, generally with an increase in favorable attitudes about adopting PROSPER
- **Willingness to adopt is complex** and influenced by a range of internal and external factors, particularly budgets
- **TA for capacity-building essential** and requires considerable time and resources



# General PROSPER Scaling Up Lessons

- **Partnerships** provide a practical way to have the “**best**” of both worlds – practice (community driven) and science (quality implementation, larger effect sizes)
- **Common understanding, language and attitudes** re EBIs is **critical**
- Natural tensions between practitioners and scientists can be addressed by a structure for ongoing, two-way communication and **collaborative problem solving**



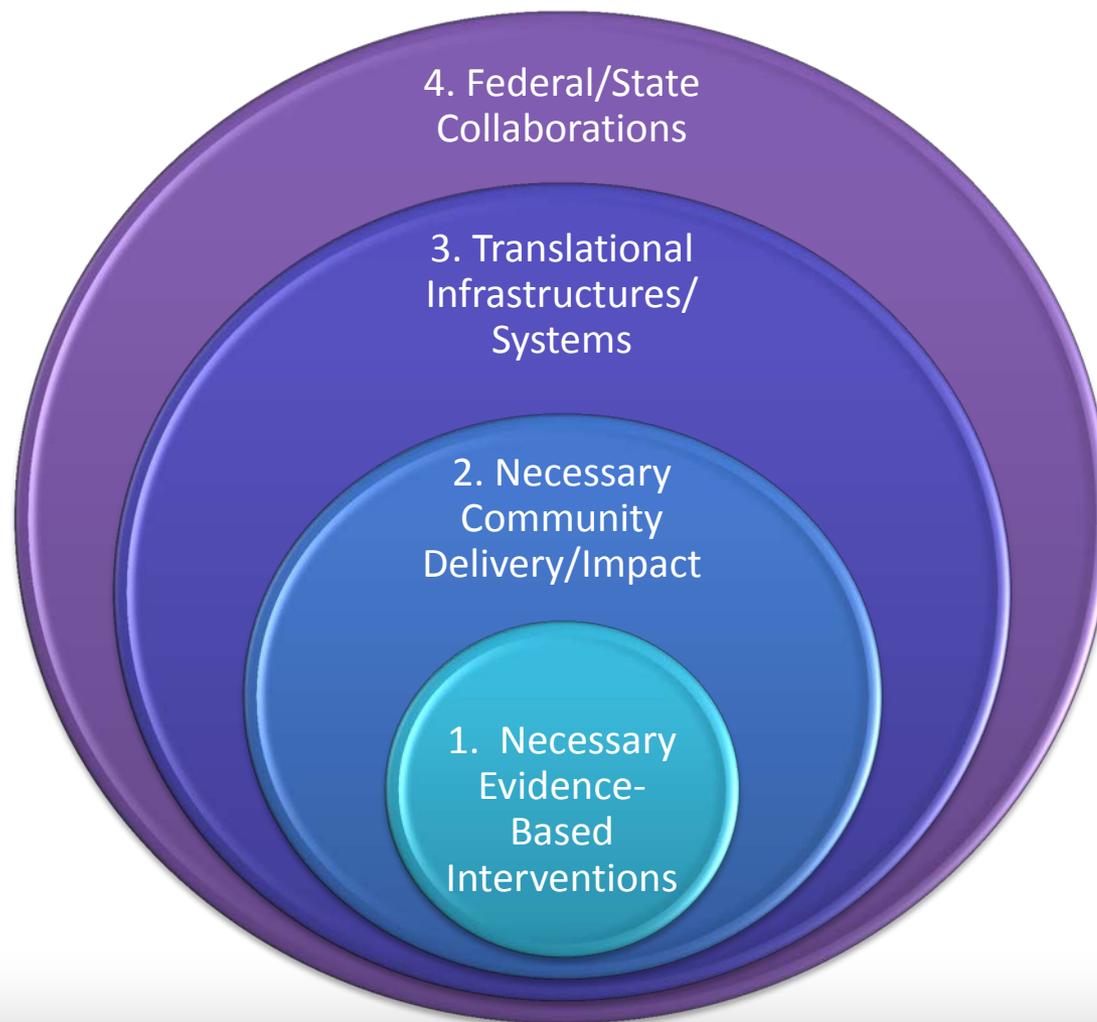
# General PROSPER Scaling Up Lessons (cont.)

- **Early stage investment** in readiness assessment, adoption decision support, and capacity-building (especially financing) also is critical
- **Core factors** in success are clear, at least in a general sense
  - Ongoing, proactive TA
  - Multiphase developmental process, with benchmarking
  - Well-integrated process and outcome evaluation
  - Implementation of universal EBIs
  - Ongoing quality monitoring and feedback
  - Strategic planning for sustainability early on



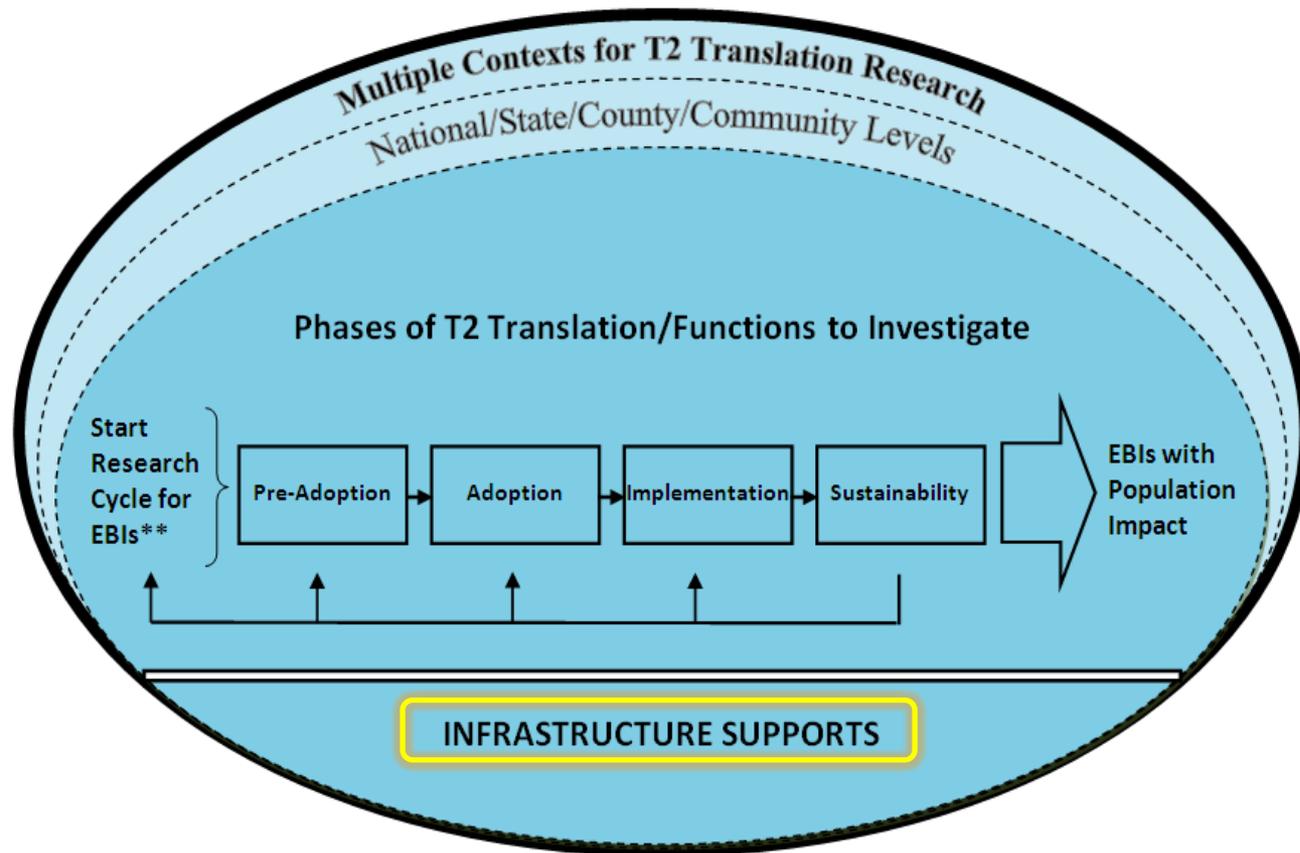
# IV. Future Directions: Seizing the Opportunities for Population Impact

Translating  
Prevention  
Science  
Into  
Practice



#### IV. Future Directions

# Mapping a Possible Course of Action: Advancing Translation Science to Population Impact



\*\*EBIs = Evidence-based interventions; research cycle begins with etiology-based intervention design, includes T2 translation research combined with pilot, efficacy and effectiveness testing, and should address health disparities, along with broad population coverage of interventions designed and practitioner-scientist partnerships for T2 translation research.

Source: Society for Prevention Research's Mapping Advances in Prevention Science Task Force on Type 2 Translation Research. Spoth, Rohrbach, et al., (2011). Addressing Challenges for the Next Generation of Type 2 Translation Research: The Translation Science 2 Population Impact Framework. Manuscript submitted for publication.

# Addressing the Core Challenge of Infrastructure Development: Needs Across Phases

- **Pre-adoption and Adoption Phrases**
  - Market analysis systems
  - Information sharing structures
  - **Community monitoring/data systems**
  - Community-based partnerships
- **Implementation Phase**
  - EBI-related training systems
  - **Implementation TA systems**
  - Supports for engaging participants



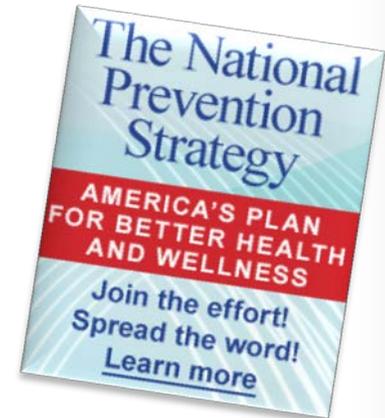
# Addressing the Core Challenge of Infrastructure Development: Needs Across Phases (cont.)

- **Sustainability Phase**
  - **New financing structures/strategies**
  - State-supported TA systems with monitoring, benchmarking, CQI feedback systems
- **Type 2 Translation Research**
  - **Practitioner-Scientist Partnerships/Networks**
  - Systems for early assessment of EBI feasibility/research feasibility
  - Dedicated research centers/technical/data systems
  - Indicated research projects/resources
  - Research workforce development



# Four Categories of Key Federal Action Steps to Consider—PIES Framework

- **Planning and Organization** for Infrastructure Development
  - **Implement an action plan from this meeting**
  - **Interagency collaboration** that builds on National Prevention Strategy and IOM-NRC 2009 Report
  - Organization of a **White House Office** on the Translation of Evidence-Based Prevention to develop and implement a **strategic plan**
  - Development of a **conceptual framework** for addressing multiple health outcomes important **across federal stakeholders** (e.g., common risk and protective factors)
  - Use of an independent authority to **reconcile EBI lists** (see Hawkins)



# Four Categories of Key Federal Action Steps to Consider—PIES Framework (cont.)

- **Innovative Funding Mechanisms**
  - Develop **private-public partnerships** (e.g., AECF Evidence-2-Success, expand NIH PPPs to include social science)
  - Support **braided funding** approaches
    - ❖ Across service and research agencies
    - ❖ State agency funding to support community grants with federal agency support for research
  - **Interagency Agreements** to support state EBI-delivery systems
  - **“State Prevention Financing Teams,”** with Communities of Interest, to support priority prevention goals
  - **Align grant reporting requirements** across federal, state, and local levels



# Four Categories of Key Federal Action Steps to Consider—PIES Framework (cont.)

- **Embedded Research**

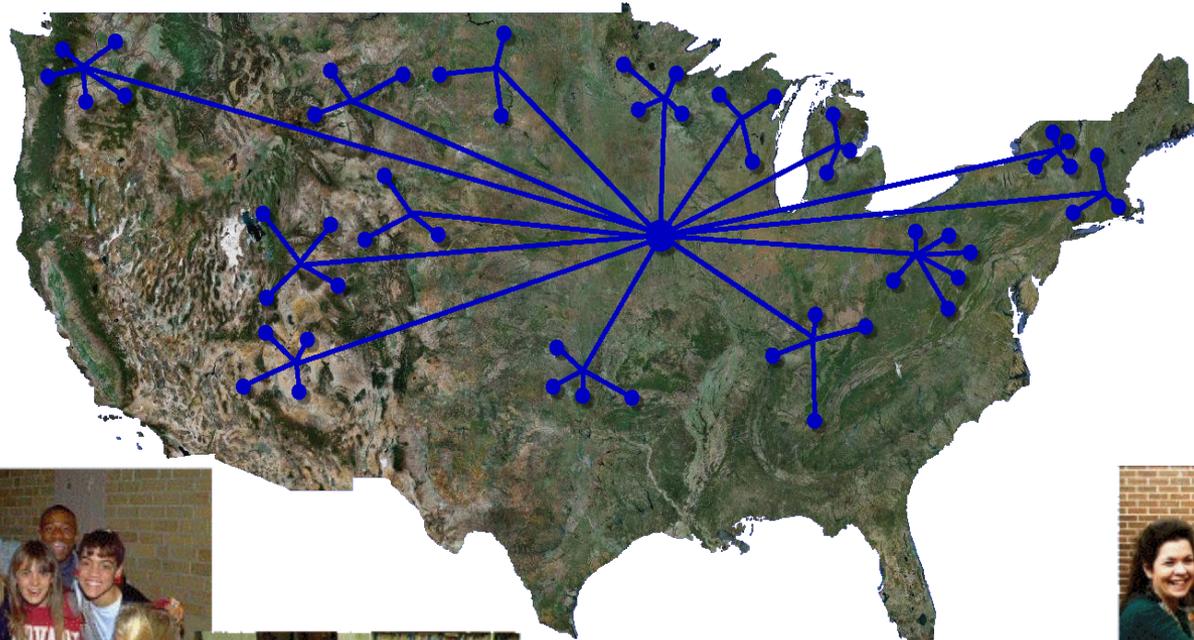
- **Embed research in national prevention systems** to develop, test, disseminate EBIs, and use continuous systems improvement **across Type 1 and Type 2 phases** (see SPR Task Force White Paper)
- Follow **OMB 2012 Evidence and Evaluation Memo** recommendations, including agency meetings/working groups

- **Systems Focus** in Infrastructure Development

- Orient toward supports for national/state **training, TA and evaluation systems change**
- Foster systems development across **all phases/aspects of Type 1 and Type 2 translation** (see SPR White Paper for detail)



# Finally, Envision the Potential for Population Impact...



# ...One Life Course at a Time – Like One of Our Participating Youth, Who Said:



“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...”





“Together,  
We Can Make a Difference.”

# The PROSPER Partnership Group

## Iowa State University

Partnership in Prevention Science Institute

Richard Spoth, Director

### PPSI Scientists:

Cleve Redmond

Chungyeol Shin

Lisa Schainker

Kate Ralston

## Pennsylvania State University

Prevention Research Center

Mark Greenberg, Director

### PRC Scientists:

Mark Feinberg

Daniel F. Perkins

Claudia Mincemoyer Janet Welsh

Sarah Meyer Chilenski

## Human Interaction Research Institute

Tom Backer, Director



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